Alexandra Robson

Improving Health with Psychological Intervention; Practical Applications of Health Psychology

A Portfolio submitted in partial fulfilment of the requirements of Liverpool John Moores University for the degree of Professional Doctorate in Health Psychology

May,2022

Contents

Acknowledgements

This is dedicated to my support network who never fail to pick me up from the depths of despair in unsociable hours which, I'm sure anyone who has completed a doctorate would agree, are more frequent than not. I feel an honorary doctorate should be given to my husband, Keith, who without his tireless enthusiasm to understand and support the intricacies of this endeavour, I would not be submitting my final portfolio today having quit at multiple points. Thank you for sharing in the lightbulb moments and your wonderfully impartial enquiry. I thank my parents whose love and support continues to make me believe that anything is possible. Thank you to Dr Mark Forshaw and Dr Tara Kidd for their extraordinary personal and professional wisdom, patience, and kindness throughout the process. I'm forever grateful for your dedication to helping me grow and develop throughout the doctorate and it has been a true honour to learn from two remarkable health psychologists.

Abstract

The health psychology doctorate is evidenced by this portfolio towards the fulfilment of the five competencies, consultancy, teaching and training, behaviour change intervention, research, and professional practice. During the doctorate the following placements were undertaken, a Trainee Health Psychologist at a charity to support victims of honour-based violence, Health and Wellbeing Adviser for a charity to help people who are long-term unemployed with their health conditions and a self-employed coaching psychologist at Mindbody Coaching helping people achieve their health and wellbeing goals.

Consultancy: A professional report, presentation and case study was produced for the Associate Director, Clinical Lead and Health Coach of an employment charity based in the North of England with aims to improve their existing weight-management programme. The presentation included information on conducting empirical health behaviour change research and the report contained a literature review on psychological barriers to weight-management from a Health Psychology perspective.

Teaching and Training: A ten-week telephone-based group mindfulness course, Wellbeing Wednesdays, was taught to staff at the employment charity placement with aims of providing experiential learning of mindfulness skills and improving resilience to stress. The author's progression and application of teaching and training skills to additional opportunities is demonstrated in the Teaching and Training Diary included in this section.

Behaviour Change Interventions (BCI): A group ten-week mindfulness course, Wellbeing Wednesdays, was implemented for staff at an employment charity as an experiential BCI to facilitate mindfulness behaviours and resilience to stress. In addition, a six-session one-to-one Acceptance and Commitment Therapy (ACT) BCI was conducted with a private client of my coaching psychology services, Mindbody Coaching, with aims of removing psychological barriers to weight-management.

Research: this portfolio contains three individual research projects. A systematic review was conducted with aims of exploring the breadth and quality ACT interventions used within coronary heart disease patient populations. Additionally, a qualitative and quantitative research project explored the experiences of the Mind your Heart online webinar intervention and

psychological adjustment process in people with coronary heart disease. A reflective commentary on the process of all three research projects is included.

Professional skills: As evidence of professional skills development as a health psychologist in training, such as meta-reflection, working in a therapeutic environment, adhering to ethical guidelines, codes of conduct and UK law, a reflective report is presented. Included is a reflective diary which was sustained throughout the whole professional doctorate course.

Conclusions

The consultancy highlighted the value of sharing expert knowledge in conducting health psychology empirical research to support multidisciplinary weight-management services. The teaching and training project, dovetailed as the group BCI, Wellbeing Wednesdays, was effective at providing experiential learning of mindfulness skills and behaviours, however, was not successful in increasing the participant's resilience to stress. Reasons for this are postulated in the report. The one-to-one BCI case study was effective in addressing psychological barriers to weight-management and facilitated behaviour change evidenced by increased psychological flexibility scored and a significant reduction in weight in lbs and waist circumference by the final session. The systematic review highlighted the gap in UK literature base for use of ACT interventions with people living with coronary heart disease for behavioural health outcomes known to reduce risk of second coronary events and premature deaths. The *Mind your Heart* research project showed a significant difference from baseline at two-weeks post measure against a control group for acceptance and rejection-based illness identity. This indicated that acceptance was improved, and rejection was reduced in people with CHD by taking part in the online psychological intervention which supports the literature. Future recommendations are highlighted through the limitations including conducting a live online webinar and exploring wider behavioural health outcomes such as sleep, physical activity and stress management. Finally, the qualitative research highlighted a gap in psychological care for those rehabilitating from a cardiac event and themes of healthcare experience, beliefs and perceptions of CHD, psychological adjustment and Mind your Heart webinar feedback are explored. Participants direct future recommendations for the Mind your Heart intervention.

Introduction

This portfolio contains the work that was submitted as part of the professional doctorate in health psychology at Liverpool John Moores University. Placement roles that were carried out during the doctorate were a Trainee Health Psychologist at a charity supporting survivors of honour-based violence, a Health and Wellbeing Adviser at a national non-profit employment support service and finally a self-employed coaching psychologist at Mindbody Coaching. The purpose of these roles was to gain a broad application of my training to become a health psychologist; more specifically to support a range of individuals with psychological and physical health outcomes by one-to-one and group sessions both face-to-face and online. The consultancy was conducted in a separate organisation to my placement as a Health and Wellbeing Adviser for an employment company, the teaching and training dovetailed with the group BCI were completed within my placement as a Health and Wellbeing Adviser, and the single case study BCI and research projects were conducted whilst on placement as a sole trader at Mindbody Coaching.

Chapter 1 provides the case study, formal contract, and client report for consultation to an Associate Director, Clinical Lead and Health Coach of UK charity on their community-based weight-management programme to improve the impact from a health psychology perspective. It includes a report containing evidence-based literature around the subject of weight-management, linking to biopsychosocial barriers to health behaviour change and critically evaluating existing NHS Tier 3 weight-management service to highlight recommendations. I presented the report alongside a basic overview of how to conduct empirical research which was one of my additional recommendations to scientifically assess the impact of their weight-management programme. Reasons for this were to showcase the impact for future funding opportunities and to autonomously sustain a progression of their programme beyond the consultancy by analysing the data reports and making improvements based on this.

Chapter 2 contains a ten-week teaching and training programme I developed and delivered a on mindfulness skills for wellbeing in the workplace, Wellbeing Wednesdays. The 30-minute sessions were held once-a-week after the regular morning meeting conducted over conference call between five offices across County Durham. The overall aim was to introduce the staff to mindfulness skills and improve resilience to stress scaffolding the learning into bitesize focused topics that gradually built up their skills towards more advanced practices towards week ten.

The objectives were to listen to a short introduction and follow along the mindfulness practice which contained the topic embedded as experiential learning. We started off with the basics of mindfulness practice and safety precautions, progressing to simple gratitude practices ending with more advanced practices such as self-compassion and reframing a "bad day". Mindfulness scores at week ten significantly improved from baseline scores at week one so this outcome was achieved. However, resilience scores did not significantly improve from baseline at week ten and it was postulated that perhaps the staff, working in a stressful environment as Employment Advisers, already had a high baseline of resilience and therefore the margins of improvement were limited.

Chapter 3 describes two behaviour change interventions (BCI) one of which was delivered in ten group sessions and the other was a six-session single-case study. The first BCI, Wellbeing Wednesdays, was a mindfulness-based intervention conducted whilst in placement as a Health and Wellbeing Adviser for employment adviser colleagues. It was delivered within the usual telephone conference call meeting on Wednesday mornings. The second BCI was conducted whilst on placement as a self-employed coaching psychologist at Mindbody Coaching with a client who was seeking support with weight-management.

Chapter 4 depicts three individual research projects. A systematic review explored the literature base on Acceptance and Commitment Therapy (ACT) interventions with coronary heart disease populations. Conclusions highlight the need for conducting ACT interventions with coronary heart disease populations in the UK for behavioural health outcomes as the current research is focused on psychological outcomes. ACT has a strong evidence base for health behaviour change, such as diet, exercise and stress reduction, which is highly applicable to the coronary heart disease population to prevent a secondary cardiac event and premature death; researchers should explore this further. The quantitative project was an assessment of an online psychological intervention, *Mind your Heart*, exploring illness identity constructs of *acceptance*, *rejection*, *engulfment*, and *enrichment*, psychological flexibility, and eating behaviours in a CHD population of 60 participants in the UK. It is not known as to the practical process of facilitating illness identity change from adverse constructs of *rejection* and *engulfment* to positive constructs of *acceptance* and *enrichment* in patients with long-term conditions. The aims of this study was to address the gap in the literature base by investigating whether a combined illness perception and ACT psychological intervention would change illness identity from *rejection and engulfment* styles to *acceptance and enrichment,* facilitate psychological flexibility and health behaviour change in CHD patients. The results supported

the literature around online psychological intervention to change illness identity for patients with a long-term condition, and highlighted critical areas of improvement for online psychological intervention. It is recommended that the *Mind your Heart* webinar is delivered to a live participant group with more emphasis on the connection between how ACT can help those with CHD manage health behaviours and stress management. Additional behavioural outcome measures such as sleep, physical activity, and stress management is recommended to assess the impact of the intervention on health behaviours specific to CHD. The qualitative project followed to provide a deeper and enriched exploration of a sample of seven participants with CHD that took part in the *Mind your Heart* online intervention. Thematic analysis revealed themes of 1) *Control* 2) *Health Behaviour Change*, and 3) *Webinar Recommendations*. The participants highlighted critical aspects of the psychological intervention for psychological adjustment post MI and provided future recommendations for the *Mind your Heart* intervention. The recommended an audio only version, and finally to include more information on the link between ACT, stress, sleep, and heart disease. Finally, a critical reflective commentary on the development and process of all three research projects is included in this chapter to evidence progression in conducting health psychology research.

Chapter 5 reveals professional skills in health psychology. A critical reflective report is presented with aims of demonstrating continual personal development, meta-reflection, ethical conduct, and competency as a Health Psychologist in Training. A reflective diary was sustained throughout the whole professional doctorate course. Each chapter has a corresponding appendix with additional information.

CHAPTER 1: CONSULTANCY

Case study

Case Study Report for Reed Wellbeing Four Ways to Healthy Weight Programme.

Overview

I was asked by a contact of mine through networking at my work placement to provide my knowledge of health psychology to potentially improve the impact of their pre-designed weight-management intervention, Four Ways to Healthy Weight programme. Weight-management is a vastly covered topic within health psychology behaviour change theory. My interests are the role of emotions on health behaviours and by using health psychology theory, I was able to assist the client with their request. To do this I provided two pieces of work, a research protocol outlining health psychology theory on weight management and a *PowerPoint* presentation delivered by myself teaching them the basics of conducting empirical research. Because of lockdown restrictions due to COVID-19, all communication, including the final presentation, was remote using telephone and video calls as well as email correspondence. The aims of these two pieces of consultancy work were for the client to learn about the health psychology approach to weight management through evidenced based theory and to implement empirical standards to capture data from their intervention and for them to assess the impact. The reasons for this were so that the client has an evidence base for future funding with local authorities and so that they can make improvements to maximise the impact based on empirical investigation.

Models of consultancy

Throughout the project, the expert model of consultancy was used as an overall approach based on the initial requests from the client, how to improve the impact of their weight-management programme from a health psychology perspective. This approach describes the process of the client consuming the information that I provide within the expert role and applying it with autonomy. It was deemed most appropriate in context, as they did not already have the expert knowledge from a health psychology perspective available to them within their team, so, naturally they looked for external consultation on the issue. This allowed us to easily establish clear roles within the project in a client-expert relationship. As the expert I aimed to help the

client beyond the consultancy period by empowering them to take ownership of their efforts. I wanted the client to understand how to put expert advice into action in context of their environment and skills rather than simply explaining why it needs to be done, the latter of which the client already had the answer.

The expert model of consultancy has limitations in that it does not give guidance or defined stages of progression. So, for this reason, the Seven Cs of Consulting (Cope, 2003), was used to provide a framework for the project. The Seven Cs of Consulting is a simple, linear and dynamic model containing the main elements of *client*, *clarify*, *create*, *change*, *confirm*, *continue* and *close* (Cope, 2003). It was chosen over Schien's (1969) Process Consultation model because the Seven Cs of consultation was applicable to the client's requests and the parameters of delivery. To elaborate, Schien's (1969) Process Consultation model is designed for group problem solving, organisational development and leadership which was not appropriate for the client's initial requests.

Establishing a working relationship with the client

Within my time as a Health and Wellbeing Adviser at Reed in Partnership, the Associate Director of Reed Wellbeing approached me to discuss my knowledge on weight management on 23/09/2020. Reed Wellbeing are a separate organisation but were a partnering company to my placement. Because of networking through speaking with my colleagues about my doctorate in health psychology and my experience with weight management research, I was able to remotely connect with the client. We initially had a phone call to network across the businesses and we kept in touch via email thereafter.

On the initial phone call, we spoke about the health psychology doctorate I was undertaking, and the client shared their businesses projects for the year, in particular a weight management intervention for their participants. Weight management is a vast area within health psychology, and in my previous degrees I had specialised in this subject, so the client was keen to talk about this at length. I used Socratic Questioning for the first stage, *client*, in the Seven Cs of Consulting framework (Cope, 2003) to gather details and assess their needs (Paul & Elder, 2007). Please see Appendix A1 for questions asked. We spoke briefly about the role of emotions on health behaviours such as diet and exercise and health behaviour change theories such as the Health Belief model (Slack, 1974), Social Cognitive Theory (Bandura, 1986) and the Transtheoretical Stages of Change (Prochaska & DiClemente, 1984). The client asked

about how the health behaviour change models could improve the success of their pre-designed weight-management programme from my perspective using health psychology.

Described in the Seven Cs of Consulting (Cope, 2003), this relationship dynamic is known as a *Hot Spot* quadrant of *known* and *pull* in that the client and I knew each other, and they were interested in the field of Health Psychology (Cope, 2003). This is a favourable position to start a consultancy piece and through this meeting, I was able to establish the first C within the Seven Cs of consulting, which was *client* (Cope, 2003).

In speaking with this client, I had in mind the potential to deliver a consultancy piece for the professional doctorate. When explaining my role as a Trainee Health Psychologist, I was delighted when they agreed to potentially fulfil the consultancy competency and so we set up another meeting to discuss it further. Reflecting in action, I then realised that the client's request would require my teaching skills, so after making that clear to the client on the phone call, I decided to dovetail this consultancy piece with the one-off training component in the teaching and training competency. The client agreed and I started to map out a plan based on their requests from this phone call which were, what health psychology theory could improve the success of their weight management intervention and how could they capture the impact to provide an evidence base.

My role as the consultant

It was my role as the consultant to assess the client's needs, to clarify objectives and to implement an effective strategy to resolve their requests using the Seven Cs of Consulting framework (Shien, 1990; Cope, 2003). To implement this strategy, I used communication skills such as active listening, questioning, summarising, and mirroring. In addition, although the client came to me as an 'expert' it was a collaborative process in that the decisions made were client led.

Planning the consultancy

In the planning stage, I implemented the second C of the framework, *clarify* (Cope, 2003). On the first phone call, I had already established that there were other professionals involved. So, I set up a conference video call on 02/10/2020 with the client, the clinical lead and the health coach to determine the wider dynamics and practicalities of my consultation for the questions posed. During the conference video call, I picked up on two main questions and repeated them

back to the client, the clinical lead and health coach to clarify understanding. The first main question was “tell me what health-psychology has got to offer their pre-designed weight-management intervention”, and the second was “how can we capture the impact of our weight-management programme?”. I was also able to satisfy the third C, *create*, in the framework as I began to formulate a basic outline for two pieces of work for his two main questions to develop a sustainable solution to the requests posed (Cope, 2003). Exploring the first question, “what health psychology theory could I share with them to potentially improve their pre-designed weight management programme?”, I suggested that I could write a simple research protocol. Within this protocol I would outline the criticisms of the Health Belief model (Slack, 1974), Social Cognitive Theory (Bandura, 1986) and the Transtheoretical Stages of Change (Prochaska & DiClemente, 1984) highlighting the role of emotion in weight management behaviours. I explained that I would include the role of emotions on health behaviour since they are evidenced to play a role in weight-management. Cane, Richardson, Johnston, Ladha and Michie (2015) investigated quality literature on all behaviour change techniques and their mechanisms of action and found links between reduce of negative emotions and behavioural regulation. Furthermore, research from Felitti (1998) in obesity clinics found a staggering prevalence of Adverse Childhood Experiences, known to affect emotional regulation, in people accessing their service. Therefore, the connection between emotions and health behaviour regulation is an important aspect to consider when assessing weight-management interventions. Everyone agreed that this would be both interesting and helpful for their weight-management intervention. For the second question, “how can we capture the impact of their weight-management intervention?” I suggested a simple *PowerPoint* presentation which teaches the basics of conducting empirical research. We agreed that it would be presented on our next conference video call on the 16/10/2020.

The consultancy, agreed in the conference meeting on 02/10/2020, had three elements:

Part one – A written protocol sent to the client containing relevant and up-to-date health psychology literature and theory around weight management intervention (included below consultancy case study).

Part two – A fifteen-minute presentation of conducting empirical health psychology research with presentation slides to be sent to the client for future reference, (Appendix A2).

Part three – A written consultancy report to summarise the entire project and recommendations (Appendix A5).

Following the call, I emailed a contract to the client (see below case study) and prequestionnaire as a baseline to measure the success of the consultancy project and to assess their current understanding (see Appendix A3). The pre- and post-measure satisfied the third C of the Seven Cs of Consulting framework, *create*, in that my consultation was measured against clear success criteria (Cope, 2003).

I reflected on this call, and I realised that I got insight into the dynamics of the team and how my consultation would be received from this meeting, which was positive. Both the clinical lead and health coach echoed the enthusiasm of the client for the consultation project. However, I was particularly conscious of making the delivery of the consultancy as time efficient as possible, as it required logistical organisation to allow all three clients to meet at the same time during their varied and busy roles. Therefore, the consultancy had to be simple but effective and had do include materials for the clients to refer back to, promoting autonomy and time efficiency. This demonstrates the fourth C, *change*, which outlines understanding the factors that need to be managed (Cope, 2003).

Implementation

The protocol was produced first and was emailed on 12/10/2020, four working days prior to the scheduled meeting. This was to allow the clients to read through prior to the meeting an prepare questions. On the day of the virtual presentation training with the client, the clinical lead and health coach, the type of teaching was simple but effective and followed a traditional 'teacher-centred' pedagogical style. It was chosen for parsimony of answering the client's 'how to' question, and the information was contextual to their needs and was pitched at the level of their current skills and understanding from the pre-evaluation form in Appendix A1. The clinical lead and health coach both had a basic grasp of health research in general, therefore could easily understand health-related terms and principles. To start the training, I opened with any questions they had from the research protocol, and we talked through each point systematically which took thirty-minutes. I then presented the *PowerPoint* slides which took fifteen-minutes. The remaining fifteen-minutes of the meeting allowed for any final questions. After the meeting I sent the *PowerPoint* slides, the post evaluation form and the final consultancy report outlining key points of the entire project and recommendations, please see below case study.

Reflection on the day of the final presentation

The whole consultation period from initial contact to the final presentation day had passed with a speedy momentum because it was not a long period of time, four weeks, and the tasks involved in my day-to-day employment tasks provided a healthy urgency. I am the type of person who likes to work towards structured deadlines, and on reflection, I think most people benefit from a deadline of some sort, demonstrated in theory such as the optimal stress curve (Mendl, 1999), but I now know this about myself that I like to work towards a near and achievable submission date. This keeps my mind focused and fresh, and I enjoy the satisfaction of completing a good piece of work in a short space of time. What I don't like, however, is an unrealistic and seemingly unachievable deadline with unclear goals, which I try not to set myself, but it happens from time to time. I am a visual person, partly because of my dyslexia, and I need, perhaps more than some people, to be able to see the goal with my mind's eye in full clarity. If I can't conceptualise a task, or it is abstract with too many variants, I seem to get overwhelmed, and procrastination takes over. However, the consultancy project worked seamlessly for the client and me and it worked to my advantage.

I do recognise the satisfaction in impressing people with my standard of work in short amounts of time, and it does motivate my ego. However, I understand that underneath that seemingly impressive skill, it's not about 'working hard', it's about 'working smart' with focus and efficiency by playing to strengths. For this project, it was easy for me to identify an efficient time scale that suited both the client's needs and my own. I took the time to pinpoint exactly what their needs were, and I was confident that I could focus my energy to produce a quality piece of work in the short timescale of a week. Therefore, on the day of the final presentation, I felt confident to deliver the protocol and *PowerPoint* slides and give ample time for discussion and questions.

I started out by greeting everyone on the video conference call and asking if they had any points, they would like to discuss on the protocol I had sent four days previously. They expressed positive feedback about how the knowledge would be highly useful to them in their weight-management intervention. They particularly liked learning about Health Psychology and commented on the value of the discipline with developing health behaviour change interventions. I then explained some main paragraphs on the protocol to clarify further about

the role of emotions in weight-management interventions and why Health Psychology literature was important, which they received with interest and agreement. Next, I shared my computer screen with the group and took them through the *PowerPoint* presentation on conducting empirical Health Psychology research. The feedback was positive, and I ended the presentation with a fifteen-minute discussion with opportunity for questions of which there were just a few clarifications, but generally remarks and feedback on how they were going to move forward. From a consultation perspective, this is a good place to close the consultation because they were now motivated for action and autonomy was clear. I sent an email with the presentation attached and thanked them for working with me and that I would be in touch to check on the progress of the project.

On reflection, I can't say that I would do anything differently about the way I delivered the final day presentation. However, I should have included the clinical lead and health coach in the pre- and post-evaluation, not just the client. Reasons for this are that it was a fast-paced process with little turnaround time between meetings and I did not want to over burden the clinical lead and health coach with extra paperwork. And I was mainly concerned with my client and his understanding so that he would implement the suggestions made with professional autonomy and delegation. Nevertheless, the needs of the client were very simple, and it played to my advantages in having a background in Health Psychology and weight-management. It would have been different if the client had multiple additional requests or it had been conducted face-to-face and over a longer period of time, but this project struck my 'sweet spot' of capabilities, and I delivered.

Evaluation

Following the video conference training on the 16/10/2020, the client, the clinical lead and the health coach all gave verbal feedback on the presentation in the final fifteen-minutes. To check the client's learning, and to fulfil the fifth C of the Seven Cs of Consulting, *confirm* (Cope, 2003), I asked him to fill out the post-questionnaire after the final presentation. This was to ensure the change had taken place and that the client had understood the information provided in the consultancy. Please see Appendix A3 for pre- and post-questionnaires.

The prequestionnaire contained only four times, two of which were ten-point Likert scale and the remaining two were open ended questions. On the post questionnaire I included three extra questions that could only be measured after delivering the consultancy. A score closest to ten

on the postquestionnaire would indicate a positive result. I assessed the open-ended questions with reflection picking out key themes between pre- and post-questionnaires. Please see Table 1 below for an overview of scores.

Table 1

Feedback from client on consultation provided.

	Pre	**Post**
Q1	My understanding of health psychology is limited in this context. As a business we have some general awareness and knowledge of common concepts, but not specific expertise in this area	My understanding of health psychology has improved significantly as a result of working with Alex. Alex was extremely knowledgeable and supportive with us in taking us through the concepts of health psychology and how it could be applied to our programmes.
Q2	6	9
Q3	Our understanding of empirical research is also limited. Again, we have awareness of key concepts, but we have not undertaken a formal empirical research project as a business previously.	Again, due to Alex's patience, diligence and knowledge, our understanding has increased significantly. Alex has taken time to talk us through how to conduct an empirical research study and has developed a truly excellent protocol for us to follow.
Q4	6	9
Q5		10
Q6		The quality of the consultancy was excellent. Alex approached the project with us in supportive and personable manner which led to us developing a really good working relationship. We have felt supported through the whole process and have really learned a lot from working with Alex, in a relatively short space of time. Thank you!
Q7		Very happy with the service from Alex who has shown that she has the knowledge, experience and enthusiasm to achieve what she wants to. Thank you for your hard work and support.

Finally, I asked the client to write a brief feedback statement on how they had found the service I provided and to potentially assess any further action to take place. This was free form to be written in a word document by the client and sent as final overall feedback, please see Appendix A4.

Reflective evaluation

Although, I have not had the opportunity to follow up on this project, the consultancy project went ahead smoothly without any mishaps. I read verbal and non-verbal cues and listened with intent to the client's feedback *in* action. But it is important for me to reflect *on* action so that I do not miss potential for growth of an issue for which I did not pay attention (Miettinen, 2000). This section will analyse this from the client's perspective.

Assessing the client's reaction to my piece of consultancy

I was keen to get the client's feedback on the whole consultancy project to learn and develop my skills. It's also part of experiential learning that encourages critical thinking. However, the client's freeform written feedback and post questionnaire scores validated my rational understanding of events, that I delivered what they requested with professional standard of service. Assessment for this was conducted retrospectively as the final three items on the post questionnaire were added. Question five indicated the maximum score of ten for satisfaction of service. And questions six and seven reflected the quality of service I had aimed to provide. Finally, please see Appendix A4 for additional client feedback which reflects the rest of the feedback.

Closing the consultancy

To demonstrate the final C of the Seven Cs of Consulting, *close*, as the feedback was returned, I thanked the client for engaging in the constancy project and for kindly agreeing to be part of my doctoral studies (Cope, 2003). I took the opportunity to promote my new business and offer support for their weight-management project, as this was a great time to do so because of the quality service I had just provided. I am not usually good at the sales aspect of business, especially when a natural opportunity doesn't present itself, and it's something I am working on. However, this was a perfectly natural opportunity that felt right with me, and it seemed a professional way to close the consultancy. It was carried out over email, and I always find it easier to write in a self-promoting way than to speak about myself to another person or room of people. I will keep in contact with the client every quarter because I would like to know how their weight-management intervention went ahead and for my new business I am looking to provide stress management workshops for staff. However, having not received a response in a follow up email, it looks unlikely that I will receive a response. Nevertheless, I do have contact

with this client on a professional social media platform and I'm sure if our paths cross again I will be able to regain a good working relationship if the opportunity presents.

Monitoring and managing the consultancy

As part of the sixth C of the Seven Cs of Consulting, *continue,* on the 02/02/2021, I contacted the client via email to follow up on the consultancy project provided in October 2020 (Cope, 2003). The aims of this were to assess if the client had implemented the information provided in the protocol and the presentation, and as an opportunity to provide any new information that may be helpful to the progress of their weight-management intervention. However, to speculate, I believe that the client's plans of implementing the weight-management intervention in January 2021 may have been postponed due to the COVID-19 epidemic as I have not had a response to my enquiries. This is understandable given the circumstances of the global pandemic and there is also a possibility that my contact may have moved on from that role. In future I will be clearer about the follow up process and write it into the contract and not just assume that I will easily be able to contact the client again post project.

Reflection on my performance

The whole consultancy process was organic and passed quickly without complications, and so I enjoyed the process. I used it as a demonstration of my capabilities in a networking capacity which I do with all projects that come my way. I have always been a seeker of work opportunities and I trust word-of-mouth marketing for its personalness and practicality. It's one of the strongest forms of advertisement, I find, and some of the openings I have created for myself have led to unusual but valuable experiences. For example, when I was an undergraduate, I made contact with a highly influential person who, after inviting me to many Space to Earth Challenge events around the country, invited me to the European Space Centre in Germany, which was quite an adventure. Connecting with people and networking is something I enjoy, so the consultancy competency was a pleasure to complete.

I have to say that I was disappointed that the client had already developed the weight management intervention and that those skills were not requested from the start. However, this is why it is important for me to have a good range of skills to create a unique selling point for each request. For example, if they required me to design an intervention, the consultancy would have been very different, and I would have used those skills. Still, it's good to be able to offer

something that they did not have in the room, the health psychology research acumen, and it's a strength that I will remember for future.

Furthermore, I was worried that the client did not sign the contract when I sent it to him early in the process. It was a win-win situation for them, and it wasn't legally binding and there was no money exchanged, so this delay did make me highly diligent when confirming if it was something they wanted to continue. However, all the verbal and written confirmations were valid as it was eventually signed off. I realise in the business world I would need to be tougher on signing of contracts before the work starts and I have created thorough terms and conditions for that reason. But I understood the situation and it did work out the way I that wanted.

Finally, I feel that although Cope's Seven Cs of Consulting framework was a good fit for the client's needs and context of the project, the sixth C, *continue*, was either not followed correctly by me or that it is potentially a misplaced step. What I mean is that it could have been an error on my part in conducting the consultancy project that I did not make it clear that I would monitor the process to satisfy the guidance outlined in the *continue* step of the model before moving onto the final *close* stage. For example, after closing the consultancy I attempted to follow up as an opportunity to monitor the progress. However, it could be argued that the *continue* step was not appropriate to conduct as the sixth stage before the final *close* for this particular project because of the parameters and time scale. For example, there was no time to perform the *continue* stage in which the client had received the consultation presentation and could implement with autonomy before the *close* which was in the same day. Therefore, it could be said that the sixth *continue* stage could either be implemented after the *close* step in order to follow up on the consultation. Perhaps I closed the consultancy earlier than I should have, but looking back, at the time it felt like a natural ending opportunity. In future I will be clearer from the start with the client and factor in time to monitor the consultancy before the close as part of the *continue* stage, if Cope's Seven Cs (2003) framework is appropriate for the specific circumstances.

Reflection on my reflection

Reading though sometimes I can sound overly optimistic or laid back, but I remember it being such a smooth project. Overall, I'm proud of myself and the work that I did, and the consultancy competency has benefitted my business skills which is important to maintain practice and earn a living wage as a Trainee Health Psychologist. I do sometimes feel deflated when health

coaches and fitness instructors saturate the market with health advice and guidance. And I find that most health-conscious people know more about the latest weight management trends than I. However, what I have also seen is quite a lot of health and wellbeing misinformation without an evidence base. As health psychology literature shows, weight management misinformation on social media can be dangerous for many reasons (Moorhead, 2013). For example, weight management misinformation can subtly promote eating disorders, body dysmorphia (Levine and Murnen, 2009; Moorhead, 2013). Also, the level of health literacy is often not considered for social media posts, and the language used in such posts can be ambiguous and divisive, which poses a further threat to public health (Levine and Murnen, 2009). I feel as a trainee health psychologist, it's important to understand the social dynamics and influences of health behaviours, especially through social media and online platforms. And I believe that raising awareness of health and wellbeing behaviours via social media can be a positive and helpful tool, but it's all too common to see advice from unreliable sources circulated by lay people and non-psychology professionals (Moorhead, 2013). I have a great respect for ethical conduct and being part of a regulated profession, and the distinction between a registered Health Psychologist practitioner and non-psychology professionals are becoming more and more distinguished.

This consultancy experience has helped me to understand the value of Health Psychology practice in the professional world and how I will always find competition from health coaches and similar occupations. I also have more insight into the application of evidence-based frameworks from different disciplines such as consultation, which was a first for me. I must continue to keep focus on evidence-based frameworks to provide quality and ethical health psychology practice once qualified.

References

Cope, M. (2003). *The seven Cs of consulting: The definitive guide to the consulting process*. Pearson Education.

Levine, M. P., & Murnen, S. K. (2009). "Everybody knows that mass media are/are not a cause of eating disorders": A critical review of evidence for a causal link between media, negative body image, and disordered eating in females. *Journal of Social and Clinical Psychology*, *28*(1), 9-42.

Mendl, M. (1999). Performing under pressure: stress and cognitive function. *Applied Animal Behaviour Science*, *65*(3), 221-244.

Miettinen, R. (2000). The concept of experiential learning and John Dewey's theory of reflective thought and action. *International journal of lifelong education*, *19*(1), 54-72.

Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of medical Internet research*, *15*(4), e85.

Paul, R., & Elder, L. (2007). Critical thinking: The art of Socratic questioning. *Journal of developmental education*, *31*(1), 36.

Rockwood, G. F. (1993). Edgar Schein's process versus content consultation models. *Journal of Counseling & Development*, *71*(6), 636-638.

Schein, E. H. (1999). *Process consultation: Building the helping relationship*. Menlo Park, CA: Addison-Wesley.

Consultancy Contract

CLIENT	CONSULTANT
Name: Reed Wellbeing	**Name:** Alex Robson
Telephone:	**Company:**
Email of contact:	**Telephone:**
	Email:

SERVICE

The Four Ways to Healthy Weight programme has already been designed by Reed Wellbeing's team of coaches and nutritionists. The client, Reed Wellbeing, is seeking Alex Robson's professional guidance on health psychology theory and conducting empirical research to provide scientific rigour and impact to the Four Ways to Healthy Weight programme. A health psychology research design protocol$_1$ and an empirical research guide$_2$ are to be written for the Reed Wellbeing Four Ways to Healthy Weight programme on 16/10/2020. The protocol$_1$ will include a literature review of health psychology theory and proposed methodology and analysis and must be no more than 6 pages long. The research protocol$_1$ will be written in word document format and delivered via email to be used by the client for however they see fit as long, as the consultant is referenced as an author. The health psychology empirical research guidance$_2$ will be delivered in *PowerPoint* to be used by the client however they see fit as long as they reference the consultant as an author. The client is able to ask any questions about the service delivered and is free to make amendments and include additional information to the documents. The consultant can provide additional support if needed during delivery of the intervention, to be negotiated.

EXPECTATIONS

1. The Consultant will research and write up the agreed work to be negotiated with the Client in accordance with British Psychological Society (BPS) Ethical Guidelines and Code of Practice and the Health and Care Professions Council (HCPC) Regulations.
2. The Consultant will collect data in the form of a short evaluation questionnaire from the Client before the service is delivered and after the service is delivered, see Appendix A1 and A3.
3. The Consultant will produce a final report evaluating the outcomes and outlining recommendations with an executive summary to the client.
4. The Client will provide written feedback on the delivery of the service and the final report.

DECLARATION

a. The Client is aware that the Consultant has the necessary qualifications and experience to provide this service.

b. The Consultant is able to provide services to the Client on the terms and conditions set out in this Contract.

SIGNED: *Client:* *Consultant: A Robson*

Details of work to be carried out has been negotiated and agreed upon by both parties. If the Client has any concerns regarding the service provided, they can be discussed with the Consultant in the first

instance. To make a complaint, the Client can contact the Academic Supervisor, Dr Mark Forshaw on 01519046299 or via email: m.j.forshaw@ljmu.ac.uk.

Consultancy Report

Literature review

With obesity rates and co-morbid disease increasing each year, weight management programmes dominate public health interests (Public Health England, 2020). The 2020 framework set out to address increased healthy life expectancy with health improvement indicators targeting obesity. Obesity is defined by the WHO as anyone with a BMI over 30, however, having a BMI over 25 is still considered to be a significant risk factor of metabolic disease, which involves hypercholesterolemia, type 2 diabetes, and hypertension (Engin, 2017). Modern medical advancements and physiological research has found that metabolic conditions can be preventable and reversable (Engin, 2017).

In light of this, NHS England has an evidence-based Tiered Care Weight Management Pathway however, it is only available in certain localities with exclusive criteria. Tier 1 involves brief advice and health promotion and, although cost effective, is limited in impact on health behaviour. Knowledge and information on diet and exercise forms the foundation of weight management, but it forms only one small part towards a person behaving in line with the information learned. For example, it is largely demonstrated that correct information alone does not entirely shape healthy eating or exercise behaviours. Tier 2 is focused on community interventions and has strengths of accessibility but limitations of lack of empirical research. Again, the emphasis within this Tier is on correct information and socialisation which are two important aspects for weight management, and social aspects have proven to be a powerful influence but combined with correct health information are still not the only drivers of behaviour (Brown, 2017; Ells, 2018). Tier 3 involves multidisciplinary collaboration intervention, with the inclusion of psychology professionals, and has strengths of sustained weight loss, but is costly due to clinician fees (Brown, 2017; Ells, 2018). In Tier 3 the role of emotions on behaviour are addressed along with correct health information and social group factors, which is why this approach is the most successful in the UK.

Tier 4 weight management involves gastric bypass surgery and is only seen as a last resort with significant risks attached. Interestingly the surgery approach is not as effective in the long term, since people can often become obese again in a short space of time leading to dangerous health

implications (British Obesity and Metabolic Surgery Society, 2017). Drawing on the strengths of Tier 2 and Tier 3, a health psychology informed community-based lifestyle approach to weight loss is recommended to support with Public Health aims, and a large body of literature that promotes a multidisciplinary approach (British Obesity and Metabolic Surgery Society, 2017; Brown, 2017; Ells, 2018).

Health psychology utilises research from a wide range of disciplines, including behavioural, neuroscience, social anthropology, and medicine, to provide a comprehensive approach to health. Health behaviour change interventions at Tier 2 level involve the practical aspects of diet and exercise information and are traditionally based on cognitive approaches. Cognitive theories include Prochaska and DiClemente (1983) transtheoretical model of behaviour change (TTM) and Bandura's (1986) social cognitive theory (SCT). The TTM provides a step-by-step instruction towards a desired behaviour, however, does not account for social or emotional factors. On the other hand, SCT states that in order to effectively change behaviour, three core components must be present: self-efficacy, capacity and social support. But, similar to TTM, SCT does not account for the influence of emotions on behaviour. Programmes based on a cognitive model tend to neglect emotional processes of weight management, despite a vast body of literature demonstrating the connection. However, cognitive behavioural approaches like Acceptance and Commitment Therapy (ACT) place emphasis on the role of emotions on behaviour. For this reason, ACT is seen to be the most applicable cognitive behavioural approach to weight management to date but is limited in empirical evidence (Corrigan, 2001).

Literature from behavioural neuroscience approaches can provide insight into the limitations of cognitive approaches on weight management. Modern advancements neuropsychology show that a person can store emotions and experiences in the body as multisensory information (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Zhang, 2018). Research suggests that when someone has been overweight for a long time, emotional regulation issues could be subconsciously driving poor health behaviours (Fernandes, Ferreira-Santos, Miller & Torres, S. 2018; Zhang, 2018). According to Relational frame theory, every experience a person goes through in their life programmes a set of rules into the subconscious part of the brain responsible for emotions and memory; the limbic system (Zhang, 2018). These rules are said to drive behaviour towards pleasurable experiences, and they can make a person avoid pain and dangerous situations they have previously experienced (Zhang, 2018). The emotional response from the limbic system is quicker than our cognitive rational thinking (Van der Kolk,

Roth, Pelcovitz, Sunday & Spinazzola, 2005; Zhang, 2018). This is why a person can react to a dangerous situation almost immediately and instinctively, as if automated (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Zhang, 2018).

A monumental study by Felitti (1998) into the investigation of Adverse Childhood Experiences (ACE) found that out of 17421 patients who accessed an obesity clinic in the US, only one-third reported not to have any adverse childhood experiences. This meant that in a sample of 17421 obese, white, middle-class, middle-aged people, a total of 11614 had experienced abuse of some kind in their childhood. This study was the first of its kind to reveal the sheer magnitude of trauma from ACE and its impact on obesity and weight management, issues to which low socioeconomic populations are particularly vulnerable. Trauma is quoted to be "a hidden epidemic" as it poses as a major risk to public health (Van der Kolk, 2015). Many studies went on to further validate Felitti's findings including a recent meta-analysis of all interventions on ACE and obesity (Wiss & Brewerton, 2020). It recommended that in weight management programmes there should be improved screening and detection of trauma and better access to trauma-informed care (Wiss & Brewerton, 2020). The Felitti (1998) study is an extreme example that demonstrates the power of emotions from stressful and traumatic experiences on health behaviours, particularly weight management.

Specific to obesity, a condition known as Alexithymia manifests as emotional and sensory detachment and is a common predictor of failure in weight loss programmes (Casagrande et al., 2019). Therapies that promote interoception, the internal state of the body, and proprioception, the external experience of the body and its position in space, are often known as trauma informed body-based activities. Body-based activities can help rebuild a healthy connection between the mind and the body and can account for the limitations of cognitive approaches (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Payne, Levine & Crane-Godreau, 2015). In addition, rhythmical physical activity, professionally guided mindfulness, therapeutic massage, trauma informed yoga, and Emotional Freedom Technique, are seen to promote emotional regulation (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Payne, Levine & Crane-Godreau, 2015; Zhang, 2018). Therefore, a body-based psychological approach to weight loss is often recommended to address emotional regulation with weight-management (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Zhang, 2018).

Considering the potential case history of a participant with weight management issues, it is important to account for emotions as well as past adverse experiences below conscious cognition that inadvertently drive health behaviours. It is not necessary for the facilitator of the intervention to ask or talk about these painful memories, however, in order to provide equality in service, it is recommended that ACE and PTSD is accounted for because people without diagnosed trauma can also benefit from a trauma informed body-based behavioural approach. Reasons for this are that it is a beneficial skill for everyone to be able to behave consciously and contextually within the present moment, particularly when it comes to weight management activities such as diet and exercise.

Proposed research question

Will the pilot of the Reed Wellbeing 12-week weight management intervention Four Ways to Healthy Weight be successful in weight management in a UK mixed gender population$_1$ and will healthy weight be sustained post-intervention$_2$?

Method

Design

Randomised control trial pre-post study.

IV1 Experiment

level 1 = Intervention (Four Ways to Healthy Weight)

level 2 = Control group (no intervention)

IV2 Time

Level 1 = pre-test measures

Level 2 = post-test measures

Level 3 = 1 month follow up

DV1 = Weight measurement in Kg. (BMI 25-30 = 100-120kg. BMI 20-25 = 75-100kg)

DV2 = Waist Circumference. (Female = <80 low risk. Male = <94cm low risk)

DV3 = Warwick-Edinburgh Mental Wellbeing Scale

DV4 = Emotional Processing Scale

Participants

Participants on the Reed Wellbeing programme will be initially recruited by means of invitation by Health Coaches and staff working with targeted population. Snowballing sampling via word of mouth will be applied to reach and invite people not currently engaging with Reed Wellbeing services. The target population for this study is adults in the UK with a BMI>25 and access to a computer.

Materials

Reed Wellbeing Four Ways to Healthy Weight presentation along with supplementary materials for each of the 4 modules are provided to the participants via email, a full list of materials can be found in the appendices.

Procedure

Experimental sample:

Participants with a BMI>25 is invited to take part in Four Ways to Healthy Weight by their Health Coaches and in response to advertisements and word of mouth. Once registered and initial measures taken, participants can then choose to begin the programme with any of the 4 modules at their own pace. Support by their Health Coach is provided throughout the programme. Post measures will be taken after the intervention is completed and participants will be asked to provide follow up measurements after 1 month to conclude the study.

Control sample:

Participants with a BMI>25 are invited to take part in a research study measuring their weight over time. They will not be given the Four Ways to Weight materials and will have no weight management intervention, support or guidance delivered over the 12-week time frame. They will then be invited to take part in the next cohort of the Four Ways to Healthy Weight as part of the experimental sample.

Analysis

- Hypothesis$_1$ There will be a significant decrease between pre, post measures weight in kg.
- Hypothesis$_2$ There will be a significant decrease in pre, post measures waist circumference in cm.
- Hypothesis$_3$ weight measurement in kg won't increase from post measures to follow up.
- Hypothesis$_4$ waist circumference in cm won't increase from post measures to follow up.

Once the data is collected and if parametric assumptions are met, the following analyses are proposed against each of the hypotheses:

- Repeated measures one-way-ANOVA to test between groups (intervention) + within groups (time) and test group-by-time integration.
- Or ANCOVA with one between-groups factor and one covariate (baseline scores)

Summary

Elements from the NHS Tier 3 weight management programme, such as involvement of psychologist through a multidisciplinary approach, are the most successful at targeted and sustained weight loss (Welbourn et al., 2016). However, due to lack of funding it is not readily accessible, especially with those with a BMI between 25 and 35. With guidance from health psychology research, it is within parameters of Reed Wellbeing to deliver a similar community-based programme. The company's previous weight loss programmes have been more in line with Tier 2 programmes. Therefore, in order to elevate the chances of success of the proposed programme, Four Ways to Healthy Weight, the recommendations of including a mind-body therapeutic element to account for emotional regulation is provided.

References

British Obesity and Metabolic Surgery Society (2017). *Commissioning Guide: Weight Assessment and Management Clinics (Tier 3)*. Available at: <https://www.bomss.org.uk/wp-content/uploads/2017/10/Revision-of-Commissioning-guide-Tier-3-clinics-04042017.pdf> [Accessed 8 October 2020].

Brown, T. J., O'Malley, C., Blackshaw, J., Coulton, V., Tedstone, A., Summerbell, C., & Ells, L. J. (2017). Exploring the evidence base for Tier 3 weight management interventions for adults: a systematic review. *Clinical obesity*, *7*(5), 260-272.

Casagrande, M., Boncompagni, I., Forte, G., Guarino, A., & Favieri, F. (2019). Emotion and overeating behavior: effects of alexithymia and emotional regulation on overweight and obesity. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 1-13.

Corrigan, P. (2001). Getting ahead of the data: A threat to some behavior therapies. *The Behavior Therapist, 24(9)*, 189-193.

Ells, L., Watson, P., Carlebach, S., O'Malley, C., Jones, D., Machaira, T., ... & Summerbell, C. (2018). A mixed method evaluation of adult tier 2 lifestyle weight management service provision across a county in Northern England. *Clinical obesity*, *8*(3), 191-202.

Engin, A. (2017). The definition and prevalence of obesity and metabolic syndrome. In *Obesity and lipotoxicity* (pp. 1-17). Springer, Cham.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, *14*(4), 245-258.

Fernandes, J., Ferreira-Santos, F., Miller, K., & Torres, S. (2018). Emotional processing in obesity: A systematic review and exploratory meta-analysis. *Obesity Reviews*, *19*(1), 111-120.

Kasila, K., Vainio, S., Punna, M., Lappalainen, P., Lappalainen, R., Kaipainen, K., & Kettunen, T. (2020). Individual differences in processes of lifestyle changes among people with obesity: an acceptance and commitment therapy (ACT) intervention in a primary health care setting. *Primary Health Care Research & Development*, *21*.

National Institute for Health and Care Excellence - NICE (2014). Weight management: lifestyle services for overweight or obese adults: guidance (PH53). https://www.nice.org.uk/guidance/ph53

Payne, P., Levine, P. A., & Crane-Godreau, M. A. (2015). Somatic experiencing: using interoception and proprioception as core elements of trauma therapy. *Frontiers in psychology*, *6*, 93.

Public Health England, 2020. *Public Health Outcome Framework 2020*.

Van der Kolk, B. (2015). *The body keeps the score*. New York (New York): Penguin Books.

Van der Kolk, B. A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies*, *18*(5), 389-399.

Welbourn R, Dixon J, Barth JH, Finer N, Hughes CA, le Roux CW, Wass J on behalf of the Guidance Development Group. (2016). NICE-Accredited Commissioning Guidance for Weight Assessment and Management Clinics: a Model for a Specialist Multidisciplinary Team Approach for People with Severe Obesity. Obesity Surgery; 26: DOI 10.1007/s11695-015-2041-8

Wiss, D. A., & Brewerton, T. D. (2020). Adverse Childhood Experiences and Adult Obesity: A Systematic Review of Plausible Mechanisms and Meta-Analysis of Cross-Sectional Studies. *Physiology & Behavior*, 112964.

Zhang, C. Q., Leeming, E., Smith, P., Chung, P. K., Hagger, M. S., & Hayes, S. C. (2018). Acceptance and commitment therapy for health behavior change: a contextually-driven approach. *Frontiers in psychology*, *8*, 2350.

CHAPTER 2: TEACHING AND TRAINING

Case study

Teaching Mindfulness Practice in the Workplace to Increase Resilience to Stress.

Abstract

In my role as a Health and Wellbeing Adviser, I was asked by my manager in a monthly routine progress review to plan and facilitate a thirty-minute weekly wellbeing group activity for my colleagues on the conference telephone meetings held every Wednesday. This work describes the systematic process of planning, delivering and critically evaluating the ten-week training programme, Wellbeing Wednesdays, contributing to my development of practice as a trainee health psychologist. The aims of this project were to provide experiential learning on mindfulness-based activities in the context of work stress by teaching eighteen colleagues across four offices in County Durham using an evidence-based health psychology approach. Traditional learning theory such as Piaget's Cognitive Development Theory (CDT) (1952) and Vygotsky's Sociocultural Theory (SCT) (1962) are critically evaluated in context of Wellbeing Wednesdays. And Yeganeh and Kolb's (2009) Mindful Experiential Learning Cycle was applied to the teaching series with modern evidence-based recommendations from Chaiklin (2003) and Rosenshine (2012). Pre-test and post-test measures of learning were taken in the form of a ten-item multiple choice quiz on mindfulness, see Appendix B1, and a post evaluation was taken to assess my performance, see Appendix B2. Overall, the teaching series, Wellbeing Wednesdays, was successful in demonstrating understanding of knowledge on mindfulness practice, however, did not capture independent application of knowledge between and beyond the sessions. Future recommendations and reflective evaluation are discussed.

Background

The economy has been greatly impacted by the COVID-19 pandemic as some large companies have ceased trading and have had to furlough members of staff. Work stress contributes to growing financial losses for companies with staff members on long periods of sick leave and impromptu sick days (Lloyd, King & Chenoweth, 2002; Hassard et al, 2018). Front-line

services face additional absences because of shielding and childcare issues, not to mention sickness due to COVID-19 infection and burnout (Hassard et al, 2018; Mimoun, Ben & Margalit, 2020). The health and wellbeing of the employed has been under more strain than usual due to the COVID-19 pandemic and the discipline of health psychology plays a vital role in supporting the workforce with evidence-based teaching practice and research (Mimoun, Ben & Margalit, 2020).

Participants

Working between the five office branches as the Health and Wellbeing adviser for nine-months in County Durham, I quickly got to know my 18 colleagues and we all had a good working relationship. Within our team there were ten females and eight males all from a white British background with an age range between 30 and 64 years. In addition, the team contained two Business Managers, two Employment Skills Trainers, two Recruitment Managers and 12 Employment Advisers with me being the only Health and Wellbeing Adviser. All staff were newly employed to their roles within the company at the same time that I started and so we all had induction training together, which helped us to connect and bond from the start. As news of the COVID-19 pandemic shocked the world for the first part of the year, my colleagues were under increasing pressure since their job entry targets were still to be expected and working from home added additional stressors such as childcare issues and caring responsibilities. After my manager approached me to provide a weekly wellbeing themed training session to support my colleagues, I saw this as a great opportunity to demonstrate two dovetailed competencies for the doctorate, the behaviour change intervention group series and the teaching and training series.

Assessment of training needs

To assess the training needs, I spoke with everyone individually and on the conference calls to ask if they had any suggestions of activities or topics to cover, of which the theme of responses was '*relaxing mindfulness activities'*; something for which I routinely provided for the participants that my colleagues and I support. This approach was in line with Vygotsky's SCT (1962) as it outlines the importance of co-construction in the learning process. Although both Piaget's CDT (1952) and Vygotsky's SCT (1962) are congruent with the overall constructivism

approach, SCT was favoured in the assessment stages of training needs because it demonstrated best practice in context. To expand, according to Piaget's CDT (1952) there is no co-creation with learners, so this would have limited the development of Wellbeing Wednesdays as it would not have honoured the outcome requests from the participants.

From the work-stress literature, I was aware of identifying two key areas of work stress, organisational issues that could not be changed and individual circumstances that contributed to lower levels of wellbeing (Johnson et al., 2005). My colleagues reported feelings of *"not being able to switch off"* from their work duties in the evening, and some people had childcare issues with the school closures which meant they were distracted most days; the first being a clear example of a changeable unworkable behaviour and an uncontrollable organisational stressor in the latter (Bond, Flaxman, van Veldhoven & Biron, 2010; Reeve, 2020). There is a large evidence base recommending mindfulness-based activity in the workplace for the outcomes the issues the participants shared (Bartlett, 2019). A recent review by Bartlett et al. (2019) found that mindfulness training in randomised control trial studies indicated beneficial effects in both psychological health such as stress and physiological health such as sleep. Furthermore, a standardised framework of Gu, Strauss, Bond and Cavanagh's (2015) Mindfulness-based Cognitive Therapy (MBCT) provides practical evidence-based guidance for practitioners and is recommended by NICE for both health and psychological outcomes (NICE, 2010). Whilst mindfulness activities do not claim to make issues disappear, they can promote resilience towards unchangeable organisational issues and can motivate new actions in place of unworkable behaviours (Flaxman & Bond, 2006; Johnson et al., 2005).

My intentions were to keep the mindfulness activities as brief as possible in order to not take up too much of their time and add to work stress. I wanted to make it fun and relaxing, something different to look forward to and break up the week. I decided to call the intervention, 'Wellbeing Wednesdays' for simplicity. It was my understanding that my colleagues had varying experiences with mindfulness activities in the past, so the content and materials were created in line with beginners' level MBCT (Gu, Strauss, Bond & Cavanagh, 2015). MBCT training courses map onto principles of constructivism learning theory in that it is progressive guided practice with scaffolding and usually taught weekly in a group setting (Rosenshine, 2012; Bada & Olusegun, 2015). However, what MBCT does not usually include is to begin

each session a review of the previous session, recommended by guidance from Rosenshine (2012) on evidence-based instruction.

Teaching and training: planning

Although Piaget's CDT (1952) and Vygotsky's SCT (1962) are dated, they have been extensively studied with regard to teaching, training, learning and development. Sharing similarities, CDT and SCT fall under the constructivism approach within the four identified learning theories, which is more student focused than teacher focused, along with connectivism, unlike the behaviourism and cognitivism style. The behaviourism and cognitive style emphasise teaching methods such as rote learning or memorisation, which is seen to limit understanding and contextual use of knowledge. The connectivism approach, although student focused, was not an appropriate fit for the Wellbeing Wednesday parameters of delivery, scope and aims. It promotes self-directed quests for knowledge and so for mindfulness activities this would have been too complex and time consuming for the participants. Furthermore, mindfulness practice requires no group talking or group discussion which is a key principle for the connectivism approach. Therefore, a constructivism approach was applied to the teaching series to assist with the planning stages.

Under the constructivism approach, both CDT and SCT promote an active approach to learning with complex knowledge and concepts broken down into smaller pieces progressively building, known as scaffolding. However, within CDT there is a strong emphasis on stages of development and is more in line with cognitive constructivism where the role of language is minimal. Whereas in SCT there is a strong correspondence with sociocultural context in social constructivism with no proposed stages and language is seen as a powerful influence in shaping thought. Vygotsky's (1978) Zone of Proximal Development (ZDT) develops his initial theory of SCT further by introducing a model explaining when guidance and instruction should be given to maximise benefits of learning and allowing a person to use these skills eventually unassisted. Research by Chaiklin (2012) critically assessed Vygotsky's ZDT (1978) and found it to be accurate in the modern-day context but, in the context of planning the Wellbeing Wednesday teaching series, ZDT is aimed at child education and does not offer in depth guidance.

Research by Rosenshine (2012) presents ten evidence-based principles of instruction and, although it does not specify age recommendation, it gives a comprehensive and up to date overview of key elements for learning. Themes that map onto the constructivism approach to learning such as, “begin a lesson with a short review of previous learning”, “present new material in small steps with student practice after each step”, “guide student practice”, “check for student understanding”, “provide scaffolds for difficult tasks”, “engage students in weekly or monthly” were appropriate for the parameters of the teaching series (Rosenshine, 2012). The remaining five suggestions would not be viable for Wellbeing Wednesdays given that it was a thirty-minute mindfulness session, “ask a large number of questions to check the understanding of each student”, “obtain a high success rate in student response to questions”, “provide models”, “require and monitor independent practice” (Rosenshine, 2012). To expand, there is no talking during the mindfulness practice which means no questions and answers, but there would be some questions and prompts for the students to reflect on independently. Also, models and worked examples are better suited to maths problems and writing comprehension (Rosenshine, 2012). Finally, it could have been included as a requirement for the Wellbeing Wednesdays to complete home practice between sessions and reflecting back, I would add in this element if I were to do it again. However, I was cautious around overburdening the already overworked and overwhelmed participants and did not want to provide another task to take home on an evening.

I was aware that Rosenshein’s (2012), elements that were included did not instruct an evidence-based learning process within individual sessions. After further investigating learning models, Yeganeh and Kolb’s (2009) Mindful Experiential Learning Cycle was considered the most valid and practical process to follow over others because of its application to experiential learning which fits with the constructivism approach. It identifies four key areas of experiential learning, Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualisation (AC) and Active Experimentation (AE). These are the four main areas in Kolb’s original (1984) learning cycle, however, Yeganeh and Kolb have since published guidance in 2009 to expand on each component directly related to mindfulness. Experiential learning directly applies to teaching mindfulness-based activities in that the students engage with the content in practice. Reasons for excluding different learning models were that they were too complex or not

directly related to the aims and scope of the Wellbeing Wednesdays; for example, the Visual, Auditory, Reading/Writing, Kinaesthetic (VARK) Learning Style Model (Fleming & Mills, 1992) requires individual stimuli based on individual differences, of which I was limited because the Wellbeing Wednesdays were to be held over a conference call.

I decided to write up the session plan in the format of a script since this is the traditional way to teach mindfulness and it would suit audible instruction through telephone delivery, please see Appendix B3 for all ten scripts. As suggested by Rosenshine (2012), the scripts included five evidence-based principles of instruction, "begin a lesson with a short review of previous learning" demonstrated by setting learning objectives and outcomes, "present new material in small steps with student practice after each step" and "guide student practice", "check for student understanding" demonstrated by the instructions given in the mindfulness scripts, "provide scaffolds for difficult tasks" demonstrated by the progressive learning outcomes from week one to week ten to achieve overall outcome of learning mindfulness, "engage students in weekly or monthly" demonstrated by the weekly format. To add more depth to the content of the scripts, Yeganeh and Kolb's (2009) Mindful Experiential Learning Cycle was implemented. Please see Table 1 for a detailed overview of evidence-based elements of instruction and their demonstrations.

As a practical measure and in-keeping with ethical practice, I decided to email a pre-screen for psychological trauma and mental health issues as recommended by Dobkin, Irvin and Amar (2012), see Appendix B4. As, I know that underlying trauma is a contraindication to mindfulness practices, and it is my duty and responsibility to do no harm (Kostanski & Hassed, 2008). To demonstrate learning, participants were to be given a ten-question quiz before and after the teaching series and a post evaluation form to allow a basis for reflection on overall performance, see Appendix B1 and B2.

Teaching styles

The scope of delivering is limited with not being able to hold 'Wellbeing Wednesdays' in person, mainly with my colleagues, the participant group, spread across five offices and secondly because of lockdown travel restrictions; therefore, the type of teaching was entirely

auditory delivered over the phone. This is why it was important for me to provide visualisations and metaphors since they provide meaning and are central to thought and communication in improving health literacy (Carter, 1990; Talley, 2016). Reflecting back, I could have held the sessions online but, because of the time constraints, for ease, the Wellbeing Wednesday sessions were held on the morning conference call. Reasons for this were that it was a regular part of our working schedule and I routinely delivered mindfulness over the phone with the participants that my colleagues and I support so it was simple, familiar and time efficient.

The type of teaching for the Wellbeing Wednesday course was also less collaborative, or participant led, since it followed the traditional teacher-learner dynamic. Trying to communicate with a large number of people on a conference call is always tricky, as the visual cues of when to speak are missing and it's easy to engage in crosstalk which is awkward. For ease, I kept the format simple so that people were not under pressure to speak and that they follow the journey of the mindfulness activity in their own heads without having to write. However, there was an opportunity at the end of each session to feed back, and I made myself available for ten-minutes after if anyone wanted to speak with me privately which is recommended in the MBCT framework by Gu, Strauss, Bond and Cavanagh (2015). It is also general ethical best practice to ensure the students have the opportunity to debrief if any difficult emotions surface during the mindfulness practice (BPS, 2018).

The overall learning outcome for the Wellbeing Wednesdays was to improve knowledge and understanding mindfulness-based practice to increase resilience to work stress. This was broken down into ten progressive learning outcomes and objectives for each session, depicted in Table 1 (Wood, Burner & Ross, 1976; Maybin, Mercer & Steirer, 1992). The learning outcomes were scaffolded to allow the learning to progressively improve, avoiding use of complex information as recommended by the constructivist experiential learning style (Yeganeh & Kolb, 2009). Furthermore, discussions and engagement may not have been spoken out loud by the participants, as in collaborative active teaching styles, but the activities promoted an internal inquiry and observation. This is said to deepen the learning experience from a traditional teaching style by promoting self-efficacy for continuing the behaviours to increase resilience to work stress (Palmer, Tubbs & Whybrow, 2003; Yeganeh & Kolb, 2009).

Table 1

Weekly breakdown of learning outcomes, objectives and demonstration of evidence-based elements for instruction for the Wellbeing Wednesdays teaching series.

Week	Learning outcomes	Objectives	CE	RO	AC	AE
1	Understand the concept of mindfulness from a health psychology perspective, understand the benefits of mindfulness on work stress resilience, and have practical experience of mindfulness activity.	Take part in a beginner introductory mindfulness session.	Diaphragm breathing.	Practicing noticing thoughts and feelings without judgment.	Question the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment.
2	Understand the Vagus nerve and the role it plays in stress management, understand the connection between the mind and body by using the breath as a biomarker.	Take part in a beginner mindfulness session exploring basic information on the nervous system.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings without judgment.	Question the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment and interoception.
3	Understand the role of grounding exercises in stress management.	Engage in mindfulness practice and practice grounding techniques to help with stress regulation.	Diaphragm breathing, focus on the senses and body sensations.	Practicing noticing thoughts and feelings without judgment.	Question the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment, interoception and exteroception and feelings of security.
4	Understand the body scan practice as another tool for stress management.	Engage in mindfulness practice and practice body	Diaphragm breathing, focus on the body and body sensations.	Practicing noticing thoughts and feelings without judgment.	Question the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment, interoception and

		scan to help with stress management.				exteroception, and feelings of security.
5	Further explore the mind-body connection by understanding communication between the heart and brain through heart-rate variability for stress management.	Engage in mindfulness practice around the connection between the heart and the brain.	Diaphragm breathing focusing on internal sensations.	Practicing noticing thoughts and feelings without judgment.	Question the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment and interoception.
6	Explore the benefits of gratitude practice for stress management.	Engage in a mindfulness gratitude practice.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings and acceptance without judgment.	Consider other people's perspectives and seek shades of grey rather than dichotomous thinking.	Practice awareness of the present moment, interoception and grateful thoughts. Cultivate the sensation of gratitude.
7	Understanding the difference between thoughts, emotions and the observing mind and practice this awareness.	Engage in a mindfulness practice to cultivate a distance between thoughts and the self.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings and acceptance without judgment. Becoming aware of moments of impulsivity.	Question your assumptions on your thoughts and feelings, doubt your personal "truth" and consider other people's perspectives and seek shades of grey rather than dichotomous thinking.	Practice awareness of the present moment and interoception. Experiment with observing thoughts.
8	Understand the power of imagination in relation to increasing resiliency to work stress.	Engage in mindfulness practice using guided imagery.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings without judgment.	Questions the assumptions made about mindfulness practice and the body.	Practice awareness of the present moment, interoception. Experiment with the imagination to

						practice letting go of stress.
9	Understand resilience and how to reframe a 'bad day'.	Engage in mindfulness practice relating to a contextual personal stressful experience.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings and acceptance without judgment. Becoming aware of moments of impulsivity.	Question your assumptions on your thoughts and feelings, doubt your personal "truth" and consider other people's perspectives and seek shades of grey rather than dichotomous thinking.	Practice awareness of the present moment, interoception. Experiment with reframing perspectives on stressful events.
10	Understand the benefits of practicing self-compassion	Engage in compassionate focused mindfulness practice.	Diaphragm breathing and focus on internal sensations.	Practicing noticing thoughts and feelings and acceptance without judgment. Becoming aware of moments of impulsivity.	Consider other people's perspectives and seek shades of grey rather than dichotomous thinking.	Practice awareness of the present moment, interoception. Experiment with feelings of self-compassion to let go of stress from self-judgment and criticism.

Note. CE represents Concrete Experience, RO is Reflective Observation, AC is Abstract Conceptualisation and AE is Active Experimentation according to Yeganeh and Kolb's (2009) Mindful Experiential Learning Cycle. In the table they outline examples of how the specific element was demonstrated in the Wellbeing Wednesday's teaching series.

Wellbeing Wednesdays

Session 1: Introduction to Mindfulness

Aims and outcomes: By the end of the session participants will

1. *understand the concept of mindfulness from a health psychology perspective,*
2. *understand the benefits of mindfulness on work stress resilience,*
3. *have practical experience of mindfulness activity.*

All 18 participants took part in the telephone conference call today as I spent a lot of time going over safety precautions associated with mindfulness. For a full reflection of the course please see the teaching and training diary, Section One. The session had two parts, the first being an introduction and safety precautions and the second contained a short basic mindfulness practice. The participants were asked to check in with their breathing during the week and simply notice any changes throughout the day. I shared information about a free mindfulness phone application, if they wanted to continue a guided practice between sessions. The psychoeducation around the nervous system and body functions was an intentional foundation to the topic covered in the following week, as this information can be a lot to take in in one brief sitting without prior knowledge. Please refer to Appendix B3 for all mindfulness scripts.

Session 2: Stress and the Nervous System

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice,*
2. *understand the vagus nerve and the role it plays in stress management,*
3. *understand the connection between the mind and body by using the breath as a biomarker.*

All participants engaged with the second session on the morning conference call. The session started with a ten-minute anchoring mindfulness practice and then I layered information whilst they continued to practice this state of awareness. Reasons for this are that traditional mindfulness practices follow this structure and that it provides a new and relaxing way to learn (Kostanski & Hassed, 2008).

Session 3: Grounding Exercises

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice,*
2. *Practice grounding techniques to help with stress regulation*
3. *Understand the role of grounding exercises in stress management.*

Grounding or anchoring was a key topic to cover as the ability to bring focus to a secure neutral stimulus is important skill to learn for resilience to stress, and it is an overall theme of mindfulness practice in general (Corrigan, Fisher & Nutt, 2011). It is important to strengthen the skill to be able to bring focus back to a neutral stimulus in turbulent and stressful contexts because it promotes safety and security (Corrigan, Fisher & Nutt, 2011). It is used to prevent dissociation and an overwhelmed nervous system by working within a 'window of tolerance' to stress (Corrigan, Fisher & Nutt, 2011). This simply means to be in a comfortable functioning state between *hyperarousal* and *hypoarousal*. It is essentially resilience in practice and is beneficial for those with and without psychological trauma, making it ethical and inclusive.

Building on the previous week of the foundations of mindfulness, anchoring into the breath, it was now time to explore different grounding practices. Although this was an important aspect covered briefly in week one, I felt it deserved more attention in its own right after the basics of the nervous system and the breath had been covered. I was keen not to leave it too late in the course to introduce this concept, which is why it was perfectly timed for week three.

Session 4: Body Scan

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice and*
2. *Practice body scan to help with stress management*
3. *Understand the body scan practice as another tool for stress management*

All 18 participants were present for the conference call session and as every week we started with the anchoring mindfulness practice. I placed the body scan at Week Four to further connect the mind-body practices and awareness. The body scan is simple, in that the student is invited to pay attention to parts of the body starting at the head, or the feet, and systematically working

through each part. The body scan provides that kinaesthetic and visual learning and is a traditional basic mindfulness practice that works well across populations, including those with psychological trauma (Carter, 1990; Kostanski, & Hassed, 2008; Talley, 2016).

Session 5: Heart-brain Communication

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice and*
2. *Further explore the mind-body connection by understanding communication between the heart and brain through heart-rate variability.*

With the previous two weeks emphasising practical techniques, I felt it was now time to build further on the physiology knowledge learned in the first two sessions to develop the learners' capacity for action (Yeganeh & Kolb, 2009). Today all 18 participants joined the conference call as we began the session with the usual ten-minute mindfulness anchoring practice which provides the procedural aspect of learning with a consistent and repetitive task. The information provided was only the foundations to heart rate variability and I invited to participants to explore it further on their own to promote self-efficacy. Finally, I ended the session on an intentional note of gratitude for the intricate systems of the body which was to be followed up by a full session on the topic of gratitude in session six.

Session 6: Gratitude

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice and*
2. *Explore the benefits of and practice gratitude*

All participants attended the conference call today as we began with the usual ten-minute anchoring mindfulness practice which led straight into the theme of gratitude. Gratitude is a well-known positive psychology practice that is simple and cost effective (Bono et al, 2013). Health psychology literature crosses over with positive psychology practices in that stress reduction and improving health and wellbeing are central. The participants were now past the

halfway point, and they had progressed to be able to actively experiment with the foundation built up over the previous sessions (Yeganeh & Kolb, 2009).

Session 7: The Observer Versus the Thinking Mind

Aims and outcomes: by the end of the session participants will

1. *Engage in a mindfulness practice to cultivate a distance between thoughts, feelings and the self.*
2. *Understanding the difference between the observer (self) and the thinking mind (cognition).*

It was intentional to introduce gratitude as a base to move onto the next and more advanced practice of in the following session, as the learners built on their foundational knowledge built up in the first six sessions. It is always my intention to provide progression so that the participants can choose to stay at a level they feel comfortable and exploring more challenging sensations of their own volition. The fundamental practices being grounding exercises and the more intermediate cognitive-behavioural mindfulness practices being *'the observer'*, introduced in session seven (Hirst, 2003). It is at this point the participants were invited to pivot into the more uncomfortable and challenging aspects of life which is applicable to work stress.

Session 8: The Power of the Imagination

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice using guided imagery*
2. *Understand the power of imagination in relation to increasing resiliency to work stress*

Today 18 participants showed up again on the conference call and we opened the session with the usual ten-minute anchoring mindfulness activity. We then focused on the power of imagination to help increase resilience to work stress, since visualisation helps to create learning through meaning (Carter, 1990; Talley, 2016).

Session 9: How to Re-write a bad day

Aims and outcomes: by the end of the session participants will

1. *Engage in mindfulness practice relating to a contextual personal stressful experience.*
2. *Understand resilience and how to reframe a 'bad day'.*

All 18 participants were present on the conference call today and we began the session with the usual ten-minute anchoring mindfulness practice. Nearing towards the end of the Wellbeing Wednesday course I introduced the mindfulness practice 're-writing a bad day' which is contextual to work stress.

Session 10: Self-compassion

Aims and outcomes: by the end of the session participants will

1. *Engage in compassionate focused mindfulness practice and*
2. *Understand the benefits of practicing self-compassion*

For the final session all 18 participants were present on the conference call and were sad to know it was over from today. We started with the usual ten-minute anchoring mindfulness activity which I had hoped had become second nature to the participants by now and that the procedural learning had embedded with this consistent weekly practice over the ten-weeks. As a parting gift I wanted to leave this topic to the final session as I know from previous experience it can leave people feeling good.

Assessing the learning outcomes

The learning outcome for Wellbeing Wednesdays was assessed via a pre- and post-ten-item multiple choice questionnaire, found in Appendix B1. A simple eight-item questionnaire with questions one-to-five in five-point Likert-scale style and the final questions being open ended was also implemented, see Appendix B2. The multiple-choice questionnaire was to demonstrate the learning outcome of understanding and practicing mindfulness activities in relation to work stress, and the feedback questionnaire gave the participants an opportunity to provide insight into their experiences to help me improve my teaching skills. Also, I asked for written feedback from my manager at the work placement who attended all the sessions

throughout as an observational report. This can be found in Appendix B5. Reasons for this were to gain an objective account of the Wellbeing Wednesday teaching series and provide an opportunity for reflection and development.

Evaluation

The sessions took the participants through psycholiteracy which was practical and experiential and progressively developed their mindfulness skills using evidence-based principles demonstrated by Table 1 above. Please see Table 2 for responses from the multiple-choice questionnaire pre- and post-Wellbeing Wednesday sessions. All participants scored higher on their post-test multiple choice questionnaire compared to the pre-test questionnaire with sixteen participants scoring the maximum marks of ten and only two participants scored nine out of ten. The maximum score was 10 and the minimum score was 0. This is a positive result indicating an increase in knowledge after taking part in the Wellbeing Wednesdays course.

A sample of qualitative responses on questions six-to-eight on the feedback questionnaire are depicted in quotations. For question six. If yes to question five "have you enjoyed Wellbeing Wednesdays", please explain what you have learned. Participants answered common themes of

"relaxation", *"mindfulness at work"* and *"breathing techniques".*

This corresponded with the overall learning outcome of the Wellbeing Wednesday teaching series.

For question seven. If there was anything you would change about the sessions, what would it be? Most participants left this question blank with a few responses of

"to go on for longer"

in the context of continuing the sessions. I clarified this context with these participants and as they confirmed that they did not want the sessions to come to an end after ten-weeks. This was a positive signal that corresponds with my reflections on the experience and the feedback from questions one-to-five.

Finally, for question eight. Do you have any further feedback? Most participants either left this blank or simply responded with a

"it was really good, thank you".

This again further confirmed the overall positive response of the feedback.

On speaking with my colleagues between sessions, they gave positive feedback saying that Wellbeing Wednesdays was a nice experience to break up the week and, indeed, a welcome addition to Wednesday's morning meeting. The common themes of feedback included the relaxation element of the sessions. Some colleagues spoke with me regarding topics we covered. Table 2 below depicts individual responses on the Likert scale questions on-to five from the feedback evaluation questionnaire given post Wellbeing Wednesdays. From the increase in scores on the multiple-choice post questionnaire and the feedback received from the participants, effective teaching was demonstrated regarding the overall aim and learning outcome, to teach mindfulness-based activities to increase resilience to work stress using an evidence-based health psychology approach to learning.

Figure 1

Scores from the ten-item multiple-choice questionnaire pre and post Wellbeing Wednesday sessions.

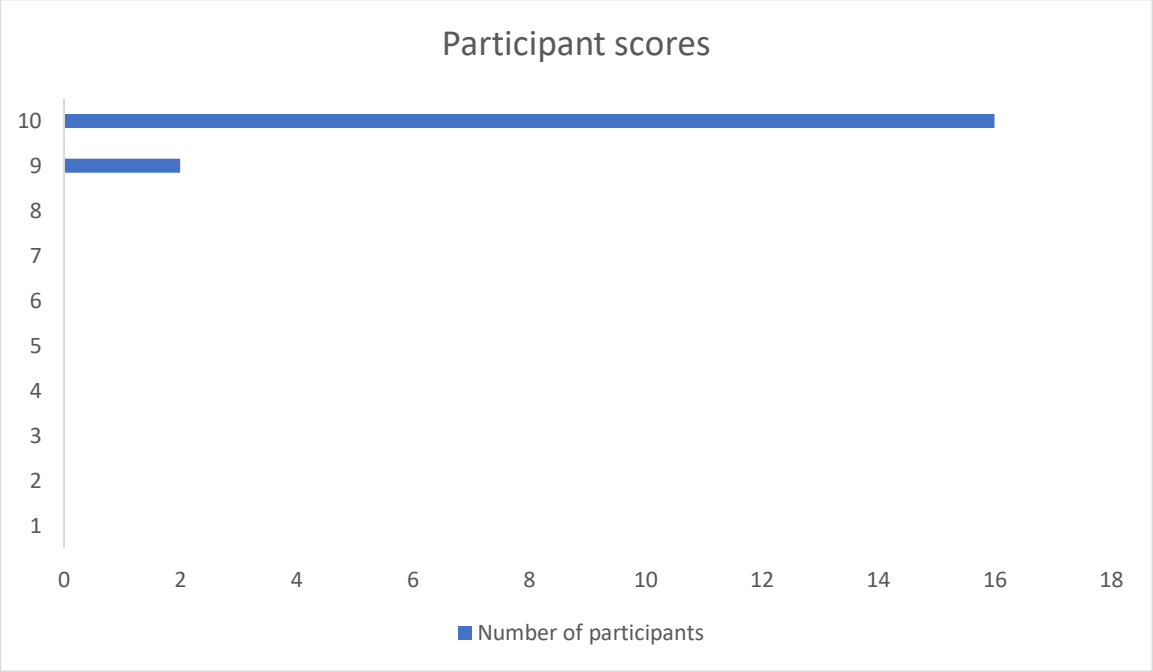


Table 3

Feedback questionnaire given to participants post Wellbeing Wednesday teaching series questions 1-to only.

Participant	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Q1. I enjoyed Wellbeing Wednesdays	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q2. I learned about ways to improve resilience to work stress	5	5	4	5	5	5	5	5	5	5	4	5	5	4	4	5	5	5
Q3. I am happy with the content provided	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q4. I am happy with the delivery of the sessions	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q5. I feel like I could implement mindfulness practices covered in Wellbeing Wednesdays to increase resilience to work stress	5	5	4	5	5	5	5	5	5	5	4	5	5	4	4	5	5	5

Note. Items 1-5 on the feedback questionnaire were answered using a 5-point Likert scale where 1 = Strongly disagree, 2= slightly disagree, 3= neither agree.

Overall critique

Although the increase on the post-test multiple choice results and feedback questionnaire reported a positive outcome for the Wellbeing Wednesday teaching series against the main learning outcome, the following critiques were highlighted. I did not take a direct measure of mindfulness practice behaviour to see if that was implemented. It was alluded to on the evaluation in question five but could have provided potentially stronger evidence of the learning through demonstrating mindfulness practice through a diary log or self-report. In future this will be included.

As for the teaching content, I feel that I should have included materials especially encouraging online engagement to add a connectivism element of learning theory. In the hierarchy of learning according to Bloom's Taxonomy *apply* is considered a stronger indicator for learning than *understanding* and I think I could have done more to strengthen this element. Similarly, I could have set tasks between each session as homework to further the learning, as the SMART practice theory suggests is integral to learning (Doran, 1981). However, this could be embedded into the homework tasks between sessions and not conducted during the call.

Finally, the telephone delivery seemed to work within the context, but I would like to run the Wellbeing Wednesdays on different platforms to investigate further improvement. Perhaps a comparison between the telephone, live video call and face-to-face delivery could provide insight into this.

Conclusion

I have learned that educating people on the basic health psychology information is a cost-effective way of improving health literacy and in turn provides a stable foundation for health behaviour change (NICE, 2007; Schopp, Bike, Clark & Minor, 2015). Improving people's resilience to work stress, especially with the additional impact of the COVID-19 pandemic, has been a worthy application of my skills and I feel proud to have helped my colleagues in a time when they needed it most. I will use the experience to further expand my teaching skills and apply it to providing work stress resilience training courses with the improvements highlighted.

References

Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, *5*(6), 66-70.

Bartlett, L., Martin, A., Neil, A. L., Memish, K., Otahal, P., Kilpatrick, M., & Sanderson, K. (2019). A systematic review and meta-analysis of workplace mindfulness training randomized controlled trials. *Journal of occupational health psychology*, *24*(1), 108.

Bond, F. W., Flaxman, P. E., van Veldhoven, M. J. P. M., & Biron, M. (2010). The impact of psychological flexibility and acceptance and commitment therapy (ACT) on health and productivity at work. *Contemporary Occupational Health Psychology. Global perspectives on research and practice*, *1*, 296-313.

Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. (2013). Building positive resources: Effects of positive events and positive reflection on work stress and health. *Academy of Management Journal*, *56*(6), 1601-1627.

Carter, K. (1990). Meaning and metaphor: Case knowledge in teaching. *Theory into practice*, *29*(2), 109-115.

Chaiklin, S. (2003). *The zone of proximal development in Vygotsky's analysis of learning and instruction.* In A. Kozulin, B. Gindis, V. S. Ageyev, & S. M. Miller (Eds.), *Learning in doing. Vygotsky's educational theory in cultural context* (p. 39–64). Cambridge University Press. https://doi.org/10.1017/CBO9780511840975.004

Corrigan, F. M., Fisher, J. J., & Nutt, D. J. (2011). Autonomic dysregulation and the window of tolerance model of the effects of complex emotional trauma. *Journal of Psychopharmacology*, *25*(1), 17-25.

Dobkin, P. L., Irving, J. A., & Amar, S. (2012). For whom may participation in a mindfulness-based stress reduction program be contraindicated?. *Mindfulness*, *3*(1), 44-50.

Doran, G. T. (1981). There's a SMART way to write management's goals and objectives. *Management review*, *70*(11), 35-36.

Flaxman, P. E., & Bond, F. W. (2006). Acceptance and commitment therapy (ACT) in the workplace. *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications*, 377-402.

Gu, J., Strauss, C., Bond, R., & Cavanagh, K. (2015). How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies. *Clinical psychology review*, *37*, 1-12.

Hassard, J., Teoh, K. R., Visockaite, G., Dewe, P., & Cox, T. (2018). The cost of work-related stress to society: A systematic review. *Journal of occupational health psychology*, *23*(1), 1.

Hirst, I. S. (2003). Perspectives of mindfulness. *Journal of psychiatric and mental health nursing*, *10*(3), 359-366.

Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of managerial psychology*.

Kostanski, M., & Hassed, C. (2008). Mindfulness as a concept and a process. *Australian Psychologist*, *43*(1), 15-21.

Lloyd, C., King, R., & Chenoweth, L. (2002). Social work, stress and burnout: A review. *Journal of mental health*, *11*(3), 255-265.

Maybin, J., Mercer, N., & Steirer, B. (1992). 'Scaffolding' learning in the classroom. In K. Norman (Ed.), Thinking voices: The work of the National Curriculum Project. London: Hodder and Stoughton for the National Curriculum Council, London

Mimoun, E., Ben Ari, A., & Margalit, D. (2020). Psychological aspects of employment instability during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S183.

NICE, 2007. *Behaviour Change: General Approaches*.

The NICE Guideline on the Treatment and Management of Depression in Adults, (2010) Guideline 90, commissioned by the National Institute for Health & Clinical Excellence, published by the British Psychological Society and The Royal College of Psychiatrists, National Collaborating Centre for Mental Health, Depression

Palmer, S., Tubbs, I., & Whybrow, A. (2003). Health coaching to facilitate the promotion of healthy behaviour and achievement of health-related goals. *International Journal of Health Promotion and Education*, *41*(3), 91-93.

Reeve, A. (2020). *A brief Acceptance and Commitment intervention for work-related stress amongst frontline homelessness staff: a single case experimental design series* (Doctoral dissertation, University of Nottingham).

Schopp, L. H., Bike, D. H., Clark, M. J., & Minor, M. A. (2015). Act Healthy: promoting health behaviors and self-efficacy in the workplace. *Health education research*, *30*(4), 542-553.

Rosenshine, B. (2012). Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20. https://doi.org/10.1111/j.1467-8535.2005.00507.x

Talley, J. (2016). Moving from the margins: The role of narrative and metaphor in health literacy. *Journal of Communication in Healthcare*, *9*(2), 109-119.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. Journal of Child Psychology and Psychiatry, 17, 89–100.

Teaching diary

This teaching diary is split into three different sections:

- **Section 1** contains diary reflections from the ten-week teaching and training sessions *Wellbeing Wednesdays* that I conducted at a work placement.
- **Section 2** includes diary reflections from delivering a one-hour presentation on *conducting health psychology empirical research* to health care professionals for a Health and Wellbeing charity.
- **Section 3** entails diary reflections comparing both teaching and training projects.

Section 1 – Reflection from the ten-week series of Wellbeing Wednesday teaching and training sessions August 2020

1. **29/05/2020: Meeting with my workplace manager initial talks about the Wellbeing Wednesday intervention.**

A lot has happened in the past month and on a recent monthly progress review my manager asked if there was anything that I could provide for the staff in the current lockdown situation to help with work stress. I have decided this was a great opportunity to dovetail a behaviour change intervention and incorporate the teaching and training competency into the same intervention, since it will involve psychoeducation and health literacy on resilience and work stress.

Having worked with my colleagues for nearly nine-months now, I feel that I had a good understanding of their experience of stress at work, since we all converse at least once per day and speak outside of work. It is also a labour-intensive job as a team to try and find employment for people with health conditions or have been long-term unemployed. It is rewarding when we all make a difference to someone's life, but the trials and tribulations to support a person towards that stage could be stressful. My manager was keen to have a taught stress reduction intervention for the staff running for as long as possible. Since I had experience of mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) courses, and I practice mindfulness personally, I suggested a weekly 30-minute session for ten-weeks (Gu, Strauss, Bond & Cavanagh, 2015). This is in line with basic NICE guideline recommendations from MBSR and MBCT courses (NICE, 2020). Mindfulness has been shown to be effective

in reducing work stress, it is cost and time effective and something for which I already have the skills and experience in teaching (NICE, 2020).

We spoke about my work duties of seeing no fewer than 25 participants per week for health and wellbeing one-to-one appointments and daily two-hour group courses with four to ten participants. By this point I had become efficient with my forty-hour week work duties so I assessed the feasibility of delivery and time scale, which I calculated would be ready to launch in August for ten weeks. The reason for this was because I had a lot of experience in teaching mindfulness sessions in my work duties and in previous roles, so it would not take a lot of time to plan, and I already had materials that I could transfer. Furthermore, to save time my manager had suggested holding the taught mindfulness sessions every Wednesday on our weekly morning conference call. We also agreed on the working title of Wellbeing Wednesdays.

The teaching and training had to be delivered over the telephone because of lockdown restrictions and since our team was split over five different offices in a county. This was also a time saver since I didn't have to organise people being in the same room together at once. Therefore, I will give myself time to plan and prepare in June and July and by August I will be in the action stage of the teaching and training. I feel this is a wise management of my time as usually I go about life trying to get as much done as possible at the earliest stage, but from past experience I have learned that taking more time in the planning stages yields better results.

In thinking out the wellbeing teaching and training series, I came to the realisation that I try to do everything the hard way around and I force myself to create original work and content, when sometimes it's not needed. I have this belief instilled from my university days that my work is not valid or good enough unless it is original. I have the belief that in order to be successful and reach the top, I need to be a visionary a creator of new paradigms breaking the mould and inventing models and methods beyond anything what anyone else could imagine. This is not the worst goal to work towards, but it is a restrictive belief and I overlook the beauty and effectiveness of simplicity.

Working aimlessly to perfection is not a helpful way of behaving and often leads me to attempting to reinvent the wheel with everything. The result of this is that I end up either procrastinating at the enormity of the task or completely avoid it all together. This way of working served a purpose at one point, but I realise now this is now outdated and I can laugh at this painful work ethic. I'm still proud of my grand scale visions, but I now feel guided to

work in a way that is far more productive. I am now more comfortable with the idea of utilising inspiration and well-known methods rather than creating a whole new paradigm from scratch.

We were all under more stress than usual at work because of the COVID-19 pandemic and I wanted to create something that would successfully impart health psychology teachings to improve wellbeing. I felt the pressure of wanting to do a good job for my colleagues and to demonstrate my knowledge. I know that through teaching and training theory of scaffolding learning, active participation and experiential learning are the most successful ways to impart knowledge effectively. But I still feel nervous about how my colleagues will receive the information and what they will think of me as a trainee health psychologist. For this reason, I have given myself a few months to meditate on my ideas thoroughly plan the teaching and training whilst searching the literature for simple and effective methods.

2. **02/06/2020: Skype with a supervisor to discuss return from LOA and structure of Wellbeing Wednesdays**

Today I had a meeting with a supervisor to discuss further my return from leave of absence, due to my contract ending at my first placement and needing time to secure a new placement. With the COVID-19 pandemic effecting my plans to return from my leave from the doctorate, this date was pushed back from March 2019 to July 2020. Despite aiming to return in March 2020, I could have resumed the doctorate earlier than that still, since I started employment as a Health and Wellbeing Adviser with the current company in October 2019. However, I wanted to settle into a new role and ensure I could perform my daily duties and work on the doctorate.

Amongst three other level-three qualifications in fitness instructing, in January 2020 I had taken on a yoga instructor level 3 diploma, and it was taking up a considerable amount of time on top of my work duties. I have a lot to say about that learning experience, but to summarise, bearing in mind that this is a practical skills course, the amount of written work that is supposed to be finished in 12 weeks was equivalent to that of a year on a degree course totalling over 60,000 words. As diligent a worker I am, I do not believe I could have finished the sheer volume of work in that time frame and holding down a full-time job and working towards the doctorate at the same time. So, it was a blessing that the practical end assessments had to be postponed for 6 months due to COVID-19, however, this was still a push. Also, as much as I respected and liked the yoga teacher trainer and she gave great practical demonstration of yoga, I do not

feel that she was a good teacher of written work. I picked up on some points that I will endeavour to avoid in a teaching and training role. The first being that her sparse instructions regarding the masses of written work were very vague, and she kept deferring important questions with the response of 'don't worry about this now, I'll tell you about it later'. Suffice to say, later never came and the whole class were incredibly anxious. Secondly, the practical demonstrations were well delivered but there was too much time spent on paperwork in a classroom. I felt that the time spent in the classroom could have been put to more use by completing written work rather than slides and class discussion. I found the class discussion useful, and it gave me a broader experience of the world of yoga. However, out of the 16 hours 9am-5.30pm on Saturday and Sundays we spent 12-14 hours in the classroom chatting and only 2-4 hours doing practical learning in the yoga studio. Yoga and work stress mindfulness techniques are practical skills and therefore require experiential learning. So, this experience has made me think more deeply about the type of training I would like to provide for my colleagues to combat work stress, e.g., practical, experiential and no graded paperwork other than questionnaires to evidence learning for the doctorate.

Since the Wellbeing Wednesday's teaching series was set out to be an experiential skills-based learning course about mindfulness stress reducing activities, I decided to write mindfulness scripts to guide the practice like in traditional MBCT and MBSR courses. It would include no interaction, group work or writing so as not to overload my colleagues with extra activities. I had some basic scripts I used in the mindfulness I had been delivering for my colleagues' case load participants, so I already had experience in writing and delivering this type of teaching. But, before I could fully write the scripts, I had to plan the session themes so that they would scaffold the knowledge progressively. Please see Appendix B6 for planned weekly themes.

Originally, I was going to include yoga philosophy as a way of incorporating a mystical, relaxing story-time element. However, I realised that this was a personal preference of mine and not necessarily that of the participants. Furthermore, in researching learning theory specific to mindfulness practice, I realised that information about yoga philosophy would not fit with the aims of the course. The Mindful Experiential Learning Cycle suggested that I provide traditional mindfulness practices that progressively teach the participant to be aware of the body and the breath to let go of stressful thoughts and emotions (Yeganeh and Kolb, 2009). The four main elements of this theory are Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualisation (AC) and Active Experimentation (AE). These are the four

main components in Kolb's original (1984) learning cycle, however, Yeganeh and Kolb expanded on each area and directly related them to teaching mindfulness. I have also found through my experience on the yoga teacher trainer course and through further investigation of learning theory that it's important to provide clear and meaningful information to the learner, especially when it's something as complex as stress reduction (Rosenshine, 2012). I have the added benefit of teaching from a script to keep me on track, although there are times when I include off-script information based on intuition if I think it will benefit the learner's understanding.

3. 06/07/2020: Writing the teaching and training series scripts

Between my last meeting with a supervisor until now, I have managed to write up to week seven with three more scripts to go. It was always the aim to deliver the Wellbeing Wednesdays in August to give myself and the participants, my colleagues, plenty of time to adjust to working back in the office from working from home. Reflecting on areas of mindfulness that I wanted to embed into the teaching and training series, Wellbeing Wednesdays, I wanted to ensure there was taught information on resilience. I am struggling to find experiential learning exercises around resilience because it's more of a skill learned and demonstrated over time and with a stressful stimulus. However, I have spoken about what it means to be resilient and made it clear that in practicing the mindfulness activities in the Wellbeing Wednesdays course, my colleagues will be able to use them as tools to build resilience to work stress (Yeganeh and Kolb, 2009; NICE, 2020).

My day-to-day activities from my very first placement at the charity have included teaching wellness activities, mainly mindfulness. I teach a group course every day in my current workplace around wellbeing activities and I have one-to-one appointments that involve teaching health literacy on an individual level. I also attend mindfulness and wellbeing courses as a participant to further deepen my experience of mindfulness for my own personal wellbeing and also as a teacher. According to The Mindfulness Experiential Learning cycle experience of the learner's perspective is important to be able to fully demonstrate the practical skill being taught. Therefore, I know that I have enough knowledge collected over the years from experiencing mindfulness practice, teaching wellbeing courses and from my health psychology research, the Wellbeing Wednesdays should be a success.

4. 05/08/2020 Session 1: *Introduction to Wellbeing Wednesdays*

I have quite a lot of experience with telephone mindfulness sessions now having returned from working-from-home during the UK lockdown. From March 2020, all participants were not to be seen face-to-face and all appointments would be conducted over the telephone. So, by August 2020, I felt comfortable delivering health and wellbeing sessions over the telephone. All of the questionnaires for both the behaviour change intervention and teaching and training component have been collected, after having to chase a few up yesterday.

The manager initiated the conference call, and the eighteen participants gave updates on work progress before commencing the Wellbeing Wednesday session. The updates were brief, and I got the sense that people were intrigued and awaiting to start. Every session started with "short review of previous learning" as suggested in Rosenshine's (2012) ten evidence-based principles of instruction. The thirty-minute teaching session was split into two parts, the first being a fifteen-minute introduction to the Wellbeing Wednesday course and mindfulness and its benefits of work stress resilience. It was also a good opportunity for my colleagues to learn more about the study and application of health psychology. I spent a lot of time talking about safety and emphasised the fact that the participant is in control of their body and if any uncomfortable feelings arise, they can stretch, walk around or do whatever they need to ground themselves.

I felt like this session went well and the timings of the script was accurate for the 30 minutes allotted. After the initial feelings of nervousness, I quickly found my rhythm and gained confidence as I went along. My extensive experience in teaching this type of material helped as did the prewritten scripts. By the next session I should feel more confident by remembering my abilities and strengths.

5. 12/08/2020 Session 2: *The Vagus Nerve*

The ten-minute anchoring mindfulness practice element remained the same structure every week, so that the participants could benefit from the repetition and know what to expect, another form of stress management by use of familiar consistent practice. It started out with checking in with the posture and centring of the body, which is important to ensure the participant feels safe by connecting to a physical point of contact. Then expanding awareness to the breath, which is a form of anchoring commonly used in mindfulness practice. I delivered the mindfulness practice with my own teaching structure that I have learned works best over

the years and from my own practice. Being trained in yoga also gives me a good knowledge base for teaching and I am aware of the safety implications and contraindications as mentioned in session one.

I feel that starting the sessions with mindfulness was a beneficial way to help the participants absorb the health information in the second part of the session. Without a break in mindfulness, I started to layer on information from the previous week about the nervous system by introducing the Vagus nerve as described in one of the suggestions by Rosenshine (2012) "present new material in small steps with student practice after each step", "guide student practice", "provide scaffolds for difficult tasks", "engage students in weekly or monthly". The functions of the breath in mind-body stress management were also a particular focus to promote self-efficacy of practice. I kept the pace and tone of my voice slow and relaxed, and the information was delivered in no more than a sentence with pauses in between. This was to model the experience of mindfulness under the Concrete Experience component (CE), which is an important aspect of The Mindfulness Experiential Learning Cycle's constructivist approach to learning (Yeganeh and Kolb, 2009).

I was aware that I mispronounced the word "breath as "beth" I was reading the script which got me slightly flustered, but I quickly regained composure by moving on to the next part of the script. I do tend to do this sometimes in normal speech and it bugs me. This was at the point where the participants should have been engaged and relaxed, so I was worried that my error may have laps their concentration. However, I have learned from this experience that these natural errors are normal and that keeping calm and continuing to teach is the best way to manage this.

6. 19/08/19 Session 3: *Grounding Exercises*

Again, all eighteen participants engaged today as we followed the same structure of the ten-minute mindfulness activity running seamlessly into imparting health information beneficial to the issue. Since today's theme was grounding and the participants were invited to follow physical instructions such as placing one hand on the heart area and the other hand on the forehead. From training and previous practice working with people with trauma, I understand this grounding technique to be comforting, effective and safe. However, the barrier of not being able to visually see the participants, since they were all on a conference call, I couldn't check if they had all followed correctly. Nevertheless, after this session I got feedback for the first

time by another manager from one of the offices who didn't mind sharing that she felt a wave of compassionate emotion she was not expecting, and it felt good. Four more participants agreed that it had impacted them, and they felt it was a really simple exercise they could repeat on their own. For me, this was a rewarding teaching experience, as I had not only taught them new information about the connection between the mind and body, but it could be applied to help them with work stress resilience. From this session I learned that unexpected positive feedback motivates me and makes me feel more confident in my skills.

7. 26/08/2020 Session 4: *Body Scan*

The teaching of the body scan requires descriptive words of basic anatomy, and it requires the teacher to use language to adequately invite the student to follow somatically. The emergence of the somatic approach to psychotherapy has given guidance to practitioners in their use of language when working with participants, known as embodiment (Cohen, 2011). Even when describing embodiment work, the term *'working with the body'* is avoided because it suggests that the body is separate from the person, therefore the person is directed to work '*in the body'* and '*through movement'* (Cohen, 2011). Therefore, although a seemingly basic practice, the body scan mindfulness practice must be taught with principles and language of somatic embodiment to provide a holistic mind-body experience, which is highly applicable to health psychology practice. For example, noticing the space in between the fingers allows the person to get a sense of both being inside the body and its relation to external space; this is known as interoception and proprioception and is one of the key foundations of grounding and embodiment practice (Cohen, 2011; Haase et al., 2016).

Furthermore, the instructions to take part in Active Experimentation (AE) in Yeganeh and Kolb's Mindful Experiential Learning Cycle are always an invitation rather than a demand. This use of language puts the student in control, which is important for ethical reasons and also for power dynamics. The student should always be in control of their own body and movements and this use of language is, again, layering the behavioural aspect of experiential safety, relaxation and grounding. It promotes the student to explore their boundaries in a safe and nurturing environment, even over the telephone. From this session I learned that I missed checking participants' facial expressions and non-verbal communication as we explore the subject of grounding. This would usually give me cues as to how the participant feels about the subject and in practice. I did mention again at the end of the call that I was available to speak

with in case anyone would like clarification on the exercises or to offload a difficult experience, but no one did so I assume that everyone felt okay. I could have switched the sessions to video call, but since we were this far into the series, I wanted to maintain consistency. Next time I deliver remote teaching, I think video call would be the best option.

8. 02/09/2020 Session 5: *Heart-brain communication*

After the initial anchoring mindfulness practice, I introduced the topic of heart-brain connection and heart rate variability to further explore the mind-body connection and how it can be applied to work stress resilience (Vahle-Hinz et al., 2014; Kim et al., 2018). Again, the information is delivered in a mindful tone and pace. The information was designed to be clearly understood by the participants, scaffolded on a micro level (between sentences) to be built upon over a macro level (between sessions). Please refer to session scripts for more information on the micro scaffolding of information. It was also important that the health information was brief, simple and applicable to the participant; in depth information was avoided to negate confusion. For example, terminology that was included was explained in the most basic form I replaced words like "cognitive ability" with *"improves your ability to think clearly".* This layered in a direct benefit to the participant so they could easily absorb it and understand the application.

I also added in imagery to help conceptualise the high versus low heart-rate variability which can be confusing to understand at first. Imagery used was simple and recognisable enough for the participants to visualise. It consisted of two people walking down a street, a casual person with a relaxed walk and arms swinging in their own time out of sync with the legs, and a busy person with their head down trying to get to their next meeting, arms in mechanical sync and tight to the body.

From this session I learned that I am a creative visual learner and therefore this can transfer to my teaching. I realise that not everyone is this type of learner according to the Visual, Auditory, Reading/Writing, Kinaesthetic (VARK) Learning Style Model (Fleming & Mills, 1992). However, I did my best to accommodate within the parameters, providing visualisation, auditory delivery with kinaesthetic experience of mindfulness. The only element missing was the reading/writing element which was not feasible. Perhaps in a future teaching series I will explore this further.

9. 09/09/2020 Session 6: *Gratitude*

The key to teaching gratitude, I have found in the past, is ensuring that the participants know to cultivate the sensation of gratitude rather than simply listing good things; again, layering the experiential interoceptive practice threaded throughout the course. Studies have shown gratitude practice to be powerful in increasing positive affect and resilience to work stress (Bono et al., 2013). Circling back to the overall aims of the Wellbeing Wednesday course, the participants get to practice the exercises in the session which deepens procedural and experiential behavioural learning.

There are so many layers and dynamics of gratitude, which is why I always enjoy teaching it. It has buildable levels of practice ranging from basic to advanced. I wanted to start at a very basic level, for the participant to find their own nuances of practice as suggested by Rosenshine (2021) "provide scaffolds for difficult tasks". For example, starting to look out for the joyous aspects of life that have personal meaning is the first layer, moving onto a more advanced practice of finding negative experiences and seeing the benefit. The former being something like seeing the sunshine through a window signalling the coming of spring and all the outdoor activities planned, the latter being something like getting held up at traffic lights but being able to listen to a favourite song on the radio because of the delay (Youssef-Morgan & Ahrens, 2017). However, since this was a brief introduction to gratitude, the activities were kept on the beginners' end of the scale to fit with Rosenshine's (2021) suggestion of "present new material in small steps with student practice after each step".

I included a mix of activities to express gratitude that would suit different people and encourage participants to find their own nuances with meaning. For example, keeping a mental gratitude list of five items daily, gratitude in action like random acts of kindness or saying thank you to as many people in the day with intent and authenticity, and writing a thank you letter which involves a different way of expressing gratitude. We practiced the first two gratitude exercises, listing five things and listing five people, as they did not require more than thought and I shared three more practices to be done on their own to promote self-efficacy.

I learned that I enjoyed teaching gratitude. Gratitude is well known, practiced, and researched, especially in the world of wellbeing and health psychology. It is seemingly simple, but it can be complex to teach as some people find it easier to grasp than others. Next time I would like to assess current levels of understanding about specific subjects to gain insight into the level of

information taught. It doesn't harm people to revisit basic exercises, and I had assessed the participants understanding of wellbeing practices both verbally and by prequestionnaire, but to progress knowledge a baseline understanding for specific topics is key.

10. 16/09/2020 Session 7: *The Observer versus the thinking mind*

All eighteen participants engaged with the session today as we started with the usual ten-minute mindfulness anchoring practice. Today's session highlighted the importance of learning to recognise the two types of minds, the observer and the thinking mind (Hirst, 2013). I deeply value this practice as it can help people to create a calm centred space and is particularly beneficial for those who have experienced trauma and who have lost a sense of safety in their own mind and body. In terms of the participant group, it is particularly beneficial for some stressors that cannot easily be changed, for example, childcare issues and working hours or the larger complaint of having to work at all.

In ACT, it is suggested that if a person does not recognise that they are not their own thoughts or emotions, *"I'm stressed at work"*, they are unable to motivate themselves and feelings of overwhelm persist (Flaxman & Bond, 2006; Bond, Flaxman, van Veldhoven & Biron, 2010). However, if the person recognises that *"I'm having the thought or feeling that I'm stressed at work"*, then there is an opening or psychological flexibility to change behaviours (Flaxman & Bond, 2006; Bond, Flaxman, van Veldhoven & Biron, 2010). Mirrored in the somatic psychology practice of embodiment, the separation *'defusion'* and unification *'fusion'* of aspects of the self is important when it comes to stress management and overall health (Flaxman & Bond, 2006; Bond, Flaxman, van Veldhoven & Biron, 2010). For example, the unification of the body and movement increases interoception and proprioception, but *'fusion'* of cognitions, emotions and the self-promotes a dissociative anxious state, psychological inflexibility (Flaxman & Bond, 2006; Bond, Flaxman, van Veldhoven & Biron, 2010). Conversely a separation of the body sensations and movement is seen as dissociative, an extreme example being the Alexithymia condition, and a *'defusion'* of the self from cognitions and emotions promotes openness, mindful awareness and ability to act in line with values, and psychological flexibility (Flaxman & Bond, 2006; Bond, Flaxman, van Veldhoven & Biron, 2010).

Fusion and defusion is one of the mechanisms of improving psychological flexibility according to ACT and threaded throughout the Wellbeing Wednesday course. It was not necessary for me as the teacher to explain this, as it is a complex psychological concept, and I did not feel that the students would gain anything from understanding the theory underpinning the practice; it would only have served as a distraction or promoted confusion. However, I wanted them to understand this on an experiential level provided through *'the observer'* activity. Again, it provided a deeply enriching learning experience to strengthen the ability to sink into the observing mind. It fitted with the overall aims of the course, to promote self-efficacy of new wellbeing promoting practices to improve resilience to work stress. Next time I would like to explore a group remote teaching series for work stress reduction solely based on principles and exercises from ACT.

11. 23/09/2020 Session 8: *The Power of the Imagination*

I aimed to provide a different mindfulness activity each week that builds on previous sessions and so I felt it was placed well today after completing *'the observer'* activity the previous week. Each activity may appeal more to some participants than others, so it was important for me to have a fair mixture of different stimuli. Visualisation is well-researched subject and is commonly used as a comprehension strategy for students learning to read or revise for examinations (Carter, 1990; Talley, 2016). Promoting imagery helps to create learning through meaning and is known to improve health literacy (Carter, 1990; D'Angiulli et al., 2013; Talley, 2016). However, as the name suggests, a mindful visualisation practice does not just involve inner sight, it involves all five senses using the imagination.

Again, the language was used throughout to provide a holistic multisensory experience is an important to learning (D'Angiulli et al., 2013; Talley, 2016). I invited the participants to engage their senses to activate parts of the brain associated with memory storage, as research suggests that it helps encode information from short-term to long-term storage (D'Angiulli et al., 2013). The most common visualisation strategy being '*the memory palace'* which works on a method of loci (Varilias, 2019). Evidence-based practice suggests that when a person creates the palace with many different rooms and tags dynamic information to specific objects within a room, it is easier for the brain to retrieve this information (Varilias, 2019). I wanted to ensure the participants could remember the information provided in the course without having to write

anything down, and so in this practice I layered information about what we have covered in the previous sessions.

12. 30/09/2020 Session 9: *How to re-write a bad day*

The premise was simple and builds on the techniques of observing and body awareness practiced throughout the course. It introduces participants to categorise the positive, neutral, and negative occurrences throughout the day, and in doing so a self-realisation is naturally presented to them in that most days have a large percentage of neutral events with only a few positives and even fewer negatives. This type of learning had been embedded throughout and it's a technique that fosters a sense of inner realisation profound.

I learned this teaching technique from behaviour change psychotherapy research, particularly in ACT, called creative hopelessness (Hayes, 2006; Reeve, 2020). It is where the facilitator gets the participant to extensively list all of the ways that they have tried to solve their issue. Eventually the participant will have exhausted all methods and will run out of potential solutions until the realisation sinks in that in order to move forward, they need to stop trying to control, avoid or eliminate the situation and therefore pivot towards acceptance (Hayes, 2006; Reeve, 2020). This realisation cannot be taught in a traditional sense and something as deep and profound must come from the person's own knowing.

Although the re-writing of a bad day is not exactly the same or as in-depth as the creative hopelessness method, it does have similarities in that the participant has autonomy of thought without me as a teacher telling them what is classed as a positive, negative or neutral experience within their day. However, it is highly probable that they will come to the realisation that is gently implied rather than overtly stated. I prefer this facilitating and coaching teaching style and I know that it is impactful in the right context, stress management being one of them.

It was timely to introduce the concept of willingness to accept in the later stages of the Wellbeing Wednesday course because it is not easy to do, and it is not something that can be achieved without thorough preparation. All of the previous sessions of the course have been preparing for the final stages of acceptance of certain stressors or previous events that are unchangeable (Hayes, 2006; Reeve, 2020). Again, based on the ACT model, acceptance is an important aspect of stress-management at work because there are often tasks or activities that are out of a person's control. The premise of mindfulness practice and improving overall

wellbeing is to not create a life without potential stressful events, but it is to live life with meaning and purpose regardless of what happens.

13. 07/10/2020 Session 10: *Self-Compassion*

I introduced the theme of self-compassion and as it followed a different approach to the loving-kindness meditation that I delivered for the participant group previously. This practice invited the participants to cultivate body awareness and to gently place their hand on the part of the body from where their own inner-critical voice originates (Gilbert, 2009). Having done this practice, and found it to be moving and soothing, I hoped the participants would experience the benefit. Homan and Sirois (2017) explored the relationship between self-compassion and physical health and revealed compelling evidence that taking a kind, accepting and mindful perspective towards the self has ability to reduce stress and promote health behaviours. Therefore, I felt confident to deliver this week's session as I know from health psychology research, previous practice with this group, and personal practice, that it would be appropriate for the overall aims of Wellbeing Wednesday.

As the session ended today, a few participants shared their experiences and confirmed they too had felt emotionally moved and felt that sense of self-compassion. It is in the feeling of these sensations where the real learning take place, and it is something that I have heavily reinforced throughout the course. It is simply not enough to tell people to be less stressed at work in a traditional authoritarian teaching style, it is impactful to create a space for participants to explore and to understand their own bodily sensations and range of healthy emotions to self-regulate in future situations and events (Jarvis, 2006).

14. Reflection on the series of teaching and training sessions overall

I thought that when the final session was complete, I would be relieved, but I was sad that it was over. My colleagues gave feedback on this too mirroring how I felt. It was a great opportunity to support my colleagues and to provide a welcome break in the morning meeting once a week. Because of the feedback from my colleagues and how I felt about the final session, I knew that I had done what I set out to achieve. I wanted to make this an impactful teaching and training series that would increase my colleagues' knowledge on health psychology wellbeing promoting activities in order to facilitate resilience to work stress. It gave me huge satisfaction to receive feedback from my colleagues in communicating with them for usual work duties.

I felt that my planning and preparation time was realistic and when it came to delivering the teaching all the aims were clear and it followed a scaffolded flow between sessions. I also liked the content that was delivered, my colleagues did also, and I don't think I would change a lot if I were to run it next time. Perhaps, I could condense it to suit shorter time frames, but the overall session structure would remain the same. My only concern is that my colleagues may not have been able to give constructive feedback because of our working relationships, and they want me to do well and encourage me as much possible. However, they are professionals and because of our good working relationships I feel they could be honest with me if there were any major issues. What I could do to overcome these potential issues is to have an anonymous feedback system or I could have involved another researcher to attain feedback.

This entire process over the COVID-19 pandemic has taught me to believe in my skills and to not overwork myself. I took a focused and consistent approach to developing this teaching and training series so as not to overburden myself with my day-to-day work duties and for that I am pleased. As I mentioned, I tend to take on too much at once with my restrictive beliefs that I must be original, and my work must be perfect before being implemented. Whilst I realise that the positive sides of these skills are creativity, vision, and high professional standards, I feel like I fully understand the practicality of maintaining my not-so-smart work ethic for my own wellbeing. I now aim to work smart, in that I concentrate on the tasks that are going to get me the most impact. My action plan is to maintain this new way of working by continuing to reflect on my experiences and what I have learned throughout the doctorate. I will do this by upkeeping my professional reflective log and competency specific reflective assignments. I will also take time to thoroughly plan assignments going forward.

Section 2 – Reflection on the one-off teaching and training live webinar on conducting health psychology empirical research for weight-management intervention October 2020

1. 25/09/2020: Initial contact with the client and planning the training session

Having just completed session eight of the Wellbeing Wednesday's teaching and training series, I was approached by a contact from a partnering company to my workplace to provide some training to himself, the clinical lead, and a health coach on health psychology research around weight management intervention. They had already created a weight-management intervention with on-the-ground practical knowledge from the health coach's experience and so they wanted to consult my professional expertise in health psychology, which is heavily involved in the subject. Reasons for this were to evaluate the pre-existing intervention in relation to health psychology literature. Naturally, I was delighted to be asked to give my expertise and because I had planned Wellbeing Wednesdays in advance, I had enough time to honour this request. Seeing this as an organic opportunity to demonstrate both the one-off training and consultancy competency dovetailed for the professional doctorate, I was motivated to get involved.

During the phone call I deciphered that the client needed two aspects of training; one was to understand how health psychology literature and theory could map onto their existing weight-management intervention. The second came about from my suggestion, in that I enquired on if they would be running this as part of research, because the best way to improve the chances of impact would be to conduct an empirical report around the intervention. This way they would capture the right level of data and with that could either prove their efforts to be a success, thus warranting more funding from the local authorities or to highlight changes to implement for the intervention to improve the impact.

In speaking with the client, we decided this one-off training would involve me hosting a one-hour online live webinar with the three participants teaching them about how to conduct health psychology empirical research. This was to honour the request of the client who wanted to know how to improve their already designed weight-management intervention. The structure the client and I discussed would follow a simple webinar presentation structure with written materials to supplement the teaching. Since the client and the other participants, the clinical lead and health coach, had precious little time during the working day, we spoke about delivering it on a one-hour conference video call, which was practical and simple.

Ordinarily, I would have suggested that I visited their office and delivered the training face-to-face, but because of the COVID-19 pandemic travel was restricted and to stay safe and minimise the spread, video conference calls were the best option. The benefits of delivering training over video conference calling is that it is easy to arrange, it negates expenses and travel, and it is accessible for both learners and teachers who can resume their workday activities almost immediately after the call. The downsides to this are that conversation and communication can get awkward with crosstalk. I think this is due to the fact that in a face-to-face situation people would have far more non-verbal cues to decipher when to speak. I have found that in a group of more than five other people on a video call, I tend to remain silent and don't actively participate as I would in an actual room. I absolutely hate speaking over the top of people, and I pride myself on good communication skills. However, there will be only three other people on the training session, so I don't think it will be as big of an issue.

I had spoken with this client previous to this contact today, so we had a rapport when speaking over the phone. It was good to build on a relationship in my network and actually provide a piece of work. I found over the years that networking doesn't often result in actual work being done so quickly, so after only one prior phone call and a few emails with this contact, I was pleased to have built up a good rapport. I assessed their needs of training through some background information that I gathered on a call with my contact today so that I could evaluate whether it was feasible for me to do and, if it was viable, at what level to pitch the teaching. I understand that the training is to be delivered to health professionals, the clinical lead and the health coach, and so the level of information will reflect their assumed basic understanding of health literacy. What strikes me as interesting about this training piece, and further affirms my relevance as a teacher, is that they have little knowledge about health psychology and also empirical research on weight management and so this is where I was confident that I had something to offer. Health psychology offers a large amount of research around the subject of weight management and having read a lot of the literature for both my master's and bachelor's degree, I was confident I would be able to impact their learning to help them improve their weight management intervention they had already designed.

2. 02/10/2020: Conference video call to further assess the needs of the client

On this call today I felt a little nervous in speaking with the client, health coach and the clinical lead because I had only ever spoken with the client, who was the director of the company. I always feel more apprehensive when speaking with other health professionals because of the potential scrutiny. I know that people aren't as judgemental as I like to think in my head, but I

have high professional standards that I wish to maintain. After introductions I felt more at ease as they were friendly, and we shared some commonalities in the stress of working through the COVID-19 pandemic as a health professional. We spoke more about their needs and how I could provide information over the proposed one-hour webinar training session. I also mentioned that I am offering to write them a research protocol for their weight-management intervention, and I confirmed that the presentation slides would be available to them. There were no additional requests from this call, and they were eager to receive the training and showed great interest in health psychology.

I ensured that I took baseline measures with a mixture of Likert scale questions around the client's subject knowledge and open-ended questions. The results confirmed my assessment of their current health psychology and empirical research knowledge being low scoring and I was keen to improve these scores by the end of the training session. From these results I had time to tweak any level of information if the scores on the pre-test questionnaires didn't match my understanding from the conference call. This approach was in line with the personal teaching style which allows a blending of other teaching styles to match the learning outcomes and the learners' expectations in an adaptive format (Grasha, 1994). For example, elements from the expert teaching style were also used throughout the consultancy project in that I, as the "expert" in Health Psychology advised on their issue to promote learning (Grasha, 1994).

3. 02/10/2020: Day of the live webinar training session

By this point I was feeling confident about my work, and I was happy to deliver the presentation today. It has been a quick turnaround time, but I am pleased with the quality of work that I produced. Since I had spoken with all of the learners on a previous call, I didn't feel worried about my delivery since I find it easy to connect with people. The meeting began and all of the technology worked find since I had practiced on how to share my screen for the presentation. If I had not practiced this a few days prior with the help of a colleague, I would have fumbled around or not been able to present at all. So, I'm glad I took this preparatory step and it's a skill I'm sure I will use in the future.

Firstly, I went through main points of the written research protocol which they had had time to read prior to the training session. Secondly, I delivered the presentation on conducting empirical research. The presentation was smooth, but I had reflected in action when I noticed that I maybe didn't have enough information specific to their intervention. However, I realise

that training is giving professionals the tools to be able to apply their learning and that it should have a level of autonomy. And I remembered that the research protocol was more specific to weight management. In the future, I will use this reflective learning to question my plans in the preparation process by adding it to a project checklist.

The clients then had time to feedback and discuss after the presentation where this was confirmed that they were happy to have the tools to be able to conduct empirical research rather than only information specific to their intervention. For example, I explained the difference between quantitative and qualitative research so that they had a grounding of other approaches. Although I made space for discussion and questions, it was more like a discussion and confirmation of their plans. They only asked a few general clarification questions, but mostly they provided feedback on their plans to make the intervention into an empirical piece of research with aims of improving the intervention and producing quality evidence to gain more funding. This was a good indication of learning because they were reflecting back to me all that I had just taught in the session, and they were actively applying it to their own intervention. As the training came to an end, I felt good about myself, and it gave me a boost of confidence that I needed. I realised how much I had enjoyed this process and how valuable it was to the clients. I felt proud to represent health psychology practice and I was motivated to complete the doctorate work.

4. 05/10/2020: Evaluation

Assessing the client's feedback of the live webinar session

I was thrilled to receive such glowing feedback from all the hard work I put into this one-off training piece. The client was appreciative for me to give up my time to train them on health psychology empirical research. I was happy to know that my training had impacted on their knowledge around the subject area and will provide them with the practical skill of producing empirical research for their weight management intervention. Please see Appendix A4 for the feedback given.

Furthermore, the results from the post-test questionnaires around their understanding of health psychology and conducting empirical research were higher than the pre-test which confirmed my assessment of impact. Finally, I was also happy to have had the feedback that I upheld my

high professional standards. This meant a lot to me as I deeply value quality professionalism, especially amongst health professionals.

5. 07/10/2020: Reflection on my performance

I was not expecting to deliver my consultancy dovetailed ith a one-off training session whilst running the teaching and training series and behaviour change intervention, Wellbeing Wednesdays. I have a propensity in life to take on too much work for myself, but in this case, it worked out well. The biggest lesson that I have learned from this experience is that opportunities can organically present themselves and that I can be prepared to deal with them when they do. Although I have been trying to take on less with my realisations from running the Wellbeing Wednesdays teaching series, I managed my time effectively and was able to put in extra work for the one-off training and consultancy piece. I should have more faith in my level of professionalism and work ethic as I have clearly demonstrated this across the teaching and training competency.

Specific to the one-off training session, I noticed that it was easier to present on a webinar because the screen is in front of me. Although I was careful not to sound as if I was reading, I managed to deliver a smooth presentation and I noticed it was slightly less stressful. However, there is a lot to be said about the performance element of teaching face-to-face that I do miss. Had I been in a room I perhaps would have needed to look at the screen to follow the content, but the slides were not text heavy, and I feel like I know research methods inside and out because I have been doing it for so long since my undergraduate degree eight years ago. I have had plenty of experience with delivering face-to-face presentations from previous roles and within this current role I deliver a two-hour training course every day with six to ten participants, so it was good experience to present online for a change. Based solely on my performance, I can't say I would change anything because I have a lot of experience in online training, and I was confident in my skills and the work I had produced. This matched the feedback from the clients, so possibly in the future it would be good to have an independent evaluation of my training to reduce any social desirability bias that could have skewed the results (Bergen & Labonté, 2020)

Overall, I am very satisfied with how the training went and the feedback from the clients both at the end of the presentation and in the formal feedback forms matches my experience. I was impressed with myself at how professional I sounded whilst delivering the presentation and sometimes I forget my skills. This experience has gone towards boosting my self-esteem and I

know that I will only improve from here. I just need to remember that I have high professional standards and that I am capable of respectfully representing health psychology as a discipline.

6. **01/12/2020: Reflection on my reflection**

As I reflect on this experience now, I realise how much I doubt myself, but reading back on my entries what also shines through this writing is my confidence. I think it's healthy and important to be self-reflective, and it keeps a person in check with what they're aligned with and fuels self-improvement. However, I realise that I am capable, and I am so proud of my skills and knowledge and level of professionalism even at this stage in my health psychology career as a trainee. It is also clear how much I value professionalism and I think that I exceeded my own expectations with the one-off training particularly. Looking back, it was a great experience to learn and develop the skills of teaching and training via online platforms, which has been integral to the development and running of my coaching psychology business. With the world having to adjust to a socially distanced way of working, meaning most work has been forced to be remote delivery compatible, it has provided some great life skills. It feels good to know that I am able to work whatever happens in the future and this flexible style of delivery has already benefitted my practice.

Section 3- Overall reflection of both the teaching and training competencies

1. **16/03/2020: Reflection on the participants of both the teaching and training interventions.**

Both teaching and training participants were of a similar population with very different needs. The Wellbeing Wednesday's teaching series and the one-off training participants were similar in that their job roles involved working with the public in a supportive role. The Wellbeing Wednesday's participants were my colleagues at my previous work placement and were employment advisers. The one-off training was delivered to healthcare professionals for an employment charity. So, although they were similar, their needs were different in that the Wellbeing Wednesday's teaching series participants required information about health and wellbeing activities to reduce their personal stress. The one-off training session for healthcare professionals required information on how to improve their weight-management intervention for their participants accessing the service. When tailoring the content and materials to online learning, I found that it negated the need for printing, which is more ecologically friendly. And I also learned that PowerPoint presentations work well because it creates a shared focal point on the screen and it's easy to facilitate. It could be a bit tricky to manage a lot of

handouts with switching back and forth from the online conference platform and some people with low IT skills might panic if they lose sight of this. However, this was not an issue in the one-off training because the clients had good IT skills and there was only one handout that they had read prior to the session. I will consider this reflective learning point in the future when designing online training.

I was able to connect with both groups of participants and plan effective training for their needs as well as having an established rapport when teaching. However, I felt more nervous teaching my colleagues to help them with their health and wellbeing since I had a professional reputation to maintain. I was worried that if the intervention was not successful then I would have no place in the professional world and that I would lose my colleague's respect. I felt that delivering the information to both participant groups played to my strengths and was not as difficult as my anxieties anticipated. For example, I had a lot of experience in delivering wellbeing type interventions, so imposter syndrome and perfectionist tendencies aside, I slipped into a natural performance within the first few minutes of the session. Furthermore, training the healthcare professionals about health psychology empirical research was daunting at first, but I soon realised that I know my field of study well and research methods has been engrained from my undergraduate years. This made me realise my professional worth, even amongst healthcare professionals.

Having had to teach a two-hour wellbeing course every day for long-term unemployed participants with health issues from October 2020-October 2021, the experience of teaching two different demographics was enriching. I enjoyed both telephone and remote online delivery of teaching that was forced upon most non-frontline essential workers because of the COVID-19 pandemic. This opened up my perspective to the possibilities and flexibility of remote working. I felt that not only was it effective and accessible, but it would also promote work life balance, which is important for me to sustain my own health and wellbeing. In the future, I will be open to online training because of its positive points, but from this reflective piece I will am more aware of the changes and adaptations to make to ensure I improve my teaching and training skills.

The biggest lesson of all is that I learned that I did not favour teaching face-to-face to the demographic in the work placement, and I don't think that I will pursue this type of environment in the future. Firstly, the wellbeing sessions I delivered were pre-made by the

work placement and although I edited the content as I went along, it was very basic. Secondly, teaching people face-to-face in a room every day was stressful. The amount of preparation that went into ensuring that participants would attend on time was demanding and I felt more like a truancy officer than a Health and Wellbeing Adviser. This was the main disadvantage of face-to-face teaching and training. The advantage of this approach was that it was slightly easier to engage with students in a room and it felt natural in this setting as opposed to online training. Nevertheless, with effective communication skills and a personal blended teaching style online training can be engaging depending on the content (Grasha, 1994). Practical skills which require face-to-face in situ learning would certainly not be appropriate for online learning in the examples of surgery, medical, emergency services crisis response training. However, the teaching of knowledge-based skills such as in the case of the one-off training on empirical health psychology research on weight management, it was appropriate.

When the COVID-19 pandemic struck, I worked from home, and I found that the delivery of the wellbeing courses was far easier to manage with very few attendance issues. I found that telephone and online remote delivery worked best for this population, and it also worked well for both the teaching and training populations. Therefore, I realised that this method would be suitable across the populations and it's what made me decide to start a business with online and telephone delivery of coaching psychology. The experience of teaching across populations is something that played a massive role in the development of my career.

2. 07/01/2021: Brief intervention vs long intervention

I have always favoured long interventions and so the Wellbeing Wednesday was within my comfort zone as a teacher. I like long interventions because I get to be part of the process as the learners grow and I find that rewarding. I also enjoy building on knowledge, known as scaffolding, because I find that some health psychology information is difficult to explain in a single session. This is partly down to inexperience, I have found, because in developing my coaching psychology business, I realise that it is not good enough to be vague in telling people about my business aims and it should be treated as teaching. Therefore, using clear and direct language is important for effective teaching in all contexts. I find that I struggled to verbally explain my business sometimes and I am learning to be more succinct with my teaching. However, I felt that with the nature of the initial request by my manager and the feedback

from the participants, ten weeks for the teaching series was appropriate. Furthermore, I had a captive audience who welcomed a break from a typical morning meeting.

It was a good experience to deliver the one-off training to the healthcare professionals and it made me realise the impact of firstly online delivery and secondly brief intervention. I realised how accessible my trainee health psychology practice could be through my coaching psychology business and it made me realise the impact of well delivered targeted information. Reasons for delivering a brief training session was that the healthcare professionals were extremely busy, and I was taking up their time on top of their regular daily duties. As I mentioned, I have recently been looking at improving my teaching skills in order to successfully attain referrals to my coaching psychology service and maintain trainee health psychology practice. In order to attain referrals to my business I need to be able to teach my professional network about what it is that I do, as well as my potential clients. I recognise that a weakness of mine is how I sometimes handle brief encounters with professionals and clients where the information and language I use is crucial to a successful outcome. Therefore, this one-off teaching experience has greatly benefitted my skills in this area and had highlighted the need for more training. In my search for relevant training to improve my business skills in the areas of sales and networking I have joined a local business networking group, Business Networking International (BNI). I will get the opportunity to meet with fellow members every week and to learn more about closing sales from established business owners. They also provide extensive online training which I will be engaging with.

3. 01/03/2021: The use of negotiation language in teaching and psychology practice

Because of the teaching and training competency, I have since come across some information on the use of language skills in negotiation and I feel like I can apply this directly to my practice. Conversations in a teaching and training setting can be about negotiation, especially in brief health interventions, in that I as a teacher want to impart health psychology knowledge to the learner in a way that they absorb it and are able to apply it to their lives without psychological resistance. This means that I try to deliver information at a level so that the learner understands and so that their thoughts and emotional barriers for this information are met which fits with the cognitivism approach to learning as an internal process of storing information. I felt that I achieved this in the one-off training particularly and having reflected on why it was a successful intervention I postulated the following.

The language used to change someone's behaviour through teaching is vital to ensure an ethical win-win situation for both the teacher and learner. For example, when I was delivering the one-off training session for the healthcare professionals, it was important for me to be succinct and hold their attention because they were taking time out from their work duties and probably had outstanding tasks on their mind. What they wanted to hear was the benefits that they could directly apply to their situation, so my direct language reflected that. I didn't realise that this was what I was doing at the time but since setting up my coaching psychology business, I realised that this is a skill to further develop. I found that I was able to apply it in the one-off teaching session, but not in other contexts and that is how I realised what I was missing.

I feel that this progression has concentrated my skills to ensure I have maximum impact with my teaching even in the briefest of encounters. For example, I now deliver a 60-second pitch to a room full of businesses each week in order to gain referrals for my coaching psychology service. I also now listen out for language cues from people, particularly around change talk and I found from some CPD on networking skills that in conversations people tend to brag, complain or plan. I listen out for these cues and a brief opportunity to teach about health psychology and my coaching psychology business.

4. 12/03/2021: The applications of teaching and training

Having reflected on the teaching and training diary I realise that the teaching and training competency has been valuable to the development of my practice as a trainee health psychologist. It has helped me to understand how to develop effective teaching for delivering information differently to different groups, including healthcare workers and how brief teaching interventions are important for behaviour change which underpins health psychology practice. A secondary and unexpected development from the teaching and training competency is that it has improved my application of teaching skills for my coaching psychology business that allows me to demonstrate my trainee health psychology practice. I now use impactful methods to convey information in a succinct way so that the learner's needs are met. When I pitch my coaching psychology business to a potential client or network professional, I am aware of their change talk language, and I reflect that back in the information that I give them. It's still a working progress but I am steadily improving on this skill with practice.

References

Bond, F. W., Flaxman, P. E., van Veldhoven, M. J. P. M., & Biron, M. (2010). The impact of psychological flexibility and acceptance and commitment therapy (ACT) on health and productivity at work. *Contemporary Occupational Health Psychology. Global perspectives on research and practice*, *1*, 296-313.

Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. (2013). Building positive resources: Effects of positive events and positive reflection on work stress and health. *Academy of Management Journal*, *56*(6), 1601-1627.

Carter, K. (1990). Meaning and metaphor: Case knowledge in teaching. *Theory into practice*, *29*(2), 109-115.

Cohen, S. L. (2011). Coming to our senses: The application of somatic psychology to group psychotherapy. *International Journal of Group Psychotherapy*, *61*(3), 396-413.

D'Angiulli, A., Runge, M., Faulkner, A., Zakizadeh, J., Chan, A., & Morcos, S. (2013). Vividness of visual imagery and incidental recall of verbal cues, when phenomenological availability reflects long-term memory accessibility. *Frontiers in Psychology*, *4*, 1.

Flaxman, P. E., & Bond, F. W. (2006). Acceptance and commitment therapy (ACT) in the workplace. *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications*, 377-402.

Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in psychiatric treatment*, *15*(3), 199-208.

Grasha, A. F. (1994). A matter of style: The teacher as expert, formal authority, personal model, facilitator, and delegator. *College teaching*, *42*(4), 142-149.

Hayes, Steven C., Jason B. Luoma, Frank W. Bond, Akihiko Masuda, and Jason Lillis. "Acceptance and commitment therapy: Model, processes and outcomes." *Behaviour research and therapy* 44, no. 1 (2006): 1-25.

Hirst, I. S. (2003). Perspectives of mindfulness. *Journal of psychiatric and mental health nursing*, *10*(3), 359-366.

Homan, K. J., & Sirois, F. M. (2017). Self-compassion and physical health: Exploring the roles of perceived stress and health-promoting behaviors. *Health Psychology Open*, *4*(2), 2055102917729542.

Jarvis, P. (2006). Teaching styles and teaching methods. In *The theory and practice of teaching* (pp. 42-52). Routledge.

NICE. (2020). *Using mindfulness to support mental wellbeing at work for children's social care front line practitioners.* https://www.nice.org.uk/sharedlearning/using-mindfulness-to-support-mental-wellbeing-at-work-for-children-s-social-care-front-line-practitioners

Reeve, A. (2020). *A brief Acceptance and Commitment intervention for work-related stress amongst frontline homelessness staff: a single case experimental design series* (Doctoral dissertation, University of Nottingham).

Talley, J. (2016). Moving from the margins: The role of narrative and metaphor in health literacy. *Journal of Communication in Healthcare*, *9*(2), 109-119.

Vahle-Hinz, T., Bamberg, E., Dettmers, J., Friedrich, N., & Keller, M. (2014). Effects of work stress on work-related rumination, restful sleep, and nocturnal heart rate variability experienced on workdays and weekends. *Journal of occupational health psychology*, *19*(2), 217.

Varilias, L. (2019). Imagining a Memory Palace: Method of Loci and the Effect of Object and Spatial Imagery Skill.

Youssef-Morgan, C. M., & Ahrens, B. L. (2017). Gratitude: an antidote to work stress. In *Research handbook on work and well-being*. Edward Elgar Publishing.

CHAPTER 3: PSYCHOLOGICAL INTERVENTION

Group behaviour change intervention

Wellbeing Wednesdays: Mindfulness-Based Group Intervention for the Management of Stress in the Workplace.

Background

Within my role as a Health and Wellbeing Adviser at Reed in Partnership I supported the Employment Advisers' caseload of participants with health and wellbeing advice and guidance in one-to-one and group settings which entailed educational, and behaviour change intervention. Our shared caseload of participants had multiple vulnerabilities being long-term unemployed, of low socio-economic background, and with complex trauma, disabilities, and long-term and chronic health conditions as well as mental illness. My colleagues and I had to work from home during the COVID-19 pandemic lockdown, and I was no longer able to travel between the five offices across the county to deliver face-to-face appointments. Feelings of uncertainty and adapting to new ways of working increased levels of work-based stress within our team. This was due to childcare issues with the school closures, shielding and caring responsibilities and the threat of illness and mortality from the COVID-19 virus. I too was under strain during the working day, and my colleagues had echoed this in private conversations and within team meetings. Within the first UK lockdown, in a routine monthly progress review, I was asked by my line manager to facilitate a wellbeing mindfulness intervention for colleagues to potentially help with work stress.

Within my daily duties as a Health and Wellbeing Adviser, I conducted health and wellbeing interventions with a range of techniques such as goal setting, social and emotional support, positive reinforcement, role play, graded exposure, mindfulness activities and advice and guidance specific to their needs. The participants and I worked through an action plan formulated from an initial independent report from an occupational nurse, with room for adaptation. Therefore, I felt confident to formulate and deliver a mindfulness wellbeing intervention for my colleagues based on my training, experience and understanding of theoretical underpinnings and methodology of health psychology in practice.

Formulation

To ensure an effective BCI, I implemented the 5 Ps format that is standard practice for health psychology behaviour change (Macneil et al., 2012). Please see Table 1 for a description of what was discussed in an informal group discussion with colleagues on a weekly conference call.

Table 1

5 Ps for Wellbeing Wednesdays Group Intervention

5 Ps	Description
Presenting problem	The participants were feeling stressed at work due to the impact of the COVID-19 pandemic on their personal lives as well as job performance.
Predisposing factors	Prior to COVID-19, staff were able to hit their targets to get their case load into employment. They were also able to work from the office and send their children to school during working hours. Some also had caring responsibilities for elderly relatives.
Precipitating factors	COVID-19 pandemic lock down measures in the UK like essential travel only, school closures and employment procedure changes impacted work-based stress.
Perpetuating factors	Participants who could not adjust to the new and unpredictable way of working and the changing COVID-19 pandemic lockdown restrictions. Additionally, monthly performance targets were not reduced to reflect the global pandemic.
Protective factors	Participants that spoke with me about getting help with stress management were motivated to change.

Theoretical underpinnings

Numerous studies have been conducted to provide a wealth literature detailing the interrelated and complex relationship between illness and disease and the impact of stress inducing events (Brown & Ryan, 2003; Brown, Ryan & Creswell, 2007; Eby, 2017). Studies demonstrate a high percentage of stress inducing events to be around health status, money, and employment (Brown & Ryan, 2003; Brown, Ryan & Creswell, 2007; Eby, 2017). Furthermore, COVID-19 is a new global stressor which is linked to financial, employment and health related stress (Polizzi, Lynn, & Perry, 2020; Yıldırım, & Solmaz, 2020). Stress in the workplace is an important and costly issue with higher rates of burnout in front-line high-pressured roles as well as being correlated with increased volume turnover of staff and sick leave (Krasner et al., 2009; Wolever, 2012). Moreover, it has been reported that the COVID-19 pandemic has exacerbated this already pressing issue of work-related stress (Polizzi, Lynn, & Perry, 2020) To address this, there has been an emergence of mindfulness-based interventions delivered

workplace settings with the aim to improve resilience and reduce the impact of stress on physical and mental health (Krasner et al., 2009; Wolever et al., 2012; Polizzi, Lynn, & Perry, 2020).

Mindfulness is about cultivating awareness of the present moment which is said to reap multiple benefits including emotional regulation and resilience to stress (Hawkes & Neale, 2020). On a deeper level, mindfulness-based intervention is said to promote interoception, what is happening inside the body, proprioception where the body is in space, and exteroception what is happening around the body. According to polyvagal theory, the ability to be aware of the senses including interoception, proprioception and exteroception can increase resilience to stress and these techniques promoted through mindfulness-based intervention is more commonly known as grounding (Porges, 2009).

Although certain types of mindfulness should not be practiced without medical clearance, for example those with contraindicated conditions such as trauma, mindfulness-based intervention delivered by a trained professional can be an appropriate therapeutic tool across a wide range of demographics (Dobkin, Irvin & Amar, 2012). A study with young professional healthcare workers by Kemper, Mo and Khayat (2015) found that both mindfulness and self-compassion were significant predictors of higher scores of resilience. Despite it lacking control by a cross-sectional design, there have been other studies to support these findings. For example, Kaplan et al.'s (2017) study exploring the role of mindfulness and resilience in first responders, demonstrated that mindfulness practice increased resilience by means of being a learnable and adaptive positive response to stress.

Mindfulness-based interventions are typically delivered with themes that gradually build on practical experiential learning throughout the course. Teasdale et al.'s (2000) Mindfulness-Based Cognitive Therapy (MBCT) maps onto themes of Bandura's (1986) Social-Cognitive Theory (SCT) with elements of self-efficacy, observational learning and behavioural capacity. MBCT show evidence-based success rates and are recommended for use in the workplace by NICE guidelines (NICE, 2020). Therefore, the following intervention was developed within this theoretical framework. Core elements of MBCT and SCT were included in this study were breathing exercises and guided imagery to promote interoception, exteroception and proprioception. In addition, mindfulness-based interventions require an element of psychoeducation, so basic concepts of the anatomy and physiology of stress and relaxation

were also included (Bandura's 1989; Teasdale et al., 2000). See Appendix C1 for a weekly overview of topics and theoretical components.

Method

The study proposed a ten-week 30-minute group session of mindfulness-based intervention delivered by telephone at the start of the working day, 8.30am. Sessions provided a scaffolded approach of psychoeducation and practical guided mindfulness activities (see delivery schedule in Appendix C1).

Ethics

An ethical application was not required for this intervention because it is my health psychology professional doctorate portfolio piece and is not intended to be published. However, ethical practice was maintained according to the British Psychological Society and Liverpool John Moores University. In the planning process of this intervention, I have been thinking about ways to ensure that my colleagues understand the professional boundaries that are perhaps different by taking part in the Wellbeing Wednesdays. In the workplace I have a good professional relationship with my colleagues, and I naturally maintain respect and confidentiality when in conversation. This is good practice but not a legal or code of conduct requirement. However, it is now a duty for me to follow ethical codes of conduct and consider all those aspects when planning out the intervention such as right to withdraw, informed consent and confidentiality. I have ensured that the participant consent makes this distinction clear, and I am going to mention this on the first session. In addition, that I am aware of safeguarding law and that is something that is maintained no matter what role in which I am working. I reflect on this process of managing the right to withdraw on the 1st of June 2021 *"I was thinking about how I'm going to manage if someone withdraws during a session. Obviously it would be easy for them to end the call, but I want to make sure they are supported if they leave. I have ensured that the informed consent details the process of withdrawing during the study so that the participant has an opportunity to receive any support respective of their needs that is independent from me."* I usually include support contact details in the debrief, but since it is delivered remotely I won't know if anyone leaves during the session. Also, I have a close working relationship with my colleagues, they may not feel comfortable with speaking with me about personal issues; therefore, independent support is best to provide dignity and respect.

Participants

The eighteen participants were mixed gender adult Employment Adviser staff within a work organisation for where I was on placement as a Health and Wellbeing Adviser. Within the study there were ten females and eight males with an age range of 30-64 years and a mean age of 44.16 years (SD = 9.78). They were pre-screened for contraindications relating to the practice of mindfulness activities, such as those outlined in the Mindfulness-Based Stress Reduction (MBSR) pre-screening questionnaire (Dobkin, Irvin & Amar, 2012); these included, complex and unstable mental illnesses such as Post-traumatic Stress Disorder (PTSD) and anxiety disorders. It's not to say that those with the afore mentioned conditions can't engage with mindfulness practice, but with my current level of training and without clinical supervision and GP clearance, the risk far outweighs the benefit.

Participants were selected via targeted sampling of colleagues at the work placement. Having worked alongside my colleagues for nine-months, I was aware of their work-based stress through conversation and shared experience. Furthermore, the COVID-19 pandemic impacted our team greatly as we worked from home in the first UK lockdown in the spring only to return to socially distanced work for the latter half of the summer. I conducted an informal assessment during two team meetings to gather information on the aims and objectives of the behaviour change intervention (BCI). My colleagues were aware that I was conducting this BCI as part of my professional doctorate in health psychology and that ethical standards and codes of conduct would be adhered to, including those of the British Psychological Society (2018) and the Health and Care Professions Council (2016). I also dovetailed this group BCI with my teaching and training series competency so informed consent detailed both aspects.

Materials

Participants were asked to complete the Mindfulness Attention and Awareness Scale (Brown & Ryan, 2003), the Mindfulness-Based Stress Reduction (MBSR) pre-screening questionnaire (Dobkin, Irvin & Amar, 2012) as well as the Brief Resilience Scale (Smith et al., 2008); all three were combined into one document found in Appendix C2. The MAAS has a Cronbach's alpha = .84 and the BRS Cronbach's alpha = .81 (Brown & Ryan, 2003; Smith et al., 2008).

To complete the conference call, a mobile telephone was needed and the dial-in number from a service used in the organisation, Why Pay. With this service one can have up to 50 participants on a call at one time.

Procedure

Staff were pre-screened using an adapted version of the MBSR questionnaire (Dobkin, Irvin & Amar, 2012). All participants passed the pre-screen questions and were allowed to take part in this study. Participants were sent out the joining instructions to the telephone conference call on the day before the Wellbeing Wednesday course start date. Measures were taken again at week five and post-test at week 10. Participants were thanked for their participation and fully debriefed. For a full breakdown of session topics please see Appendix C1 on the delivery of the weekly sessions, please see Appendix C3 for a full reflective account of each session. For more details on the mindfulness scripts used in session, please see portfolio Appendix B3 which is dovetailed for the teaching and training competency.

I reflect on the 27th of June 2021 *"I feel apprehensive about conducting the intervention with my colleagues and have drawn on previous experiences to help ensure the process runs smoothly. Naturally, I am eager to showcase my health psychology training and understanding but I have additional pressures of already having a working relationship with the participants. I am anxious as I check and re-check my session plans and I have to have more confidence in my ability."* I understand that working with groups requires additional preparation than working with individuals on a one-to-to-one intervention such as ensuring the correct amount of resources and materials are available, travel costs, room set up and addressing individual questions and checking engagement and understanding. However, most of these aspects were mitigated by conducting it over telephone conference call for this intervention. Therefore, it was more accessible for the participants and easier for me to run.

Analysis

The study aimed to investigate whether a ten-week, thirty-minute mindfulness-based intervention would increase resilience to work stress through increasing mindful behaviours. There were no missing data, and all participants completed the full intervention. A repeated one-way ANOVA was used to explore the questionnaire responses between each of the 18 participant's pre, mid and post scores of the MAAS (Brown & Ryan, 2003) and the BRS (Smith

et al., 2008). Table 2 depicts the means and standard deviation of the pre, mid and post measures for both the MAAS and the BRS (Brown & Ryan, 2003; Smith et al., 2008).

Results

There was a significant effect for the difference between baseline, five-weeks and ten-weeks scores for the MAAS, F (2,3) = 13.42, p = .003 (Brown & Ryan, 2003). Table 2 depicts the results indicating an increase in mean scores over time from baseline = 3.05 (.73), five- weeks = 2.89 (.74), to ten-weeks = 3.59 (.72). A pairwise comparison revealed there to be a significant difference between baseline and ten-weeks, p = .002 and between week-five and ten, p = .031 but no significant effect was found between baseline and week-five. According to the MAAS the is no cut off point, but the higher the mean score the better for mindfulness behaviours (Brown & Ryan, 2003). Although the mean scores decline from baseline to week-five, the scores were higher in post measures than both pre and mid indicating the direction of result. This would suggest that the Wellbeing Wednesday intervention impacted mindfulness in the 18 participants over the ten-weeks.

There was no significant effect found for the difference between baseline, week-five and week-ten scores for the BRS, Wilks' Lambda = .828, F (2,16) = 1.66, p = .22. The total mean scores indicate an increase in scores over time from baseline = 3.18 (.82), week-five = 3.36 (.76), to week-ten = 3.61 (.60). According to the BRS a score of 1-2.99 indicates low resilience, 3-4.3 shows normal resilience and 4.31-5 is high resilience. See Appendix C4 for individual mean scores. Although there was a small incline in scores, the effect was not statistically significant. This demonstrates that the Wellbeing Wednesday intervention did not significantly affect resilience over the ten-weeks.

Table 2

Means and pairwise comparisons for both measures from baseline to week ten.

Model	F	Mean	SD	*p*
MAAS				
Within-subjects	13.42			.003*
(1) Baseline		3.05	.73	
(2) Week-five		2.89	.74	
(3) Week-ten		3.59	.72	
Pairwise comparisons				
(1,3) Baseline and week-ten				.002*
(1,2) Baseline and week-five				1.00
(2,3) Week-five and week-ten				.031*
BRS				
Within-subjects	1.66			.22
Baseline		3.18	.82	
Week-five		3.36	.76	
Week-ten		3.61	.60	
Pairwise comparisons				
(1,3) Baseline and week-ten				.272
(1,2) Baseline and week-five				1.00
(2,3) Week-five and week-ten				.737

Note. * Indicates a significant mean difference at a level of .05.

Participant satisfactory report

I received positive feedback from the participants each week between sessions. Please see Table 3 below depicting data collected from the evaluation questionnaire collected after the week-ten session, please see Appendix C5 for the blank questionnaire.

Table 3

Feedback questionnaire given to participants post Wellbeing Wednesday teaching series.

Question item	Strongly agree	Agree	Examples of responses
1. I enjoyed Wellbeing Wednesdays	100%	0%	
2. I learned about ways to improve resilience to work stress	96%	4%	
3. I am happy with the content provided	100%	0%	
4. I am happy with the delivery of the sessions	100%	0%	
5. I feel like I could implement mindfulness practices covered in Wellbeing Wednesdays to increase resilience to work stress	96%	4%	
6. If yes to question 5 "have you enjoyed Wellbeing Wednesdays", please explain what you have learned.			*"relaxation"*, *"mindfulness at work"* and *"breathing techniques"*
7. If there was anything you would change about the sessions, what would it be?			*"to go on for longer"*
8. Do you have any further feedback?			*"it was really good, thank you"*

The positive responses from the feedback questionnaire correspond with my reflections on delivering the Wellbeing Wednesdays intervention and are further backed up by the observational report from my manager found in Appendix B5.

Discussion

The ten-week Wellbeing Wednesday workplace intervention designed with mindfulness activities based on Bandura's (1986) SCT impacted scores on the MAAS, but not for the BRS for colleagues at my placement as a Health and Wellbeing Adviser (Brown & Ryan, 2003; Smith, et al., 2008). This demonstrates that Wellbeing Wednesdays s intervention delivered over the telephone is effective at increasing mindfulness behaviours which are linked to lower levels of stress in the workplace (Krasner et al., 2009; Wolever et al., 2012; Polizzi, Lynn, & Perry, 2020). This study did not find any significant relationship between Wellbeing Wednesdays and resilience, reasons for this are explored below.

Reflection on results

After the analysis, I was surprised to find that the BRS scale produced a non-significant result (Smith et al., 2008). From literature, I am aware of the link between mindfulness and resilience, and it was expected that the intervention would impact both measures (Harker, Pigeon, Klaassen & King, 2016; Kaplan, Bergman, Christopher, Bowen & Hunsinger, 2017; Joyce, Shand, Lal, Mott, Bryant & Harvey, 2019). However, having more time to reflect on the year as a whole and the circumstances that many found themselves in with COVID-19, I realise that resilience may not have been impacted by the intervention because of two possible factors. The first influence that may explain the high baseline scores in those three participants could have been some peoples' natural ability to adapt and cope in a global crisis (Polizzi, Lynn & Perry, 2020). Specifically, resilience in workers could have already been developed in the first UK lockdown. Reich (2006) developed the 3 Cs model to account for individual predictors of resilience: control, coherence, and connectedness. The participants could have developed these three components of resilience from influences external to the intervention. Although this data was not collected by the current study, further investigation into baseline resilience levels could inform an improved person-centred intervention (Polizzi, Lynn & Perry, 2020).

The second possible influence of burnout as a history effect over the 10-week period could explain the drop from high baseline scores. To expand, as the year progressed high levels of burnout were reported in studies such as Yıldırım and Solmaz (2020), so someone with the

initial ability to adapt and cope in the first lockdown may have found it difficult to sustain throughout the second and third. Their mediation analysis showed that COVID-19 stress predicted both resilience and COVID-19 burnout. So, although the total mean scores showed a small incline, the three participants' high baseline scores and decreased ten-week scores could have impacted the total mean results of the BRS (Smith, et al., 2008).

Similarly, of the seven participants scoring lower than average, six reflected higher scores at week ten with one participant reflecting no change in score. Furthermore, the eight remaining participants who reflected a normative level of baseline resilience, half of those scored no change, two indicated a decrease in scores and only two sored higher at ten-weeks. It could be postulated that this intervention is most impactful to those with low baseline scores of resilience and that people with normative and high levels of resilience it is ineffective.

The significant scores on the MAAS (Brown & Ryan, 2003) were to be expected since many studies have used it to investigate Teasdale et al.'s (2000) MBCT and it has a direct relationship from the literature (Chiesa, Mandelli & Serretti, 2012). By comparison the MAAS total mean scores declined from baseline to five-weeks. To postulate the non-significant scores from baseline to week-five in the pairwise comparison, it could be that mindfulness takes time to learn and practice. Nevertheless, there was a significant effect between baseline and week-ten indicating a positive intervention result overall (Brown & Ryan, 2003).

Limitations

It could be inferred that to increase resilience to work stress, a more comprehensive intervention which includes a wider range of therapeutic approaches and psychometrics should be considered. For example, stress management techniques such as psychoeducation, goal setting, time management, autogenic relaxation, Cognitive-behavioural Therapy, Acceptance and Commitment Therapy could have been incorporated alongside a wider variety of activities based on individual screening such as walking, yoga and creative writing (Varvogli & Darviri, 2011; Pieper, Schröer & Eilerts, 2019). In addition, there was no direct measure of work stress or COVID-19 related stress, and the literature highlights this link (Polizzi, Lynn & Perry, 2020; Yıldırım & Solmaz, 2020).

Future recommendations

In further investigation of the Wellbeing Wednesdays, it is suggested that levels of resilience are pre-screened, and potentially carried out only with the lower of which seem to yield positive results or as a between-subjects comparative study against normal and higher baseline resilience on the BRS with a larger sample. In addition, pre study investigation of personality traits and individual formulation could inform a wider variety of activities providing a person-centred approach to work related stress interventions. Finally, direct measures of stress and burnout are suggested (Polizzi, Lynn & Perry, 2020; Yıldırım & Solmaz, 2020).

Overall reflection and learning outcomes

I am happy with the intervention I provided for my colleagues in this stressful time and reflection both in and on action highlighted my own limitations of practice. From this, I received further BPS approved training in ACT to deepen my knowledge of health psychology BCI and therapeutic practice.

References

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational behavior and human decision processes*, *50*(2), 248-287.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84(4), 822–848. https://doi.org/ 10.1037/0022-3514.84.4.822

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological Inquiry, 18(4), 211–237. https://doi.org/10.1080/ 10478400701598298

Campbell, K. S., Yengo, C. M., Lee, L. C., Kotter, J., Sorrell, V. L., Guglin, M., & Wenk, J. F. (2019). Closing the therapeutic loop. *Archives of biochemistry and biophysics*, *663*, 129-131.

Chiesa, A., Mandelli, L., & Serretti, A. (2012). Mindfulness-based cognitive therapy versus psychoeducation for patients with major depression who did not achieve remission following antidepressant treatment: a preliminary analysis. *The Journal of Alternative and Complementary Medicine*, *18*(8), 756-760.

Dobkin, P. L., Irving, J. A., & Amar, S. (2012). For whom may participation in a mindfulness-based stress reduction program be contraindicated?. *Mindfulness*, *3*(1), 44-50.

Eby, L. T., Allen, T. D., Conley, K. M., Williamson, R. L., Henderson, T. G., & Mancini, V. S. (2017). Mindfulness-based training interventions for employees: A qualitative review of the literature. Human Resource Management Review, 29, 156–178. https://doi.org/10.1016/j.hrmr.2017.03.004

Harker, R., Pigeon, A. M., Klaassen, F., & King, S. (2016). Exploring resilience and mindfulness as preventative factors for psychological distress burnout and secondary traumatic stress among human service professionals. *Work*, 54.3: 631-637.

Hawkes, A. J., & Neale, C. M. (2020). Mindfulness beyond wellbeing: Emotion regulation and team-member exchange in the workplace. *Australian Journal of Psychology*, *72*(1), 20-30.

Hudlicka, E. (2013). Virtual training and coaching of health behavior: example from mindfulness meditation training. *Patient education and counselling*, *92*(2), 160-166.

Joyce, S., Shand, F., Lal, T. J., Mott, B., Bryant, R. A., & Harvey, S. B. (2019). Resilience@ Work mindfulness program: results from a cluster randomized controlled trial with first responders. *Journal of medical Internet research*, *21*(2), e12894.

Kabat-Zinn, J., & Santorelli, S. (1999). Mindfulness-based stress reduction professional training resource manual. *Center for Mindfulness in Medicine, Health Care and Society: Worchester, MA.*

Kaplan, J. B., Bergman, A. L., Christopher, M., Bowen, S., & Hunsinger, M. (2017). Role of resilience in mindfulness training for first responders. *Mindfulness*, *8*(5), 1373-1380.

Kemper, K. J., Mo, X., & Khayat, R. (2015). Are mindfulness and self-compassion associated with sleep and resilience in health professionals?. *The Journal of Alternative and Complementary Medicine*, *21*(8), 496-503.

Krasner, M. S., Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. JAMA: The Journal of the American Medical Association, 302(12), 1284–1293. https://doi.org/10.1001/jama.2009.1384

NICE. (2020). *Using mindfulness to support mental wellbeing at work for children's social care front line practitioners.* https://www.nice.org.uk/sharedlearning/using-mindfulness-to-support-mental-wellbeing-at-work-for-children-s-social-care-front-line-practitioners

Pieper, C., Schröer, S., & Eilerts, A. L. (2019). Evidence of workplace interventions—A systematic review of systematic reviews. *International journal of environmental research and public health*, *16*(19), 3553.

Polizzi, C., Lynn, S. J., & Perry, A. (2020). Stress and coping in the time of COVID-19: pathways to resilience and recovery. *Clinical Neuropsychiatry*, *17*(2).

Porges, S. W. (2009). The polyvagal theory: new insights into adaptive reactions of the autonomic nervous system. *Cleveland Clinic journal of medicine*, *76* (Suppl 2), S86.

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International journal of behavioral medicine*, *15*(3), 194-200.

Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Regular Articles-Prevention of Relapse/Recurrence in Major Depression by Mindfulness-Based Cognitive Therapy. *Journal of consulting and clinical psychology*, *68*(4), 615-623.

Varvogli, L., & Darviri, C. (2011). Stress management techniques: Evidence-based procedures that reduce stress and promote health. *Health science journal*, *5*(2), 74.

Wolever, R. Q., Bobinet, K. J., McCabe, K., Mackenzie, E. R., Fekete, E., Kusnick, C. A., & Baime, M. (2012). Effective and viable mind-body stress reduction in the workplace: A randomized controlled trial. Journal of Occupational Health Psychology, 17(2), 246–258. https://doi.org/10.1037/a0027278

Yıldırım, M., & Solmaz, F. (2020). COVID-19 burnout, COVID-19 stress and resilience: Initial psychometric properties of COVID-19 Burnout Scale. *Death Studies*, 1-9.

Single case study behaviour change intervention

Single case-study intervention using Acceptance and Commitment Therapy for weight-management.

Introduction

Within health psychology there is a substantial body of literature on the subject of weight-management (Lawlor et al., 2020). Studies show that health psychology intervention is vital for the success of weight management and many behaviour change methods can be applied (Lawlor et al., 2020). One of the evidence-based behaviour change approaches to weight management is Hayes' (1982) Acceptance and Commitment Therapy (ACT). ACT is a behavioural model that allows a person to set and achieve health goals based on their core values and has almost thirty-years of evidence-based research across a wealth of mental and physical health conditions (Hayes, Levin, Plumb-Vilardaga, Villatte & Pistorello, 2013). Within the ACT model there are six components that regulate patterns of behaviour depicted in the Hexaflex diagrams, see *Figure 1* and *Figure 2*. They define both psychological inflexibility and psychological flexibility as identifiable pathology, health and treatment.

Psychological inflexibility is seen as a repertoire-narrowing process whereby a person is unable to make changes to their health and wellbeing because of maintaining unhelpful behavioural patterns (Hayes et al., 2013). Psychological flexibility is the aim of ACT and is seen as a repertoire-expanding process where a person is able to be willing to accept a contextual situation, to be aware of their thoughts and feelings in the present moment, and to be open to other opportunities to behave in line with their values (Hayes et al., 2013). Values are defined as a direction in which a person continues to work towards in order to create meaning and purpose in life, for example living a healthy lifestyle, and are never fully complete (Hayes et al., 2013). This is important in health behaviour change because it creates flexibility in which the value is satisfied, as opposed to a goal of "I want to lose 10lbs" and is self-promoting. Goal setting theory as a behaviour change method is considered an effective evidence-based approach (Michie et al., 2013). However, ACT provides further instruction that goals are to be set as milestones towards values in order to fulfil flexible value consistent action for health outcomes such as weight management.

Dominance of conceptualised past and fear of future.

(Continuous worry, rumination and planning).

Experiential avoidance.

(Avoidance of emotions or thoughts by engaging in avoidance strategies like busin or distraction).

Absent or confused values.

(Avoidance, of meaningful life activities and an overreliance on what others or society promotes as important).

Cognitive fusion

(Attachment to internalised beliefs, and difficulty recognising thoughts as the product of the mind).

Inactivity, avoidance and impulsivity.

(Actions are only pursued under certain conditions, procrastination is evident and committed action is not seen as a free choice).

Attachment to the conceptualised self

(Individuals see themselves no more than verbal descriptions and memories rather than a self as perspective in context).

Figure 1. Hexaflex diagram indicating core components of psychological inflexibility bas a psychopathology (Hayes et al., 2013).

Being in the present moment.

(Behaving mindfully and having an awareness of what's going on in the here and now).

Acceptance/Willingness

(A willingness to move towards acceptance of whatever is out of your control and choosing to act mindfully rather than react).

Clarity and contact with values.

(These are different to goals and usually promote pro social behaviours).

Defusion

(Flexibility of thoughts in context, non-attachment to beliefs).

Committed actions based on values.

(Actions are made in line with core values and are flexible with choice and autonomy).

The self as context

(Developing the ability to see the self as an observer. You are not your thoughts and emotions).

Figure 2. Hexaflex diagram indicating core components of psychological flexibility as a health and treatment process (Hayes et al., 2013).

Background

Within my private psychology practice, Mindbody Coaching, I provide private one-to-one interventions over video call to paying clients wanting to change their behaviours to improve health and wellbeing. I am trained in ACT after undertaking a British Psychological Society approved course whereby, I learned the theoretical principles and the practical application in a clinical setting with materials provided. I am now fully self-employed, and my business is my main source of income as well as being my placement for the professional doctorate. Reasons for launching my business are so that I could further my practice as a trainee health psychologist and take on clients within my own parameters and with more flexibility. It is clear on my website and my social media platforms that I am a health psychologist in training. I currently advertise for referrals for new clients within a local business networking group every week. From that I received a referral request for a family member of a person in the networking group who was looking for psychological intervention for weight-management.

Client

A 56-year-old female, hereon referred to by the pseudonym Sam, took part in a paid intervention through my business Mindbody Coaching for six two-hour sessions. The client was informed that I was a trainee health psychologist undertaking a professional doctorate and that my practice adheres to ethical guidelines and codes of conduct by the Health and Care Professions Council and the British Psychological Society (2018).

Assessment

After receiving Sam's details from the referee, I arranged a one-hour consultation call on 27/01/2021 to assess the risk and to assess the case in more depth. See Appendix D1 for risk assessment questionnaires Table 1 for initial consultation questions based on Motivational Interviewing (MI) techniques (Miller, 1983) which include Socratic questioning (Padesky, 1993). This method is chosen as an evidence-based person-centred approach that assists with formulation and therapeutic assessment recommended by The Wiley Encyclopaedia of Health Psychology (Leffingwell, 2020). I pre-screened Sam for suicidal risk, something that is important when working in a therapeutic setting and discussing sensitive issues such as health behaviours. I used the Patient Health Questionnaire (PHQ-9) by Kroenke, Spitzer and Williams (2001) and the General Anxiety Disorder Scale (GAD-7) by Spitzer, Kroenke, Williams and

Löwe (2006) to ensure to pick up on any issues such as anxiety and depression that could potentially surface during our sessions and to refer to her GP if the risk was too high.

On the call I mentioned the BCI competency for my professional doctorate as being something that the client could take part in if she consented. I made it very clear that if she were not to consent to the BCI for the professional doctorate, then the psychological intervention provided by myself would not be impacted. In addition, I explained the data protection protocol for both my business practice and the professional doctorate BCI practice and that I would only speak with my supervisors regarding her case with her approval (see Appendix D2 for the Liverpool John Moores consent form for this study).

Formulation

On the consultation call, I found that Sam's issue of weight-management was within my scope of practice as a trainee health psychologist. As I made notes of her issues and reasons for not being able to manage her weight, she demonstrated all six areas on the Hexaflex model of psychological inflexibility which indicated that she would benefit from an ACT approach (Hayes et al., 2013). See Table 1 for initial formulation based on Socratic Questioning examples of responses and their correspondence to the Hexaflex model. Sam was a highland dancer in her youth and now she could not dance because of her knee injuries. She showed potential cognitive fusion, an attachment to a conceptualised self and a dominance of a conceptualised past in this one reason alone for not being able to manage weight (Hayes et al., 2013). Her inaction, impulsivity with food cravings were evident from her failed attempts to avoid chocolate which were usually influenced by experiential avoidance of comfort eating due to work stress (Hayes et al., 2013). Finally, Sam did not mention healthy living as a value, she simply expressed goal-oriented action of weight-loss which signified to me that she did not have contact with her values (Hayes et al., 2013). From this consultation I was able to see that an ACT approach would be useful and that all six points on the Hexaflex model could be explored in more depth.

Table 1

Initial formulation conducted over the telephone based on Socratic Questioning examples of responses and their correspondence to the Hexaflex model (Hayes et al., 2013).

Question	Example Response	Dominance of past or feared future thinking	Absent or confused values	Inactivity, avoidance or impulsivity	Attachment to a conceptualised self	Cognitive fusion	Experiential avoidance
What are you seeking help with?	*Sam's eldest daughter is getting married in August and she would like help with losing some weight before the wedding. She reports to being "a big cry baby" * and said that she is quite an emotional person**. She is stressed with work and finds it difficult to motivate herself to eat well and exercise***.*		***		**	*	***
What is going on in your life right now?	*It is the last daughter to move out of the family home and she is feeling stress about the transition*. She naps a lot and eats a lot of chocolate through the working day**. Her youngest daughter and husband bring Sam unhealthy food to cheer her up during the day to which she never turns down***.*	*	***	***			**
What behaviour change methods have you tried in the past?	*Sam was a highland dancer in her youth, and she is fixated on ideas of extreme exercise behaviours, which she can no longer do because of her knee injuries*. She also has tried giving up chocolate entirely, but her cravings have been too strong**.*	*	**	**	*	*	*
What are you expecting from my service?	*She would like to know how to get the motivation to exercise and eat well and manage her weight to look good at her daughter's wedding in August 2021*. She is also expecting emotional support and guidance.*		*				

Have you accessed psychological services in the past?	*Sam has received CBT and bereavement counselling when her mother died, and her first daughter was born. She said it helped a great deal and this is why she is wanting to access psychological services again for a different issue, weight management.*
Is your GP aware of your current health status?	*Yes, Sam's GP has been treating her for depression since the above life events and is on medication. He is aware of her knee issues, and she has spoken to them about weight management, but she would prefer to work with someone on a one-to-one basis.*

Note. *, **, *** denotes the potential ACT element corresponding to the text for further exploration. Some quotes are satisfied by more than one element.

Through the basic formulation carried out over the consultation call, Table 1, Sam would benefit from further exploration on all six-components on the ACT Hexaflex model *Figure 1* and *Figure 2* (Hayes et al., 2013). Based on the client's goals and recommended NICE guidelines, the client agreed to six two-hour sessions, bi-weekly, covering a three-month period (NICE, 2021). A six-session intervention would be a feasible and reasonable amount of time to cover all six components in the Hexaflex model (Hayes et al., 2013).

Having spoken with my supervisors about this opportunity, I began to plan a basic structure of six, two-hour sessions covering aspects of ACT and weight-management. I knew that from my BPS approved training in ACT, I need to carry out a more in-depth formulation to expand on the points discussed in Table 1 (Hayes et al., 2013). Furthermore, it is recommended that the in-depth formulation is carried out within the first session of the intervention using the format found in Appendix D3 (Hayes et al., 2004). Reasons for this were to make the intervention participant led and person centred.

Measures

As well as the risk assessment measures of depression (PHQ-9) and anxiety (GAD-7), three additional psychometric measures to capture wellbeing and psychological flexibility towards weight-management, and two biometric measures to capture biological markers of weight-management (Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006). Table 2 provides details on psychometric measures, Table 2 on biometrics, and Appendix D4 for all measures used. The psychometric measures were chosen because of the evidence base reporting good validity and reliability (White et al., 2004; Manwaring, Hilbert, Walden, Bishop & Johnson, 2018; Nonahal, Mohammadkhani, Hasani & Akbari, 2020). Weight and waist circumference measurements were chosen because of their validity and reliability and application in practice recommended by NICE guidelines (2014). The biometrics were taken in real time with instruction by the scales and a flexible tape measure the client owned recommended by NICE (2021). Details of instruction can be found in Appendix D4.

Table 2

Psychometric measures.

Psychometric measure	Description	Frequency	Sample question
The Patient Health Questionnaire (PHQ-9 Kroenke, Spitzer and Williams (2001)	This is a ten-item questionnaire assessing depression and suicidal thoughts. With a possible range of 0-27 scores below 10 indicate none or mild depression and scores above 15 indicate moderately severe depression. Cronbach's α = .81	Taken before the start of the intervention on the consultation call to assess for risk.	*"Over the last two-weeks how often have you been bothered by the following problems: Having little pleasure in doing things? Not at all, several days, most days, every day."*
The General Anxiety Disorder 7 Scale (GAD-7 Spitzer, Kroenke, Williams and Löwe (2006)	This is an eight-item questionnaire investigating general anxiety disorder. With a possible range of 0-21, scores below 10 indicate mild anxiety and above 15 indicates severe anxiety. Cronbach's α = .91	Taken before the start of the intervention on the consultation call to assess for risk.	*"Over the last two-weeks how often have you been bothered by the following problems: feeling anxious, nervous or on edge?"*
The Weight Acceptance Questionnaire (AAQ-W; Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019).	This 16-item questionnaire reveals the degree of psychological flexibility with thoughts and feelings with weight related difficulties. With a range of 16-112, a lower score indicates psychological flexibility with thoughts and feelings weight related difficulties. Cronbach's α = .92	Taken at the beginning of every session week 1-5.	*"Over the past two weeks please rate the following statements. I am not in control of what I eat. 1 = never true to 7 = always true."*
The Food Acceptance Questionnaire (FAAQ; Juarascio, Forman, Timko, Butryn, & Goodwin, 2011).	This ten-item questionnaire reveals the degree of psychological flexibility with thoughts and feelings with food and eating. With a range of 10-50, a higher score indicates psychological flexibility with thoughts and feelings around food and eating. Cronbach's α = .96	Taken at the beginning of every session week 1-5.	*"Over the past two-weeks please rate the following statements: I need to concentrate on getting rid of my urges to eat unhealthily. 1 = never true to 7 = always true."*
The Satisfaction with Life Scale (SWL; Diener, Emmons, Larsen & Griffin, 1985).	This five-item questionnaire indicates the level of satisfaction with life. With a range of 5-35, a score above 26 suggests satisfaction with life. Cronbach's α = .79 to .89	Taken at the beginning of every session week 1-5.	*"Please indicate your response to the following: I am satisfied with my life. 1 = strongly disagree to 7 = strongly agree."*

Table 3

Biometric measures

Biometric measure	Description	Frequency
1. Weight in St. and lb.	This measurement was taken by manual scales at the beginning of each session as recommended by NICE guidelines (NICE, 2021). They showed the weight of the client in stones and pounds.	Taken at the beginning of every session week 1-5.
2. Waist circumference measurement in inches.	This measurement was taken at the first session and last by a flexible tape measure around the waist to show total inch circumference.	Taken only at the beginning of week 1 and week 5.

Theoretical approach

Acceptance and Commitment Therapy

Hayes (1982) identified a pathway linking behaviour change to psychological flexibility through Relational Frame Theory (RFT) and set out to create a user-friendly model that would give clear guidance in a clinical setting (Hayes et al., 2013). The clinical importance of RFT is that learning to relate events, experiences in life and their subjective cues are at the core of human language and cognition (Hayes et al., 2013). Neurobiological and RFT research highlights that these relational skills are operant and impact all behavioural processes, such as metaphorical reasoning, lexical recognition, sense of self and implicit cognition (Hayes et al., 2013). Similar to learning, Hayes' (2013) reports that once the link occurs between relational context, what a person thinks, and the functional context, the psychological impact of what a person thinks, it can never fully be unlearned. In the example of a person who learns over multiple experiences *"I can't lose weight no matter how hard I try"*, their behaviours around the many arbitrary stimuli within the relational frame will remain. This gives explanation as to why it is difficult to restructure cognitive networks and schemas and permanently change behaviour (Hayes et al., 2013). Within ACT it is the functional context that regulates the impact of behavioural response through the six core components described in *Figure 1* and *Figure 2*. Each element has corresponded activities and their relevance to health behaviours in Table 4, details of the activities and the order in which they were delivered can be found in Appendix D5 including session plans and session materials, mindfulness scripts and handouts.

Table 4

ACT Hexaflex treatment components and practical activity example and description and relevance to health behaviours.

ACT component	Activity	Description	Relevance to health behaviours
Present-moment awareness	Leaves on a stream mindfulness practice	This is a ten-twenty-minute mindfulness practice that encourages focus on guided imagery of leaves flowing along a stream from Harris's ACT Made Simple (2009). The participant is asked to imagine their thoughts and feelings are the leaves and as they appear they notice them and let the go.	Mindfulness has been shown to impact weight-management by mediating stress. Stress has been shown to increase problematic eating behaviours like binge and emotional eating. Mindfulness can help manage food cravings and urges (Yu, Song, Zhang & Wei, 2020).
Contact with values	Forty common values	This is a forty-item questionnaire, from Harris's (2010) The Confidence Gap: From Fear to Freedom, where the participant is asked to rate each value statement with V for very important, Q for quite important and N for not important. This allows the participant to explore their deepest desires and pro-social beliefs and assess any discord between these and their actions, which is sometimes the cause of resistance to change.	Spending time with family may be a value which could be actioned by eating out at restaurants most nights of the week. This can sabotage healthy eating behaviours for weight-management.
Committed action towards values	Compass metaphor and SMART goals	The compass metaphor is adapted from Harris's ACT Made Simple (2009) and uses imagery and symbols to allow the participant to distinguish between means-based goals and value consistent action. SMART goals are used with value consistent action and are set by the participant at the end of each session to complete by the beginning of the following session (Harris, 2009).	Using the SMART framework and incorporating values with goals is more likely to succeed. In the example of someone who values family time, "*I will lose 1lb per week for 10-weeks measured by the scales because I value spending time with my family and losing this weight means I can run around and play with my grandchildren for longer without feeling breathless*".
Self-as-context	The observer mindfulness practice	Self-as-context is promoted throughout all the activities in ACT when the practitioner consistently reminds the participant to reframe language when talking about thoughts and feelings as "I'm having the thought that…" or "I'm noticing that I'm having the urge to...". The observer mindfulness practice from Harris's ACT Made Simple (2009) is an activity focused on allowing the participant to see the difference between thoughts, feelings, urges, cravings, sensations and memories and the part of the self that is always observing without judgement and without effect from external and	Seeing the self as contextual with many options of behaving in the present moment, contrary to thoughts and feelings of resistance, can help a person recognise and respond with the desired response in line with their vales. For example, acting impulsively on thoughts and feelings to skip exercise and satisfy food cravings can be a barrier to weight-management (Yu, Song, Zhang & Wei, 2020).

		internal experiences. It asks the participant to imagine their thoughts and feelings on a stage and notice the part of them that is observing.	
Cognitive defusion	Passengers on a bus metaphor activity	This metaphor by Hayes, Strosahl and Wilson's Acceptance and Commitment Therapy: An Experiential Approach to Behaviour Change (1999) uses the symbols of passengers on a bus to represent the participant's thoughts, feelings, cravings, urges and memories. The participant imagines driving the bus, which represents their inner experiences, and is encouraged to recognise that when caught up in arguments with loud, annoying or persuasive passengers the bus will either stop or veer off path. The participants practice behaving like a good bus driver by dealing with each of the individual passengers in a professional manner, for example, not to ignore, retaliate or bargain.	Types of 'passengers' on the bus include obstacles, *"I won't have enough time to go to the gym",* judgements "*I don't think that I'm slim or strong enough to go to the gym",* comparisons "*Other people lose weight easier than me",* predictions or projections of failure or other negative outcomes "*I just don't believe that healthy eating is going to make a difference".* All other inner experiences are 'passengers' too like food cravings, feelings of hopelessness and fear which can also cause resistance to change.
Willingness towards acceptance	Case formulation and creative hopelessness	Acceptance can be a difficult word for some people to digest since it has connotations of condoning wrong doings and surrender. However, through case formulation and creative hopelessness, an activity that involved the participant describing everything they have done to try and solve the issue by avoidance, control or elimination, the participant should then start to pivot towards a willingness to accept the context of the situation that is causing frustration or pain and move towards value consistent action. This element develops throughout the course of the intervention throughout all the other components and is participant led.	Willingness to accept that health behaviours like exercise and nutrition are difficult and take a consistent effort to maintain. Sometimes thoughts and feelings will not match actions and behaviour. Continuing regardless of mental resistance is key to achieving health goals in line with values.

Note. Most ACT recommended activities work on multiple elements in the Hexaflex model and there are many different activities for each component.

Intervention

Session 1

Session one began with some brief information about ACT and the client agreed to continue after I read out a statement on informed consent in Appendix D2. We then reviewed the risk assessment that we carried out over the phone to check if it was all still correct having filled it out three-weeks before the first session found in Appendix D1. All five psychometrics (GAD-7, PHQ-9, SWL, AAQ-W and FAAQ) and both biometric measures (weight and waist circumference) were taken found in Appendix D4 (Diener, Emmons, Larsen & Griffin, 1985; Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006; Juarascio, Forman, Timko, Butryn, & Goodwin, 2011; Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019). Reasons for only taking waist circumference at week-one and week-six are that the margins of change are small, taking it every session with only a few millimetres of progress may be discouraging. Similarly, I only took the PHQ-9 and the GAD-7 at week-one and week-six because the first measure was intended as a risk assessment, and the final was to compare the difference from initial assessment (Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006). Also, I did not want to take five measures at the beginning of every session because it would take up a lot of time and I was primarily interested in seeing the fluctuations of the SWL, AAQ-W and FAAQ measures throughout the process (Diener, Emmons, Larsen & Griffin, 1985; Juarascio, Forman, Timko, Butryn, Goodwin, 2011; Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019).

Appendix D5 gives a full breakdown of activities delivered within the weekly session plans and ACT mindfulness scripts. We then completed the in-depth formulation detailed in Appendix D3. Following this I delivered a compassion-focused mindfulness activity because of its mediating effect on weight-management and in order to provide some distance from the issues discussed in the length formulation process (Mantzios & Wilson, 2014; Mantzios & Egan, 2017). This was to practice present moment awareness, which is an element on the treatment pathway Hexaflex in *Figure 2*, after speaking at length about emotional and behavioural issues (Hayes et al., 2013). To finish, we set a behavioural commitment SMART goal to complete between sessions. SMART is an acronym for an evidence-based goal setting technique which stands for specific, measurable, achievable, realistic and time bound (Doran, 1981; Silberman, Kaur, Sletteland & Venkatesan, 2020). For the weekly behavioural commitment SMART goals set see Table 5.

Session 2

I started with a brief introduction and then instructed the single biometric measure of weight since waist circumference would only be measured at week-six with the participant's electric scales they had at home as I recorded the entry. The measures were followed by a review of the SMART action set at the end of the previous meeting. The participant started to feel motivated and met the first SMART goal she set herself with ease, see Table 5. To provide a break from paperwork and talking, I then delivered a ten-minute chair-based mindful movement exercise taking into account Sam's PAR-Q risk assessment found in Appendix D1. We then covered a brief introduction to values, reason being that I wanted to focus the final two sessions on value consistent action, however, I felt that it would be beneficial for Sam to have a foundational understanding of the concept as we work towards her goals. After this was complete, we spent more time going over case formulation and ended with a three-minute mindfulness activity, 'Dropping Anchor' (Harris, 2009), before finally setting a new SMART goal for the next two weeks.

Session 3

This session started with the usual introduction and the single biometric measure of weight, and three psychometric measures of followed by a review of the SMART goal. Sam reported to have achieved the SMART goal set in the previous session and it has improved her eating behaviours in the family environment. We then completed another mindful movement activity followed by more case formulation using the ACT Matrix worksheet and the main activity of the session which was the 'passengers on the bus' metaphor detailed in the session plan. To end the session, I delivered the 'Leaves on the Stream' (Harris, 2009) mindfulness activity and we set a behavioural commitment SMART goal for the following two-weeks.

Session 4

I began this session by taking the single biometric of weight and the three psychometric measures after a brief introduction to the sessions aims and objectives, followed by a review of the SMART action set from the previous meeting. Sam had not fully achieved her SMART goal she set at the end of the previous session, found in Table 5, so we reassessed the goal by breaking it down into a smaller goal which is recommended in this circumstance (Mann, De Ridder & Fujita, 2013). The client had already lost 7lbs in 6 weeks which was more than her target of 1lb per week, but it was still in a healthy range, so I wasn't concerned. This week I

delivered the ‘Holding it Lightly’ mindfulness activity and explored cognitive fusion versus defusion. This was followed by ‘The Observer’ mindfulness activity (Harris, 2009). The theme of this session was to promote openness and awareness and to help Sam recognise and distance her actions from thoughts and feelings, particularly food urges and resistance to exercise (Hayes, 2013; Yu, Song, Zhang & Wei, 2020). To finish the session, we ended with setting a behavioural commitment for the following two-weeks.

Session 5

This session started with a brief introduction to the aims and objections followed by the single biometric and the three psychometric measures and a review of the SMART action set from the last session. Sam had achieved her SMART goal set from the previous session and was feeling motivated. We completed a brief grounding exercise to practice contact with the present moment. The theme of the final two sessions is to promote value consistent action. In order to fulfil this, we revisited values covered in session two. This was followed by a mindfulness neurosensory exercise, found in Appendix D5, to encourage interoceptive awareness and emotional regulation. Lack of interoceptive awareness and emotional regulation has been linked to eating disorders such as anorexia and obesity (Lattimore, et al., 2017; Willem et al., 2019). We finished the session by setting a SMART goal.

Session 6

The final session today began with an introduction to the session and by taking all five psychometrics as well as final biometrics of both weight and waist circumference. We reviewed the SMART action from the previous session. Today we recapped on important learning points throughout the intervention including a different metaphor for ‘Passengers on the Bus’. It’s known as the ‘Unwelcome Party Guest’, and it reinforces learning from all points on the Hexaflex model. The session ended with a full debrief of the BCI and Sam was thanked for her engagement and participation in the study.

Table 5

SMART goals set at the end of each session to be complete within the two-weeks between sessions and reviewed at the beginning of the following session.

Session	SMART goal
1	I will walk three times per week for thirty-minutes on my lunch break for two-weeks in order to introduce gentle exercise behaviours and reduce work stress for weight-management. This will be recorded by my Apple Watch.
2	I will talk with my family in the next two-weeks about encouraging me to eat healthy during the working day instead of bringing sweet treats. I will discuss the outcome with Alex on my next session.
3	I will start to record my daily food intake for the next two-weeks by using the My Fitness Pal app in order to track weight-management goals with accuracy and aim to lose 1lb per week for the next twenty-weeks before my daughter's wedding.
4	I will only input breakfasts into the My Fitness Pal app in order to develop an awareness of my food intake working towards the goal of losing 1lb per week for twenty-weeks for my daughter's wedding.
5	I will only input lunch into the My Fitness Pal app in order to develop an awareness of my food intake working towards the goal of losing 1lb per week for twenty-weeks for my daughter's wedding.
6	I will only input my evening meal into the My Fitness Pal app in order to develop an awareness of my food intake working towards the goal of losing 1lb per week for twenty-weeks for my daughter's wedding. I will also read the FITT principle worksheet for recommended exercise using my new elliptical exercise machine in order to exercise safely and aid weight-management.

Evaluation

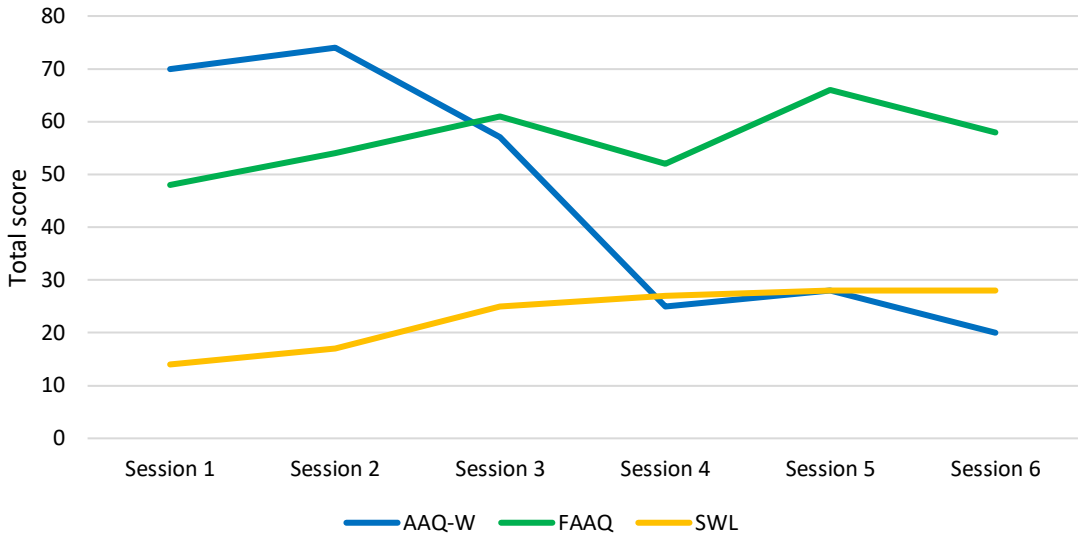
The aim of the one-to-one BCI was to help an individual client with weight-management behaviours using an evidence-based ACT approach. Three psychometric measures were taken every week, see *Figure 3*, and two biometric measures were taken at week-one and week-6, see Table 6. Starting with the AAQ-W, at baseline Sam scored with a total score of 70 (possible range 6-112) which indicates low levels of psychological flexibility around weight-management behaviours (Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019). At the beginning of week-two Sam's scores increased slightly scoring 74 out of a possible 112, which indicated an effect towards psychological rigidity or that one two-hour session was not enough to impact scores over two-weeks from the baseline. However, in session three at week-four from baseline Sam's scores decreased towards the target of psychological flexibility with a lower score of 57. This could indicate that the intervention had taken effect between session two and three or that it takes four-weeks from baseline for ACT

to impact psychological flexibility towards weight-management. This decrease was continued towards the following session four at week-six with a score of 25 with a slight increase at session fix at week-eight with a score of 28 dropping to the lowest score of 20 on the final session at week-ten. The difference from baseline from session one, 74, to session six, 20, indicates a positive result for the ACT weight-management intervention.

Sam scored a 48 at baseline on the FAAQ (possible range 7-70) with a higher score indicating a positive result for food related psychological flexibility (Juarascio, Forman, Timko, Butryn, & Goodwin, 2011). From baseline to session two at week-two there was an increase to 54 followed by a further increase session three at week four, 61. At session four week six there was a decrease in score, 52, indicating a negative result which could have been impacted by external influences. However, at session five there was an increase to a score of 66 dropping again the following session six with a score of 58. From the baseline score of 48 there was an increase to 58 by session six. This suggests that Sam had increased her psychological flexibility around food and eating behaviours for weight-management.

Finally, the SWL score was 14 at baseline indicating the lowest cut off point of dissatisfaction with life (possible range 5-35) (Diener, Emmons, Larsen & Griffin, 1985). At session two Sam's scores improved to 17 indicating a slightly below average dissatisfaction with life within the second from bottom cut off point range. From session three onwards Sam's scores indicated a high satisfaction with life in the range of 25 -35 with a steady increase every session scoring highest of 28 at session six. Sam's scores from baseline, 14, to session-six, 28, indicate a positive result in satisfaction with life going from the lowest cut off point range of dissatisfied with life to highly satisfied with life (Diener, Emmons, Larsen & Griffin, 1985).

Figure 1: Changes in psychometric measures over the six session weight-management intervention



For the biometric measurements, Sam lost 11lbs in body weight overall and reduced her waist circumference by 1.2 inches. By the NHS guidance used, she was still in a high-risk category of developing obesity related disease such as type II diabetes and heart disease (NICE 2021). However, it was a positive result and, with the behaviours learned during the intervention, she can continue to progressively work towards lowering the risk.

Table 6

Outcome measures pre-post weight in St. and lb. and waist circumference in cm.

Measurement	Pre	Post
Weight in St. and lb.	14st 5lb	13st 8lb
Waist circumference in inches.	41.5 inches	40.3 inches

Sam agreed to write a testimonial detailing her experiences of the intervention and the service provided. This can be found in Appendix D6. She highlighted a particular activity she enjoyed that helped her with her weight-management and stress reducing behaviours, Passengers on the Bus. She also stated that the mindfulness activities

> *"It left me with a sense of wellbeing and in a much more relaxed state then when we started the sessions a few months ago"*

which could reflect the scores from the psychometrics indicating she is no longer struggling against unworkable weight-management behaviours which were causing stress and anxiety. The scores on the biometrics indicating a noticeable weight-loss could also have contributed and also be a factor that perpetuates this newfound sense of wellbeing. She reported being happy with the service and said,

> *"I would have no hesitation in recommending you to friends, family, colleagues or indeed anyone in the business world that I become aware of needing such services, you truly are amazing in this role and will, I know, help so many people in the years ahead."*

Limitations

It appears that the ACT approach to weight-management in this case was effective for the client's needs. However, there could have been changes to the methods used to capture the impact. For example, I did not take a pre and post intervention measurement of PHQ-9 and GAD-7 scores because they were simply used as a risk assessment (Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006). Taking these measures again at week-six could have provided more of an insight into the changes from baseline scores compared to the AAQ-W, FAAQ and SWL (Diener, Emmons, Larsen & Griffin, 1985; Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006; Juarascio, Forman, Timko, Butryn, & Goodwin, 2011; Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019). Perhaps there could have been a statistical analysis performed on this data to explore the relationship between the different measurements.

Conclusion

The ACT weight-management intervention was a success, the client was satisfied, and I developed my practice along the way. In future I will replicate this person-centred approach to weight-management and will take a post intervention measure of the GAD-7 and the PHQ-9 and explore the relationship between depression, anxiety, and psychological flexibility (Kroenke, Spitzer & Williams, 2001; Spitzer, Kroenke, Williams & Löwe, 2006).

References

DiLillo, V., & West, D. S. (2011). Motivational interviewing for weight loss. *Psychiatric Clinics*, *34*(4), 861-869.

Hayes, S. C., Levin, M. E., Plumb-Vilardaga, J., Villatte, J. L., & Pistorello, J. (2013). Acceptance and commitment therapy and contextual behavioral science: examining the progress of a distinctive model of behavioral and cognitive therapy. *Behavior therapy*, *44*(2), 180–198. https://doi.org/10.1016/j.beth.2009.08.002.

Hayes, S. C., Strosahl, K. D., Luoma, J., Smith, A. A., & Wilson, K. G. (2004). ACT case formulation. In *A practical guide to acceptance and commitment therapy* (pp. 59-73). Springer, Boston, MA.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine*, *16*(9), 606-613.

Lattimore, P., Mead, B. R., Irwin, L., Grice, L., Carson, R., & Malinowski, P. (2017). 'I can't accept that feeling': Relationships between interoceptive awareness, mindfulness and eating disorder symptoms in females with, and at-risk of an eating disorder. *Psychiatry research*, *247*, 163-171.

Lawlor, E. R., Islam, N., Bates, S., Griffin, S. J., Hill, A. J., Hughes, C. A., ... & Ahern, A. L. (2020). Third-wave cognitive behaviour therapies for weight management: A systematic review and network meta-analysis. *Obesity Reviews*, *21*(7), e13013.

Leffingwell, T. R. (2020). Motivational Interviewing. *The Wiley Encyclopedia of Health Psychology*, 265-272.

Mann, T., De Ridder, D., & Fujita, K. (2013). Self-regulation of health behavior: social psychological approaches to goal setting and goal striving. *Health Psychology*, *32*(5), 487.

Mantzios, M., & Egan, H. H. (2017). On the role of self-compassion and self-kindness in weight regulation and health behavior change. *Frontiers in psychology*, *8*, 229.

Mantzios, M., & Wilson, J. C. (2014). Making concrete construals mindful: a novel approach for developing mindfulness and self-compassion to assist weight loss. *Psychology & health*, *29*(4), 422-441.

Manwaring, J., Hilbert, A., Walden, K., Bishop, E. R., & Johnson, C. (2018). Validation of the acceptance and action questionnaire for weight-related difficulties in an eating disorder population. *Journal of Contextual Behavioral Science*, *7*, 1-7.

Michie S, Richardson M, Johnston M, Abraham C, Francis J, Hardeman W, Eccles MP, Cane J, Wood CE. The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. Ann Behav Med. 2013 Aug;46(1):81-95. doi: 10.1007/s12160-013-9486-6. PMID: 23512568.

Miller, W. R. (1983). Motivational interviewing with problem drinkers. *Behavioural and Cognitive Psychotherapy*, *11*(2), 147-172.

NICE, 2021. *Weight management: lifestyle services for overweight or obese adults*.

NICE. 2014. *Obesity: identification, assessment and management.* Available from: www.nice.org.uk/guidance/CG189.

Nonahal, S., Mohammadkhani, S., Hasani, J., & Akbari, M. (2020). Psychometric Properties of the Persian Version of the Food Craving Acceptance and Action Questionnaire (FAAQ) in Population Engaging in Weight Loss. *Quarterly of Educational Measurement*, *10*(39), 153-171.

Padesky, C. A. (1993, September). Socratic questioning: Changing minds or guiding discovery. In *A keynote address delivered at the European Congress of Behavioural and Cognitive Therapies, London* (Vol. 24).

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, *166*(10), 1092-1097.

White, M. A., Martin, P. D., Newton, R. L., Walden, H. M., York-Crowe, E. E., Gordon, S. T., ... & Williamson, D. A. (2004). Mediators of weight loss in a family-based intervention presented over the internet. *Obesity research*, *12*(7), 1050-1059.

Willem, C., Gandolphe, M. C., Roussel, M., Verkindt, H., Pattou, F., & Nandrino, J. L. (2019). Difficulties in emotion regulation and deficits in interoceptive awareness in moderate and severe obesity. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *24*(4), 633-644.

Yu, J., Song, P., Zhang, Y., & Wei, Z. (2020). Effects of mindfulness-based intervention on the treatment of problematic eating behaviors: a systematic review. *The Journal of Alternative and Complementary Medicine*, *26*(8), 666-679.

Zhang, C. Q., Leeming, E., Smith, P., Chung, P. K., Hagger, M. S., & Hayes, S. C. (2018). Acceptance and commitment therapy for health behavior change: a contextually driven approach. *Frontiers in psychology*, *8*, 2350.

CHAPTER 4: RESEARCH

Introduction

The research competency comprises of three pieces of health psychology research, the systematic review research article, quantitative paper, and qualitative article, including a reflective research commentary. The three research pieces have been formatted and submitted for publication in their respective, proposed journals.

The systematic review which explored Acceptance and Commitment Therapy (ACT) interventions on patients with coronary heart disease (CHD), was formatted for publication in *Current Psychology*. This journal was chosen to reflect the aims of the systematic review in that it is cutting edge empirical health psychology research that provides up to date insight into the use of ACT psychological interventions to improve health and quality of life for people with CHD. This journal requires APA style with size 10 Times New Roman font, double spaced, containing no more than 10000 words, not including the reference list. There must be no more than four tables and three and figures, and no more than 45 references. It also specifies that there are no more than 500 words per table or figure and a title page outlining declarations and ethical approval with up to four-to-six key words and between 150 and 250 words for a structured abstract.

The quantitative research examined the effects of illness perception and psychological flexibility on eating behaviours on people with CHD and the impact of participant illness identity on the outcomes through a one-off online psychological intervention using ACT and Illness Perceptions as a framework, the *Mind your Heart* study. This paper was formatted for *Applied Psychology: Health and Well-being*, which is one of the two outlet journals of the *International Journal of Applied Psychology*. This journal was chosen because of the particular interest in empirical intervention studies in the domain of health psychology, and recent published articles reflecting aims of psychological intervention to improve psychological and physical health for people with a long-term health condition. The format is APA style, no more than 30 pages, with an unstructured abstract 150-200 words long, a data availability statement and six key words on the title page. Appendices are not permitted for this journal and therefore

all appendices E1 to E9 are included for the purposes of the portfolio only and will not be submitted with the manuscript.

The qualitative research investigated the experiences of participants that took part in the *Mind your Heart* online psychological intervention to recommend future practice. It provided insight into the psychological adjustment process post MI and recommendations for improved health psychology intervention around themes of *control, positive psychological change, behaviour change* and *webinar feedback*. The *Health Psychology Open* journal was chosen to reflect recent qualitative published articles and to showcase the contribution to health psychology practice. Included are five-to-ten keywords with a structured abstract limited to 150 words with the full article having no word limit, with Sage Harvard referencing style. Appendices are not permitted for this journal and therefore appendix F1 and F2 are included for the purposes of the portfolio only and will not be submitted with the manuscript.

Systematic Review

A Systematic Review Exploring Acceptance and Commitment Therapy Interventions for Adults with Coronary Heart Disease.

Alex Robson[1] orcid.org/0000-0002-1287-507X [*], **Dr Mark J. Forshaw**[1] orcid.org/0000-0001-8916-1633, **Dr Tara Kidd**[1] orcid.org/0000-0002-8307-5221

[1]Liverpool John Moores University, School of Psychology, Faculty of Health
Tom Reilly Building Byrom Street, Liverpool, L3 3AF, UK

*** Correspondence:**
Alex Robson
a.robson@2018.ljmu.ac.uk

Abstract

Background and objectives: A systematic review was conducted to explore Acceptance and Commitment Therapy (ACT) interventions on coronary heart disease (CHD) patients and the efficacy of the interventions on psychological and behavioural outcomes. **Design and methods:** Eight databases, including APA PsycInfo, PubMed, BMJ Journals, Science Direct, Web of Science, CINAHL, Sage Journals and Medline and grey literature, were searched for appropriate studies. Of the 1746 articles, 462 of which were duplicates, 1284 were assessed by title and abstract. 1277 papers were excluded by the study design, population, intervention and language which left a final eight papers included in the review. A total of 371 patients aged 30-75 years with a range of CHD medical history were encompassed in the systematic review. **Results:** The review highlights that there is a moderate risk of bias in the studies and there is a strong focus on psychological outcomes with only one study exploring health behavioural outcomes. Studies reported psychological wellbeing outcomes were successful, but for state-trait anger and hostility Emotional Freedom Therapy was considered more efficacious than ACT. Finally, behavioural outcomes were successful in relation to diet, exercise medication adherence and self-assessment of weight and swelling, however further research is needed. **Conclusions**: Use of ACT with CHD patients is promising for psychological outcomes, but more quality UK based research is needed to assess behavioural health outcomes.

Keywords: Acceptance and Commitment Therapy, Coronary Heart Disease, Psychological, Health Behaviours, Systematic Review.

Declarations

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors did not receive support from any organization for the submitted work. This is a systematic review study.

The Liverpool John Moors University Research Ethics Committee has confirmed that no ethical approval is required.

Introduction

Health psychology practice involves designing and delivering interventions targeted at psychological and behavioural outcomes for those living with health conditions such as Coronary Heart Disease (CHD) (Kreikebaum et al., 2011). Specific behavioural outcomes that impact health in patients with CHD are medication adherence (Silavanich et al., 2019), healthcare usage (Poole et al., 2015), and lifestyle factors (Giannuzzi et al., 2005). Furthermore, psychological factors such as perceived stress, depression and anxiety, have been shown to impact health behaviours required to reduce the risk of a secondary cardiac event and poor quality of life when living with CHD (Yildiz, 2020) . Fortunately, psychological, behavioural and lifestyle risk factors are modifiable, and health psychology interventions have the potential to significantly reduce the risk of secondary cardiac events and premature death and improve quality of life in CHD patients (Giannuzzi et al., 2005).

Cognitive behavioural therapy (CBT) has been the gold standard of psychological intervention for improving depression, stress and anxiety in CHD patients (Lorig et al., 2006). A systematic review on CBT for a range of physical health conditions (Cuijpers et al., 2008) highlighted that the majority of studies measure only psychological outcomes, such as stress anxiety and depression, with less emphasis on behavioural outcomes. Within the review, there was just one study that looked at health-related behavioural outcomes in patients with heart and lung diseases and type 2 diabetes (Lorig et al., 2006). Lorig et al. (2006) measured seven health status variables, pain, shortness of breath, illness intrusiveness, health distress, disability and self-reported global health; four health behaviour outcomes, aerobic exercise, strengthening exercise, stress management, communication with physicians; three utilisation variables such as physician visits, emergency room visits, and nights stayed in hospital; and self-efficacy. They found that after one-year, patients on the internet based Chronic Disease Self-Management Programme had significant improvements in health statuses compared to the control group and change in self-efficacy was found to be associated with better health status outcomes (Lorig et al., 2006). Therefore, the literature does support use of psychological intervention with CHD patients for behavioural and lifestyle outcomes but is still limited in quantity compared to studies measuring for psychological outcomes only and because behaviours are modifiable it would be a beneficial to investigate.

Built on the CBT framework, Acceptance and Commitment Therapy (ACT) is considered by some to be the "third-wave" of behavioural based psychological therapy which places less emphasis on attempting to change cognitions around behaviour with more focus on contextually flexible action in line with values (Gloster et al., 2020; Hayes et al., 2012). The ACT framework accounts for the limitations of CBT, in that, attempts to change a person's negative thoughts, or cognitions, into something positive or beneficial may not be appropriate in all contexts. This is particularly relevant in those living with a long-term or chronic health condition where a the health issue is permanent and inevitable progressive degeneration is a constant and unwanted challenge (Hayes et al., 2012). To expand, according to ACT, all thoughts, feelings behaviours, are neither negative or positive they are seen as workable or unworkable in specific context (Zhang et al., 2018). Moreover, the limiting underlying mechanism of CBT practice is the action of attempting to control, eliminate or avoid unwanted thoughts and

experiences (Hayes et al., 2012; Zhang et al., 2018). This is known as experiential avoidance under the ACT framework and is accounted for by the psychological flexibility model (Hayes et al., 2012; Zhang et al., 2018).

Psychological flexibility is outlined by six core components, present moment awareness, contact with values, value consistent action, understanding the self as context, cognitive defusion and a willingness to accept events or situations (Hayes et al., 2012). It is the goal to work towards psychological flexibility for stress management, improved mental health outcomes, consistently actioned health behaviours and better quality of life (Hayes et al., 2012; Zhang et al., 2018). Equally, the opposite of the six core components of psychological flexibility is outlined within the model as psychological rigidity whereby the individual may display experiential avoidance as the opposite of willingness to accept the contextual situation, dominance of conceptualised past or fear of future, attachment to a ridged or outdated conceptualised identity and sense of self, cognitive fusion to thoughts, feelings and behaviours that do not result in the desired workable outcome, and inactivity, avoidance or impulsivity towards the unworkable situation (Hayes et al., 2012; Zhang et al., 2018). Psychological rigidity is used to identify a treatment process for the individual on areas they demonstrate (Hayes et al., 2012; Zhang et al., 2018). The six core components within the ACT Hexaflex model are detailed in Table 3.

In a systematic review by Gloster et al. (2020), results showed that ACT is efficacious for a populations with a broad range of target conditions such as anxiety, depression, substance use, chronic pain and transdiagnostic groups and was superior when compared to inactive controls and active intervention conditions such as CBT. A systematic review by Graham et al. (2016), they explored the use of ACT with chronic conditions which contained only one study, which was a pilot, on a cardiac population with diabetes by Goodwin et al. (2012) which measures behavioural outcomes such as diet, weight, mindfulness, defusion, values, and psychological flexibility. The group ACT reported significant results across all measures at post intervention. Similarly, a systematic review by (Yildiz, 2020) assessed the use of ACT and lifestyle and behavioural changes and found 30 randomised control-trial studies but there were no ACT interventions that targeted patients with CHD. Lifestyle and behavioural outcomes such as smoking, alcohol, physical activity and being overweight, are evidenced to impact the development and management in CHD (Byrne et al., 2019; Gifford et al., 2004; Ivanova et al., 2015). Graham et al. (2016), Goodwin et al. (2012), and Yildiz (2020) concluded that, although the literature surrounding ACT and lifestyle behavioural changes is promising, there is a need to assess intervention programmes specifically targeted at the needs of separate clinical populations, including heart disease.

Based on suggestions from the literature (Gloster et al., 2020; Goodwin et al., 2012; Graham et al., 2016; Kreikebaum et al., 2011; Lorig et al., 2006; Yildiz, 2020), the current research aims to investigate the use of ACT in patients with CHD for psychological outcomes such as psychological flexibility, depression, stress and anxiety; and behavioural outcomes including sleep, diet, physical activity, smoking cessation, alcohol management; and clinical behavioural outcomes such healthcare usage, medication adherence, cardiac rehabilitation commitment, as to assess the quality, compare interventions and highlight future direction for research and improve health psychology practice with patients with CHD.

Objectives

Review question

The following research questions were set out to fulfil the aims of the study:

1. What is the efficacy of ACT interventions with CHD patients based on:
    a. psychological outcomes such as psychological flexibility, stress, anxiety, depression, quality of life,
    b. lifestyle behavioural outcomes such as sleep, diet, physical activity, smoking, alcohol, substance abuse, self-care, stress management,
    c. clinical behavioural outcomes such as healthcare usage, medication adherence and cardiac rehabilitation commitment.

Study design

To formulate and clarify the search terms, the PICO method was implemented for this systematic review, see Table 1 for more information (Higgins et al., 2011).

Table 1

PICO method including study design used to identify search terms.

PICO	Research question
Population	People with CHD including heart failure, myocardial infarction, and coronary artery bypass surgery patients.
Intervention	Acceptance and Commitment Therapy (ACT) or Acceptance Based Behaviour Therapy
Comparisons	Control, comparison, or none
Outcome	A change in psychological, lifestyle behavioural, clinical behavioural outcome measures such as diet, exercise, sleep, substance abuse, smoking, medication adherence, healthcare usage, cardiac rehabilitation, self-care, stress, anxiety, depression, psychological flexibility and quality of life.
Study design	Randomised control trial (RCT), quasi-experimental and pilot quantitative.

Methods

Protocol

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati et al., 2009).

Eligibility criteria

With reference to Table 1, ACT interventions conducted with individuals with CHD were eligible for inclusion into the systematic review. Databases using the English Language were searched from 1996 to February 2022 which included both published and unpublished literature.

Inclusion criteria

1. Journal articles published in the English Language.
2. Adults aged over 18 years old.
3. Cardiac patients with coronary heart disease, a history of myocardial infarction and or coronary artery bypass surgery.
4. Acceptance and Commitment Therapy (ACT) and Acceptance Based Behavioural Therapy (ACBT).
5. Health behavioural and mental health outcomes such as diet, exercise, medication adherence, healthcare usage, self-care, stress, anxiety, depression and quality of life.

Exclusion criteria

1. Single use of Cognitive Behavioural Therapy (CBT) or any other form of psychological intervention that is not specifically outlined as ACT.
2. Studies that are focused on wider cardiovascular health populations and comorbidities such as stroke, pulmonary disease and hypertension and Type 2 diabetes.

Databases

Electronic databases were searched including APA PsycInfo, PubMed, BMJ Journals, Science Direct, Web of Science, CINAHL, Sage Journals and Medline. Grey literature were searched for English Language journal articles between 01.06.2021 and 31.01.2022. A backward search through reference lists of relevant and included papers was also performed and known authors were contacted to provide details of further potential articles as suggested for searching strategy best practice (Forshaw et al., 2018).

Search terms

Below are the search terms used across all databases:

"Acceptance and commitment therapy" OR "Acceptance based behavioural therapy" AND "coronary" OR "cardiac" OR "ischemia" OR "heart" OR "coronary artery disease" OR "heart disease" OR "myocardial infarction" OR "heart attack" OR "heart failure" OR "cardiac patients" OR "heart disease patients" OR "heart failure patients" OR "cardiac rehabilitation" OR "angioplasty" "percutaneous coronary intervention" OR "coronary artery bypass graft" OR " heart surgery" OR "angina" AND "health behaviours" OR "behavioural intervention" OR "randomised control trial" OR "psychological intervention" OR "physical activity" OR "exercise" OR "physical inactivity" OR "sedentary" OR "self-care" OR "self-management" OR "diet" OR "eating" OR "salt-intake" OR "smoking" OR "substance abuse/misuse" OR "alcohol" OR "sleep" OR "insomnia" OR "medication adherence" OR "psychological flexibility" OR "quality of life" OR "stress" OR "resilience" "anxiety" OR "depression".

Study selection

The search strategy initially produced 1746 articles, 462 of which were duplicates and a further 1269 were assessed by title and abstract. The main reason for excluding 1284 was because of exclusion criteria on study design (328 were abstracts, posters, correspondence, qualitative, case studies, literature reviews and systematic reviews), population (642 were not conducted on adult cardiac populations such as children and adolescents, general population, stroke, diabetes, hypertension and pulmonary disease) and intervention (728 used other psychological intervention such as CBT, Mindfulness-based Therapy and psychotherapy). This left 15 studies to be reviewed by reading the full text. Six studies were excluded because they were written in Arabic and the English language full version was not available and one study was excluded because their inclusion criteria stipulated

cardiac patients with hypertension or diabetes. This left a total of eight studies included in the review. See figure 3 for the PRISMA flow diagram.

Risk of bias

A quality check for risk of bias was conducted using the Effective Public Health Practice Project (1998) tool which was considered most appropriate for this review as it has been applied in similar reviews (Effective Public Health Practice Project, 1998). Studies were scored using a 'yes', no' or 'cannot tell' for six ratings on selection bias, design, confounding variables, blinding, data collection measures, withdrawals and dropouts. Each paper was given a global rating then classified as weak, moderate or strong.

Data collection process

A data extraction system was employed using EndNote to record specific information on each study. This includes (1) first author and year of publication, (2) country, (3) characteristics of participants (category of the coronary heart condition, sample size and gender), (4) type of design, (5) intervention condition (including frequency and length of ACT sessions), (5) primary outcome measures (psychological or behavioural), (6) results following intervention (if reported).

Results

Study selection

All eight studies met the inclusion criteria for the systematic review, see Table 2 for an in-depth breakdown of the study characteristics, design, and specific outcomes.

Countries

Interestingly, all studies were published in the Middle East from Iran (Abdollahi et al., 2020; Ahmadi Ghahnaviyeh et al., 2020b; Amiri et al., 2017; Heidari et al., 2019; Kheyran-Alnesa et al., 2018; Mohamdiheris et al., 2020; Shahabi et al., 2021; Sheibani et al., 2019).

Study design

Of the eight studies, most studies employed a RCT pretest-posttest mixed measures design (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Ahmadi Ghahnaviyeh et al., 2020; Shahabi et al., 2021) with one pilot study (Mohamdiheris et al., 2020). However, six studies reported the design as a quasi-experimental pre-test post-test which was incorrect because they were randomly assigned to either a control or experimental group, which makes it an RCT (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Shahabi et al., 2021). Only one of those studies reported the correct design of RCT (Ahmadi Ghahnaviyeh et al., 2020).

Table 2

Study Characteristics Matrix.

Study (first author, year)	**Country**	**Design**	**Intervention**	**a) Population (% of CABG patients)** **b) Sample size** **c) % Female** **d) Control** **e) Inclusion criteria** **f) Age range (Mean age)**	**Primary Measures** **a) psychological** **b) behavioural**	**Outcome** **a) psychological** **b) behavioural**
Amiri (2017)	Iran	Quasi-experimental pre-test post-test design.	ACT intervention over 8 group face-to-face sessions lasting 30 minutes twice per week.	a) CHD patients with angina b) 30 c) 30% d) TAU e) Patients referred to the cardiology centres in Isfahan f) 45-70 years	Psychological, social, and spiritual health a) LSQ	a) Results showed a significant difference between the ACT intervention and control groups at post measure for psychological (p <.03), social (p <.03) and spiritual (p <.02) health.
Kheyran-Alnesa (2018)	Iran	Quasi-experimental pre-test post-test design.	Premeasure collected after the ACBT intervention and again 2 months after. Each session lasted 1.5 hours and was split into 8 group face-to-face sessions.	a) Heart surgery patients (100%) b) 30 c) 100% d) TAU e) heart surgery and medical record within the Vali-e-Asr hospital, Iran. f) 30-60 years	Anger, anxiety, and hostility a) STAXI-2, RWHI & BAI	a) T-test found no significant difference between the pre-test scores for all 3 measures between the control and ACBT group. Abstract reported – Covariance analysis indicated that ACBT had a significant effect on all three psychological variables at post-test.

Heidari (2019)	Iran	Quasi-experimental pre-test post-test design.	Participants were randomly split into 3 groups of 17, 16 and 15. The group face-to-face intervention was delivered in 8 sessions.	a) b) 48 c) d) TAU and an EFT group e) Patients referred to the Shahid Rajaee hospital in Karaj f) 30-60 years	CHD patients	Negative effect, social inhibition, anger and hostility a) DS14 & BPAQ	a) Levin test of analysis of covariance showed both ACT and EFT interventions were significantly better at improving negative affect against the control (p <.01). A Bonferroni post hoc showed that there was a significant difference between the pre-test and post-test mean between ACT and EFT for negative effect. This means that EFT was considered to have more of an effect on negative emotions than ACT. Also, in a Bonferroni post hoc there was a significant difference between negative effect, social inhibition, anger and hostility (p <.05) and also between EFT and ACT groups (p <.001) which indicated that EFT was more effective than ACT for all 3 measures.
Sheibani (2019)	Iran	Quasi-experimental pre-test post-test design.	Group ACT interventions were delivered over 8 60-minute group face-to-face sessions.	a) b) 30 c) d) TAU e) Patients referred to hospitals, health centres and cardiovascular clinics in Isfahan f) 35-55 years	CHD patients	Positive and negative emotional regulation and self-control a) CERQ & SCS	a) ANCOVA found a significant effect for ACT on the positive strategy of the cognitive regulation of emotions and the negative strategy of the cognitive regulation of emotions compared to the control (p <0.05). However, no significant difference was observed in terms of self-control (p >0.05).

Abdollahi (2020)	Iran	Pre-test post-test semi-experimental intervention.	Group ACT 9 weekly group face-to-face sessions lasting 90 minutes.	a) b) 30 c) 53% d) TAU e) Patients referred to the Isfahan Cardiovascular Research Centre in Iran with a history of CHD, stable and unstable angina, MI and at least 1 coronary artery-based angiography or open-heart surgery. f) (57 years for ACT and 53 years for control group)	CHD patients with MI and CABG history	Mental health, hopefulness, and meaningfulness. a) MLQ, SAHS & GHQ	a) Repeated measures ANOVA showed significant difference between ACT and control on all measures of anxiety, depression, social functional dysfunction, hopefulness and meaningfulness (p <.001).
Ahmadi Ghahnaviyeh (2020)	Iran	Randomised control trial pretest-posttest with 6-month follow up.	8 x 90-minute group face-to-face ACT sessions.	a) b) 60 c) 21.6% d) TAU e) Patients referred to the Isfahan hospitals in Iran with a history of at least one MI and over the age of 30 years. f) (57 years for ACT group and 55 years for control group)	Post MI	Psychological and physical QoL a) MLHFQ	a) ANOVA showed increase in QoL between ACT and control at follow-up (p <.001). ANOVA also showed a significant increase between each of the groups over time (p <.001).

Mohamd iheris (2020)	Iran	Pilot study, quasi-experimental pretest-posttest with a follow up telephone interview.	ACT one-to-one intervention was delivered on the day of admission, 2-3 days after admission, on the day or discharge, 1 week after discharge each lasting 30 minutes.	a) b) c) d) e) f)	CHD patients 98 30% TAU PCI for primary MI in an Iranian hospital. (52 years)	Chronic pain, resilience, and self-care. a) PRS b) SCHFI	a) b)	ANOVA showed significant difference between ACT and control for resilience at 3 months follow-up (p <.001). ANOVA showed significant difference between ACT and control for self-management behavioural skills at 3 months follow-up (p <.005).
Shahabi (2021)	Iran	Experimental pretest-posttest design.	8 group face-to-face sessions for the ACT group and 10 sessions for the guided imagery group with a 45 day follow up. However, 2 participants received ACT on a one-to-one basis because of vulnerabilities due to their heart condition.	a) b) c) d) e) f)	Cardiac rehabilitation patients with angina 45 17.7% TAU and a guided imagery therapeutic intervention group Cardiac problem, admission to cardiac rehabilitation. 35-75 years	Emotional regulation CERQ & DASS-21	a)	A repeated measures ANOVA showed that the ACT group was significantly effective on emotional regulation compared to the control (p <.001). A Bonferroni post hoc revealed a significant increase in positive emotional regulation post-test and follow up values in the ACT group compared to the GI and control (p <.001) and a significant decrease in negative emotional regulation for post-test and follow up values compared to the GI group and control (p <.001).

Note. Acceptance and Commitment Therapy (ACT), Acceptance and Commitment-Based Therapy (ACBT), Myocardial Infarction (MI), Coronary Artery Bypass Graft (CABG), Coronary Heart Disease (CHD), Not Applicable (NA), Percutaneous Coronary Intervention (PCI), Treatment as Usual (TAU), Lifestyle Questionnaire (LSQ), Spielberger's State-Trait Anger Expression Inventory - 2 (STAXI-2), Redford-Williams Hostility Inventory (RWHI), Beck Anxiety Inventory (BAI), Personality Type-D (DS14), Buss and Perry Aggression Questionnaire (BPAQ), Cognitive Emotion Regulation Questionnaire (CERQ), Self-Control Scale (SCS), Meaning of Life Questionnaire (MLQ), General Health Questionnaire (GHQ), Minnesota Living with Heart Failure Questionnaire (MLHFQ, Self-Care of Heart Failure Index (SCHFI), Snyder Adult Hope Scale (SAHS), Psychological Resilience Scale (PRS), Cognitive Emotion Regulation Questionnaire (CERQ), Depression and Anxiety Scale (DASS-21).

Participant characteristics

A total of 371 CHD patients, 105 reported females, were recruited across the eight studies included in the review with an age range of 30-75 years. The age range is large, and this is an important factor to consider because lifestyle issues that impact or facilitate behaviour change can differ between a 30-year-old and a 75-year-old.

Only one study contained 100% female participants (Kheyran-Alnesa et al., 2018) and five studies reported mixed gender (Amiri et al., 2017; Abdollahi et al., 2020; Ahmadi Ghahnaviyeh et al., 2020; Mohamdiheris et al., 2020; Shahabi et al., 2021), with remaining two studies implying mixed gender but not specifying a percentage of male and female participants (Heidari et al., 2019; Sheibani et al., 2019). This is also an important factor to consider because females are more likely to die from CHD than males and so there are differences in illness perceptions between the genders which could impact the efficacy of the ACT intervention (Mehran et al., 2019).

All patients had a history of CHD and were admitted to hospitals across Iran because of experiencing an MI (Amiri et al., 2017; Heidari et al., 2019; Sheibani et al., 2019; Shahabi et al., 2021) with two studies reporting patients who have had CABG surgery (Kheyran-Alnesa et al., 2018; Abdollahi et al., 2020), one study specifying patients with stable and unstable angina with at least one MI patients who have received PCI treatment (Ahmadi Ghahnaviyeh et al., 2020; Mohamdiheris et al., 2020). Therefore it can be suggested that for both PCI and CABG patients, ACT is efficacios for both participant treatment groups.

Sample sizes

Sample sizes ranged from 30 participants (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Sheibani et al., 2019; Abdollahi et al., 2020) to 98 participants (Mohamdiheris et al., 2020) with an average of 46 participants. All studies had a 50% random allocation between the control and intervention group except one study by Heidari et al. (2019) which randomly allocated to two intervention groups of 17 for the ACT and 16 for Emotional Freedom Therapy (EFT), and 15 in a control group.

ACT Intervention

The length of delivery showed some consistency with five studies reporting eight-weekly face-to-face sessions lasting between 45 and 90 minutes (Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Ahmadi Ghahnaviyeh et al., 2020; Shahabi et al., 2021) and one study reporting nine-weekly face to face 90 minute sessions (Abdollahi et al., 2020). One study conducted eight bi-weekly face to face 30-minute sessions (Amiri et al., 2017) and only one study was conducted over the telephone on a one-to-one basis in four 30 minute sessions (Mohamdiheris et al., 2020).

Seven studies were conducted in group settings with two delivering the ACT intervention on a one-to-one basis (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Shahabi et al., 2021). However, one of the seven studies that conducted group interventions had to conduct it on a one-to-one basis with two of their participants because of their heart conditions which was not speciffied (Shahabi et al., 2021). It could be assumed that there may have been access issues or immune system vulnerabilities to prevent cross contamination. Nevertheless, group delivery is a consistency across the studies.

Finally, the included studies have strong ecological validity in that they were all conducted in a hospital by practicing clinicians.

Components of the ACT intervention were evidenced by all studies but one (Amiri et al., 2017). This poses issues to both validity and reliability of the intervention. Nevertheless, there was congruancy between the seven studies that reported the delivery schedule and content in relation to the ACT Hexaflex model and they were consistent with Figure 2. Details of the interventions across the seven studies are found in Table 3. All studies begin with an introduction and end with a summary and committed action which is consistent with recommended delivery of ACT and general best practice for psychological interventions (Hayes et al., 2012; Zhang et al., 2018).

It must be noted that some ACT activities can facilitate more than one Hexaflex component, for example, present moment awareness, self-as context and defusion often involve mindfulness, and acceptance is a core theme throughout all activities (Hayes et al., 2012; Zhang et al., 2018), and this is demonstrated across the seven studies. For example, the studies make use of ACT activities such as creative hopelessness, (Hayes, Strosahl & Wilson, 1999; Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Shahabi et al., 2021) passengers on a bus metaphor (Hayes, Strosahl & Wilson, 1999; Abdollahi et al., 2020), the chessboard metaphor (Hayes, Strosahl & Wilson, 1999; Sheibani et al., 2019), the observer mindfulness practice (Hayes, Strosahl & Wilson, 1999; Abdollahi et al., 2020), and leaves on a stream mindfulness practice (Hayes, Strosahl & Wilson, 1999; Heidari et al., 2019). In addition, all studies facilitate the participant to connect with their individual values and committed action is encouraged by goal setting (Hayes, Strosahl & Wilson, 1999; Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Shahabi et al., 2021).

Also, because it is dynamic person-centred approach, ACT does not recommend any specific order for each of the components and it is down to the participant's needs as to the order of delivery which was demonstrated across the studies in the variance of order (Hayes et al., 2012; Zhang et al., 2018). Therefore, the seven studies deliver consistent and valid ACT intervention (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Shahabi et al., 2021).

Table 3

ACT component evidenced delivery across six intervention studies.

ACT component First Author (date)	Session	ACT intervention activity example
Present moment awareness		
Kheyran-Alnesa (2018)	5	*"Awareness and acceptance, mindfulness training."*
Heidari (2019)	2	*"Explaining attention awareness and practicing mindfulness."*
Sheibani (2019)	2	*"Introducing the concepts of mindfulness according to ACT."*

Abdollahi (2020)	4	*"Introducing mindfulness through mindful breathing practice."*
Ahmadi Ghahnaviyeh (2020)	5	*"Participants learn to focus on their activities (such as breathing, walking, etc.) and be mindful of their state at all moments."*
Mohamdiheris (2020)	*	*"Guide the patients to intentionally pay attention to the present psychological activities, physiological feelings, and external environment."*
Shahabi (2021)	6	*"Employing mindfulness techniques with an emphasis on the present."*
Contact with values		
Kheyran-Alnesa (2018)	4	*"Understanding importance of life based on value, understanding performance of goals in producing a healthy life, providing charts of values in main domains."*
Heidari (2019)	1	*"Thinking about the purpose of the members is to continue living."*
Sheibani (2019)	7	*"Specifying values and targets making use of the bus metaphor, providing the members with a table of values, helping the members identify values and targets on their path of values in the presence of the researcher and other members."*
Abdollahi (2020)	5	*"Introducing Values; Discuss the relationship between goals and values; Select values."*
Ahmadi Ghahnaviyeh (2020)	6	*"Identifying the patients' values in life and focusing on these values, their elaboration and their power of choice."*
Mohamdiheris (2020)	*	*"To communicate with patients through various methods, including writings, pictures, and videos; to encourage patients to be hopeful about their future; to help them resolve confusion about life; and to help them clarify their life values."*
Shahabi (2021)	6	*"Identifying the values of patients' lives, specifying and focusing on these values, and paying attention to their power of choice."*
Committed action		
Kheyran-Alnesa (2018)	3	*"Summary of previous sessions, commitment creation, post- test."*
Heidari (2019)	6	*"Members are required to plan and implement committed value-based actions based on the values derived from the meeting an integral part of our world are often impossible."*
Sheibani (2019)	8	*"Describing committed actions and behaviours, drawing a conclusion to prevent the members from returning to their futile actions, presenting the ACT psychological flexibility six processes, presenting the ACT psychopathology six processes, and administering the post-test."*

	Abdollahi (2020)	5	*"Identify a valuable action (behavioural goal) to perform during the week."*
	Ahmadi Ghahnaviyeh (2020)	7	*"Discussing the goals related to values and the characteristics of goals among the group, the group members identifying three of their most important values and determining the goals they wish to pursue in keeping with those values, determining the next steps for achieving those goals."*
	Mohamdiheris (2020)	*	*"To decide the short- and long-term objectives with the patients and achieve changes and growth."*
	Shahabi (2021)	8	*"Understanding the nature of desire and commitment (teaching commitment to action), identifying behavioural plans per the values, and creating a commitment to implement them."*
Self-as-context			
	Kheyran-Alnesa (2018)	6	*"Weakening dependence to self-concept, creating self-observing awareness, distinction between self-conceptual and self-observing. "*
	Heidari (2019)	3	*"Leaves on a stream mindfulness practice whereby all thoughts and feelings are observed and separated from the self."*
	Sheibani (2019)	7	*"Identifying oneself as the context using the chessboard metaphor."*
	Abdollahi (2020)	8	*"Discussing the observer self against the conceptual self; Self observer practice."*
	Ahmadi Ghahnaviyeh (2020)	4	*"Learn to perceive their emotions, feelings and cognitions and to process them without judgment; that is, they learn to pay attention to their thoughts and emotions but not get attached to their content."*
	Mohamdiheris (2020)	*	*"Guide the patients to objectively experience the changes of physical feelings, character, emotion, and behaviours and establish the self-based perception."*
	Shahabi (2021)	5	*"Illustrating separation between self, inner experiences, and behaviour; considering self as a context."*
Defusion			
	Kheyran-Alnesa (2018)	7	*"Paying attention to the limited role of language in understanding direct experiences, self-awareness training, weakening of mix between itself and time."*
	Heidari (2019)	2	*"Explaining the living conditions and the problems that are part of life and cannot be eliminated - Investigate the relationship between behavioural control, emotions, and coronary artery disease."*
	Sheibani (2019)	4	*"Investigating and evaluating control and prevention behaviours, providing a table for the investigation of the consequences of control strategies, and specifying the inefficiency of reactions to inefficient thoughts."*
	Abdollahi (2020)	9	*"Presenting the metaphor of passengers on the bus."*

Ahmadi Ghahnaviyeh (2020)	3	*"The application of cognitive diffusion therapeutic approach, intervention in the performance of problematic chains of language and metaphors."*
Mohamdiheris (2020)	*	*"Guide the patients to objectively and calmly recognise issues, negative feelings, and self-thoughts."*
Shahabi (2021)	4	*"Applying cognitive defusion techniques, addressing the function of problematic language chains and metaphors."*
Willingness to move towards acceptance		
Kheyran-Alnesa (2018)	2	*"Explain creative helplessness, acquiring current strategies and motivating them to make new choices."*
Heidari (2019)	1	*"Creative helplessness to prepare for willingness to accept."*
Sheibani (2019)	4	*"Assessing creative hopelessness, confirming the uselessness of the control on internal events (thoughts and feelings), encountering experiences with a harmless nature."*
Abdollahi (2020)	1	*"Identify past efforts of clients to deal with anxiety; Describing thoughts and symptoms; Introducing ineffective control system to clients; A reminder that self-control is problematic."*
Ahmadi Ghahnaviyeh (2020)	3	*"Creative hopelessness by explaining the concept of acceptance and its differences with concepts of failure, despair, denial and resistance, teaching that acceptance is a constant rather than logical process, discussing the problems and challenges of a heart attack."*
Mohamdiheris (2020)	*	*"Guide the patients to accept the fact of disease; perceive and face the disease instead of avoiding it."*
Shahabi (2021)	2	*"Discussing and evaluating experiences, assessing the individuals' willingness to change, conducting the ACT-based review of creative helplessness."*

Note. * = not reported.

Outcome measures

There were variations in the outcome measures used which included mental health status measures such as the General Health Questionnaire (GHQ), (Wancata et al., 2001), and the Beck Anxiety Inventory (BAI).

Emotional regulation was measured by the Depression and Anxiety Scale (DASS-21), (Lovibond & Lovibond, 1995), the Cognitive Emotion Regulation Questionnaire (CERQ) (Garnefski & Kraaij, 2007), the Psychological Resilience Scale (PRS) (Windle et al., 2008),, and the Self-Control Scale (SCS) (Tangney et al., 2004).

Psychological wellbeing was measured by the Lifestyle Questionnaire (LSQ) (Lali et al., 2012), Meaning of Life Questionnaire (MLQ) (Steger et al., 2006), the Minnesota Living with Heart Failure Questionnaire (MLHFQ) (Bilbao et al., 2016), the Snyder Adult Hope Scale (SAHS) (Snyder et al., 1991).

State and trait anger and hostility was measured with the Spielberger's State-Trait Anger Expression Inventory - 2 (STAXI-2) (Knight et al., 1985), Redford-Williams Hostility Inventory (RWHI) (Williams, 2022), (Beck & Steer, 1984), Buss and Perry Aggression Questionnaire (BPAQ) (Buss & Perry, 1992). Personality was measured with Personality Type-D (DS14) (Denollet, 2005).

All eight studies explored psychological outcomes mentioned above with just one single study including a behavioural measure of the Self-Care of Heart Failure Index (SCHFI) by Riegel et al. (2004) (Mohamdiheris et al., 2020). Behavioural outcomes within the SCHFI include self-monitoring such as weighing and checking for swelling, health behaviours such as physical activity and eating a low salt diet and healthcare usage such as keeping to appointments and medication adherence (Riegel et al., 2004).

Effectiveness of ACT interventions

The outcome of the systematic review was to further explore the efficacy of the outcomes when using ACT as an intervention for CHD patients. The outcome measures can be defined as behavioural and psychological with four subcategories of mental health status, emotional regulation, psychological wellbeing and state and trait anger and hostility. All eight studies reported a positive significant change for all outcomes following the ACT intervention. Comparisons between outcomes are explored below.

Behavioural

Alongside resilience, Mohamdiheris et al. (2020) were the only paper to include a behavioural measure which was the SCHFI (Riegel et al., 2004) and found a significant difference between ACT and control for self-management behavioural skills at 3 months follow-up (p <.005). Although the results are promising, there is a clear lack of research focus in this area that should be addressed to inform evidence-based practice.

Mental health status

Mental health measures included the BAI (Beck & Steer, 1984), the GHQ (Wancata et al., 2001), across two studies (Kheyran-Alnesa et al., 2018; Abdollahi et al., 2020). These included measurements of anxiety, depression but no measurements of stress. The results were mixed. Kheyran-Alnesa et al. (2018) found no significant difference between the Acceptance and Commitment Based Therapy (ACBT) intervention and control group at post measures for anxiety using the BAI and did not measure depression (Beck & Steer, 1984), $p > .05$. However, the reporting of the findings lacked congruence because the abstract stated that there was a significant effect found. This highlights a lack of validity in the paper. However, Abdollahi et al. (2020) found a significant difference between the ACT intervention and control group at post measures of anxiety, $p = .0001$, and depression, $p = .0001$, on the GHQ (Wancata et al., 2001). A clear breakdown of the ACT intervention content was provided, and standardised measures were used. Therefore, it could be suggested that ACT impacts depression and anxiety in a CHD population, but more research is needed.

Emotional regulation

Although the DASS-21(Lovibond & Lovibond, 1995) is to be implemented as a mental health status measure, Shahabi et al. (2021) used it to explore positive and negative aspects of emotional regulation by combining it with

the CERQ (Garnefski & Kraaij, 2007). Threats to face-validity and construct validity are highlighted as the reasons for using the DASS-21 were not clear (Lovibond & Lovibond, 1995). Details about the questionnaire and the constructs that contributed to either positive or negative emotional regulation would have made this paper's methodology more transparent and reliable. Moreover, it would have been helpful if constructs of stress, depression and anxiety reported alongside the measure of emotional regulation, the CERQ (Garnefski & Kraaij, 2007).

Shahabi et al. (2021) found that the ACT group was significantly effective on emotional regulation compared to the control (p <.001). A Bonferroni post hoc revealed a significant increase in positive emotional regulation post-test and follow up values in the ACT group compared to the guided imagery (GI) group and the control, (p <.001), and a significant decrease in negative emotional regulation for post-test and follow up values compared to the GI group and control (p <.001). Sheibani et al. (2019) also used the CERQ (Garnefski & Kraaij, 2007) and found a significant effect for the ACT group on positive strategy of the cognitive regulation of emotions and the negative strategy of the cognitive regulation of emotions compared to the control (p <0.05). However, no significant difference was observed in terms of self-control (p > 0.05) measured by the SCS (Tangney et al., 2004).

Finally, Mohamdiheris et al. (2020) measured resilience using the PRS (Windle et al., 2008) and reported a significant difference between ACT and control for resilience at 3 months follow-up (p <.001). Therefore, ACT could positively impact emotional regulation in CHD patients, and more specifically it has been shown to improve positive emotional regulation through resilience and minimise negative emotional regulation, but more research is needed to address the limitations of the current literature.

Psychological wellbeing

Ahmadi Ghahnaviyeh et al. (2020) found significant differences in quality of life between the control and ACT intervention group at post intervention and at 6 months follow-up using the MLHFQ (Bilbao et al., 2016), p < .001. ACT intervention content was provided and was thorough and clear to understand which adds to the reliability because it can be replicated. Similarly, Amiri et al. (2017) used the LSQ (Lali et al., 2012) to measure psychological, social and spiritual health and found a significant difference between the ACT intervention and control groups at post measure for psychological (p <.03), social (p <.03) and spiritual (p <.02) health. However, the LSQ (Lali at al., 2012) is not avialable in English language therefore this study lacks reliability and the results may not be replicated for a UK popluation. Finally, Abdollahi et al. (2020) also measured hope, SAHS (Snyder et al., 1991), and meaning of life, MLQ (Steger et al., 2006) which showed a significant difference between ACT and control on social functional dysfunction, hopefulness and meaningfulness (p <.001). Therefore, it could be deduced from the findings that ACT has a significant impact across psychological wellbeing constructs for patients with CHD which coupled with findings for emotional regulation is promising.

State and trait anger and hostility

Alongside anxiety, Kheyran-Alnesa et al. (2018) studied anger, (STAXI-2) (Knight et al., 1985), and hostility (RWHI) (Williams, 2022) and found that no significant difference between the pre-test scores for measures between the control and ACBT group, (p >.05). However, using the BPAQ (Buss & Perry, 1992) and DS14

(Denollet, 2005), Heidari et al. (2019) found there was a significant difference between negative affect, social inhibition, anger and hostility at post-test (p <.05) between the Emotion Focused Therapy (EFT) group and ACT group against the control (p <.001). They report EFT to be more effective than ACT, even though both intervention groups are significantly different to the control group at post-test (Heidari et al., 2019). Nevertheless, there is a clear description of both intervention group content and delivery (Heidari et al., 2019). Therefore, it could be said that from the findings that ACT is not appropriate to reduce state and trait anger and hostility in CHD populations, because EFT is more efficacious.

Risk of bias

The EPHHP (1998) risk of bias highlighted this as a weakness with all studies. See Table 4 for a breakdown of risk bias for all included studies. The risk of bias highlighted consistent weaknesses in the reporting of withdrawal and dropouts with only two studies scoring moderate risk of bias (Heidari et al., 2019; Mohamdiheris et al., 2020) and the rest scoring strong. There was strong risk of bias for selection for all studies (Amiri et al., 2017; Kheyran-Alnesa et al., 2018; Heidari et al., 2019; Sheibani et al., 2019; Abdollahi et al., 2020; Ahmadi Ghahnaviyeh et al., 2020; Shahabi et al., 2021) with one pilot study (Mohamdiheris et al., 2020). Overall, the assessment has shown the review literature to have consistent global rating of moderate risk of bias with one study demonstrating strong risk of bias (Mohamdiheris et al., 2020).

Table 4

EPHHP (1998) assessment of risk of bias.

Study (first author, year)	Selection bias	Study Design	Confounders	Blinding	Data collection measures	Withdrawal & dropouts	Global rating for paper
Amiri (2017)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG
Kheyran-Alnesa (2018)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG
Heidari (2019)	MODERATE	STRONG	STRONG	STRONG	STRONG	STRONG	STRONG
Sheibani (2019)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG
Abdollahi (2020)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG
Ahmadi Ghahnaviyeh (2020)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG
Mohamdiheris (2020)	STRONG	STRONG	STRONG	STRONG	STRONG	STRONG	STRONG
Shahabi (2021)	STRONG	STRONG	STRONG	STRONG	STRONG	MODERATE	STRONG

Discussion

To start, the literature shows consistent significant results for the ACT interventions on the CHD patient population against control groups for psychological outcomes such as cognitive emotional regulation and resilience (Shahabi et al. 2021; Sheibani et al., 2019) and psychological wellbeing such as, meaning of life and hope (Abdollahi et al., 2020), and psychological adjustment (Ahmadi Ghahnaviyeh et al., 2020; Amiri et al. 2017). This provides further support to the literature on improving psychological outcomes for patients with CHD using ACT interventions (Gloster et al., 2020). Despite literature on ACT and mental health outcomes such as stress, depression and anxiety, there is a lack of quality literature around these influential factors for CHD patients (Kheyran-Alnesa et al., 2018; Gloster et al., 2020). However, there were significant results for use of ACT with CHD patients for depression and anxiety outcomes (Abdollahi et al., 2020).

Interestingly, use of ACT is not supported for outcomes such as state and trait anger and hostility; instead, the researchers recommend use of EFT in this context (Kheyran-Alnesa et al. 2018; Heidari et al., 2019). This is consistent with the literature in that ACT is a behaviourally based intervention, and although it can be used with stress, depression and anxiety (Hayes et al., 2012; Zhang et al., 2018). This highlights the need for use of specific psychological interventions based on their strengths and targeted outcome for a person-centred approach; and, for health psychology practitioners to have an awareness of strengths, limitations and contextual uses of different psychological interventions.

What is also apparent is the lack of literature on behavioural and lifestyle outcomes such as smoking, alcohol, diet, exercise and sleep, which are important factors for those living with CHD for quality of life and prevention of secondary events and premature death (Giannuzzi et al., 2005; Kreikebaum et al., 2011). Only one study made attempts to explore this (Mohamdiheris et al., 2020) by using the SCHFI that accounts for health behavioural changes in those living with CHD (Riegel et al., 2004). Their results provide support for use of ACT with CHD patients for behavioural outcomes, with significant scores across the measures of self-management skills when living with heart disease which involves factors of diet, exercise, self-monintoring of weight and swelling, and medication adherence (Mohamdiheris et al., 2020). But, without more studies to compare and review, more evidence is needed.

Interestingly, none of the studies directly tested psychological flexibility in accordance with the ACT Hexaflex model, despite conducting an ACT intervention (Hayes et al., 2012; Zhang et al., 2018). Direct measures of psychological flexibility across a wide range of specific and general outcomes of psychological flexibility could have been implemented (Hayes et al., 2012; Zhang et al., 2018). For example, a general measure of psychological flexibility is the Acceptance and Action Questionnaire II (AAQ-II) which captures all six core components on the ACT Hexaflex model and can be adapted to different clinical populations and languages (Spatola et al., 2014b). In addition, there are many psychological flexibility questionnaires that target a specific outcome and are recommended, and some co-created, by the founder of ACT, Steven Hayes, including The Food Acceptance and Action Questionnaire (FAAQ) (Juarascio et al., 2011). There is the Cardiovascular Disease Acceptance and

Action Questionnaire (CVD-AAQ) mentioned in the RCT study protocol by Spatola et al. (2014b), however the questionnaire is not included or available elsewhere and the full paper has not yet published.

Furthermore, although most studies include a comprehensive breakdown of the ACT intervention content and delivery schedule, one study did not report this (Amiri et al., 2017). A more transparent reporting of the ACT intervention would be useful to develop a standard. However, it must be noted that The ACT model does allow professional autonomy and flexibility with delivery (Hayes et al., 2012; Zhang et al., 2018). And the studies that do include details of the ACT intervention content are consistent with the six core components outlined in the Hexaflex model, but do not measure psychological flexibility as an outcome (Abdollahi et al., 2020; Ahmadi Ghahnaviyeh et al., 2020b; Heidari et al., 2019; Kheyran-Alnesa et al., 2018; Mohamdiheris et al., 2020; Shahabi et al., 2021; Sheibani et al., 2019). A standardised version of ACT would be unrealistic to enforce for practitioners around the globe, and ACT was created to reflect the constantly changing contextual dynamics of human interaction (Hayes et al., 2012; Zhang et al., 2018). Nevertheless, there could be confounding variables from intervention variances and unreported elements that are more efficacious in certain populations.

Limitations

It is not always feasible in real-world practice with CHD patients to conduct RCT and quasi-experimental intervention studies. Psychological therapeutic interventions, like ACT, lend themselves to qualitative and single case study designs; if a practitioner ever does get time to publish within a vast and constant case load of new and existing patients. This review was not inclusive of qualitative data and case studies. Therefore, the review is not fully comprehensive on providing conclusions on the use of ACT for psychological and behavioural outcomes in patients with CHD.

Future recommendations

Firstly, it is recommended that further enquiry into qualitative data and case study reports with the same objective set out in the present review. Secondly, based on the quantitative research found in the review, it is recommended that ACT intervention studies on CHD patients target both psychological, stress, depression and anxiety, and behavioural health outcomes such as sleep, diet, cardiac rehab attrition, medication adherence and alcohol and smoking within a UK population.

Conclusion

This systematic review supports the recommendations from existing literature that ACT interventions for patients with CHD are promising for psychological outcomes. However, further RCT studies within a UK population is needed. Finally, evidence is needed for use of ACT with CHD patients for behavioural and lifestyle outcomes known to impact the development and deterioration of the disease.

References

Abdollahi, S. M., Rafiepoor, A., & Sabet, M. (2020). The effectiveness of acceptance and commitment therapy on mental health, hopefulness and meaningfulness in people with cardiovascular disease. *Biquarterly Iranian Journal of Health Psychology, 3*(1).

AbuRuz, M. E. (2018). Perceived control moderates the relationship between anxiety and in-hospital complications after ST segment elevation myocardial infarction. *Journal of Multidisciplinary Healthcare, 11*, 359.

Agarwal, N., Ruggles, S., Elanko, S., Elanko, A., & Powell, S. (2019). Quality Improvement Project (QIP) Using Clinical Hypnotherapy (CH) In Surgical Head And Neck Cancer Patients To Improve Quality Of Life (Qol). *European Journal of Surgical Oncology, 45*(11), 2228.

Agarwal, N., Ruggles, S., Elanko, S., Elanko, A., & Willis, F. (2019). Case study of patient receiving Clinical Hypnotherapy and Mindfulness (CHAM) Programme For A Severely Needle-Phobic Patient Requiring Bone Marrow Biopsy. *European Journal of Surgical Oncology, 45*(11), 2228.

Ahmadi Ghahnaviyeh, L., Bagherian, B., Feizi, A., Afshari, A., & Mostafavi Darani, F. (2020a). The Effectiveness of Acceptance and Commitment Therapy on Quality of Life in a Patient with Myocardial Infarction: A Randomized Control Trial. *Iran J Psychiatry, 15*(1), 1-9. https://doi.org/10.18502/ijps.v15i1.2434

Ahmadi Ghahnaviyeh, L., Bagherian, R., Feizi, A., Afshari, A., & Mostafavi Darani, F. (2020b). The Effectiveness of Acceptance and Commitment Therapy on Quality of Life in a Patient with Myocardial Infarction: A Randomized Control Trial. *Iranian journal of psychiatry, 15*(1), 1-9. https://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=141750170&site=ehost-live

American Association for Cardiovascular and Pulmonary Rehabilitation. (2012). AACVPR Stratification Algorithm for Risk of Event. https://www.aacvpr.org/resources-for-professionals#CRPR

Amiri, M., Maroufi, M., & Sadeghi, M. (2017). The effectiveness of ACT on psychological, social and spiritual health of the patients with angina pectoris. *International Journal of Educational and Psychological Researches, 3*(4), 240-244. https://doi.org/10.4103/2395-2296.225099

Arat, S., De Cock, D., Moons, P., Vandenberghe, J., & Westhovens, R. (2018). Modifiable correlates of illness perceptions in adults with chronic somatic conditions: A systematic review. *Research in Nursing & Health, 41*(2), 173-184.

Balady, G. J., Williams, M. A., Ades, P. A., Bittner, V., Comoss, P., Foody, J. M., Franklin, B., Sanderson, B., & Southard, D. (2007). Core components of cardiac rehabilitation/secondary prevention programs: 2007 update: A scientific statement from the american heart association exercise, cardiac rehabilitation, and prevention committee, the council on clinical cardiology; the councils on cardiovascular nursing, epidemiology and prevention, and nutrition, physical activity, and metabolism; and the american association of cardiovascular and pulmonary rehabilitation. *Circulation, 115*(20), 2675-2682.

Barnes, J., McRobbie, H., Dong, C. Y., Walker, N., & Hartmann-Boyce, J. (2019). Hypnotherapy for smoking cessation. *Cochrane Database of Systematic Reviews*(6).

Beck, A. T., & Steer, R. A. (1984). Internal consistencies of the original and revised Beck Depression Inventory. *Journal of Clinical Psychology, 40*(6), 1365-1367.

Bhatnagar, P., Wickramasinghe, K., Wilkins, E., & Townsend, N. (2016). Trends in the epidemiology of cardiovascular disease in the UK. *Heart*, *102*(24), 1945-1952. https://doi.org/10.1136/heartjnl-2016-309573

Bilbao, A., Escobar, A., García-Perez, L., Navarro, G., & Quirós, R. (2016). The Minnesota living with heart failure questionnaire: comparison of different factor structures. *Health and quality of life outcomes*, *14*, 23-23. https://doi.org/10.1186/s12955-016-0425-7

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011, Dec). Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: a revised measure of psychological inflexibility and experiential avoidance. *Behav Ther*, *42*(4), 676-688. https://doi.org/10.1016/j.beth.2011.03.007

British Heart Foundation. (2021). Heart Statistics. *2021*(11 August). https://www.bhf.org.uk/what-we-do/our-research/heart-statistics

Broadbent, E., Petrie, K. J., Main, J., & Weinman, J. (2006). The Brief Illness Perception Questionnaire.

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of personality and social psychology*, *63*(3), 452.

Byrne, M., Walsh, J., & Murphy, A. W. (2005). Secondary prevention of coronary heart disease: patient beliefs and health-related behaviour. *Journal of psychosomatic research*, *58*(5), 403-415.

Byrne, S. P., Haber, P., Baillie, A., Costa, D. S., Fogliati, V., & Morley, K. (2019). Systematic reviews of mindfulness and acceptance and commitment therapy for alcohol use disorder: should we be using third wave therapies? *Alcohol and Alcoholism*, *54*(2), 159-166.

Carey, T. A., & Mullan, R. J. (2004). What is Socratic questioning? *Psychotherapy: theory, research, practice, training*, *41*(3), 217.

Chamine, I., Atchley, R., & Oken, B. S. (2018). Hypnosis intervention effects on sleep outcomes: a systematic review. *Journal of Clinical Sleep Medicine*, *14*(2), 271-283.

Classen, C. C., Hughes, L., Clark, C., Hill Mohammed, B., Woods, P., & Beckett, B. (2021). A pilot RCT of a body-oriented group therapy for complex trauma survivors: an adaptation of sensorimotor psychotherapy. *Journal of trauma & dissociation*, *22*(1), 52-68.

Corrigan, F., Fisher, J., & Nutt, D. (2011). Autonomic dysregulation and the window of tolerance model of the effects of complex emotional trauma. *Journal of psychopharmacology*, *25*(1), 17-25.

Cramer, H., Anheyer, D., Saha, F. J., & Dobos, G. (2018). Yoga for posttraumatic stress disorder–a systematic review and meta-analysis. *BMC Psychiatry*, *18*(1), 1-9.

Cuijpers, P., Van Straten, A., & Andersson, G. (2008). Internet-administered cognitive behavior therapy for health problems: a systematic review. *Journal of behavioral medicine*, *31*(2), 169-177.

Damayanthi, S. (2019). *Thematic analysis of interview data in the context of management controls research*. SAGE Publications, Limited.

Dendale, P., Berger, J., Hansen, D., Vaes, J., Benit, E., & Weymans, M. (2005, 2005/06/01). Cardiac Rehabilitation Reduces the Rate of Major Adverse Cardiac Events after Percutaneous Coronary Intervention. *European Journal of Cardiovascular Nursing*, *4*(2), 113-116. https://doi.org/10.1016/j.ejcnurse.2004.11.003

Denollet, J. (2005). DS14: standard assessment of negative affectivity, social inhibition, and Type D personality. *Psychosomatic Medicine, 67*(1), 89-97.

Diefenbach, M. A., & Leventhal, H. (1996). The common-sense model of illness representation: Theoretical and practical considerations. *Journal of social distress and the homeless, 5*(1), 11-38.

Drake, C., Richardson, G., Roehrs, T., Scofield, H., & Roth, T. (2004). Vulnerability to stress-related sleep disturbance and hyperarousal. *Sleep, 27*(2), 285-291.

Edmondson, D. (2014). An enduring somatic threat model of posttraumatic stress disorder due to acute life-threatening medical events. *Social and personality psychology compass, 8*(3), 118-134.

Effective Public Health Practice Project. (1998). *Quality Assessment Tool For Quantitative Studies. Hamilton, ON: Effective Public Health Practice Project.* http://www.ephpp.ca/index.html

Elkins, G., Jensen, M. P., & Patterson, D. R. (2007). Hypnotherapy for the management of chronic pain. *Intl. Journal of Clinical and Experimental Hypnosis, 55*(3), 275-287.

Erşan, S., & Erşan, E. E. (2020). Effects of Hypnotherapy on Weight Loss and thus on Serum Leptin, Adiponectin, and Irisin Levels in Obese Patients. *The Journal of Alternative and Complementary Medicine, 26*(11), 1047-1054.

Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical disease, psychiatric disorders, and sexual behavior: Implications for healthcare. *The impact of early life trauma on health and disease: The hidden epidemic*, 77-87.

Forshaw, M., Tod, D., & Eubank, M. (2018). Conducting a systematic review: demystification for trainees in health psychology. *Health Psychology Update, 27*(2).

Frasure-Smith, N., & Lesperance, F. (2008). Depression and anxiety as predictors of 2-year cardiac events in patients with stable coronary artery disease. *Archives of general psychiatry, 65*(1), 62-71.

Garnefski, N., & Kraaij, V. (2007). The cognitive emotion regulation questionnaire. *European journal of psychological assessment, 23*(3), 141-149.

Giannuzzi, P., Temporelli, P. L., Maggioni, A. P., Ceci, V., Chieffo, C., Gattone, M., Griffo, R., Marchioli, R., Schweiger, C., Tavazzi, L., Urbinati, S., & Valagussa, F. (2005). GlObal Secondary Prevention strategiEs to Limit event recurrence after myocardial infarction: the GOSPEL study. A trial from the Italian Cardiac Rehabilitation Network: rationale and design. *European journal of cardiovascular prevention and rehabilitation : official journal of the European Society of Cardiology, Working Groups on Epidemiology & Prevention and Cardiac Rehabilitation and Exercise Physiology, 12*(6), 555-561. https://doi.org/10.1097/01.hjr.0000186623.60486.26

Gibbs, G. (1988). Learning by doing: A guide to teaching and learning methods. *Further Education Unit*.

Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasecki, M. M., Rasmussen-Hall, M. L., & Palm, K. M. (2004, Fal). Acceptance-based treatment for smoking cessation. *Behavior Therapy, 35*(4), 689-705. https://doi.org/10.1016/s0005-7894(04)80015-7

Giuse, N. B., Koonce, T. Y., Storrow, A. B., Kusnoor, S. V., & Ye, F. (2012). Using health literacy and learning style preferences to optimize the delivery of health information. *Journal of health communication, 17*(sup3), 122-140.

Gloster, A. T., Walder, N., Levin, M., Twohig, M., & Karekla, M. (2020). The empirical status of acceptance and commitment therapy: A review of meta-analyses. *Journal of Contextual Behavioral Science*.

Goodwin, C. L., Forman, E. M., Herbert, J. D., Butryn, M. L., & Ledley, G. S. (2012). A pilot study examining the initial effectiveness of a brief acceptance-based behavior therapy for modifying diet and physical activity among cardiac patients. *Behavior modification*, *36*(2), 199-217.

Graham, C. D., Gouick, J., Krahé, C., & Gillanders, D. (2016). A systematic review of the use of Acceptance and Commitment Therapy (ACT) in chronic disease and long-term conditions. *Clinical Psychology Review*, *46*, 46-58. https://doi.org/https://doi.org/10.1016/j.cpr.2016.04.009

Groot, H. E., Al Ali, L., van der Horst, I. C. C., Schurer, R. A. J., van der Werf, H. W., Lipsic, E., van Veldhuisen, D. J., Karper, J. C., & van der Harst, P. (2019, 2019/06/01). Plasma interleukin 6 levels are associated with cardiac function after ST-elevation myocardial infarction. *Clinical Research in Cardiology*, *108*(6), 612-621. https://doi.org/10.1007/s00392-018-1387-z

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy*, *44*(1), 1-25.

Hayes, S. C., Pistorello, J., & Levin, M. E. (2012). Acceptance and commitment therapy as a unified model of behavior change. *The Counseling Psychologist*, *40*(7), 976-1002.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. Guilford Press.

Heidari, S., Khalatbari, J., Jalali, M., & Tizdast, T. (2019). Comparison of the Effectiveness of Acceptance and Commitment Therapy and Emotion-focused Therapy on Negative Emotions of Coronary Heart Disease. *International Journal of Applied Behavioral Sciences*, *6*(4), 17-28.

Heine, H., & Weiss, M. (1987). Life stress and hypertension. *European Heart Journal, 8 Suppl B*, 45-55. https://doi.org/10.1093/eurheartj/8.suppl_b.45

Higgins, J. P. T., Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., Savović, J., Schulz, K. F., Weeks, L., & Sterne, J. A. C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, *343*, d5928. https://doi.org/10.1136/bmj.d5928

Ivanova, E., Yaakoba-Zohar, N., Jensen, D., Cassoff, J., & Knäuper, B. (2015). Acceptance and Commitment Therapy and Implementation Intentions Increase Exercise Enjoyment and Long-Term Exercise Behavior Among Low-Active Women. *Current psychology (New Brunswick, N.J.)*, *35*(1), 108-114. https://doi.org/10.1007/s12144-015-9349-3

Janssen, V., Gucht, V. D., Dusseldorp, E., & Maes, S. (2013). Lifestyle modification programmes for patients with coronary heart disease: a systematic review and meta-analysis of randomized controlled trials. *European journal of preventive cardiology*, *20*(4), 620-640.

Juarascio, A., Forman, E., Timko, C. A., Butryn, M., & Goodwin, C. (2011, Aug). The development and validation of the food craving acceptance and action questionnaire (FAAQ). *Eat Behav*, *12*(3), 182-187. https://doi.org/10.1016/j.eatbeh.2011.04.008

Kasprzyk, M., Wudarczyk, B., Czyz, R., Szarpak, L., & Jankowska-Polanska, B. (2018). Ischemic heart disease–definition, epidemiology, pathogenesis, risk factors and treatment. *Postępy Nauk Medycznych, 31*(6), 358-360.

Kheyran-Alnesa, M., Mirzaian, B., & Yar-Ali, D. (2018). The Effectiveness of Acceptance and Commitment-Based Therapy on Anger, Anxiety and Hostility for Heart Surgery Patients. *Journal of biochemical technology, 9*(4), 43-49. <Go to ISI>://WOS:000459968500007

Kidd, T., Poole, L., Leigh, E., Ronaldson, A., Jahangiri, M., & Steptoe, A. (2014, 2014/08/01/). Attachment anxiety predicts IL-6 and length of hospital stay in coronary artery bypass graft surgery (CABG) patients. *Journal of psychosomatic research, 77*(2), 155-157. https://doi.org/https://doi.org/10.1016/j.jpsychores.2014.06.002

Knight, R. G., Ross, R. A., Collins, J. I., & Parmenter, S. A. (1985). Some norms, reliability and preliminary validity data for an SR inventory of anger: The Subjective Anger Scale (SAS). *Personality and Individual Differences, 6*(3), 331-339.

Kreikebaum, S., Guarneri, E., Talavera, G., Madanat, H., & Smith, T. (2011). Evaluation of a holistic cardiac rehabilitation in the reduction of biopsychosocial risk factors among patients with coronary heart disease. *Psychology, Health & Medicine, 16*(3), 276-290.

Krouwel, M., Greenfield, S., Farley, A., Ismail, T., & Jolly, K. (2018). Factors which affect the efficacy of hypnotherapy for IBS: Protocol for a systematic review and meta-regression. *European journal of integrative medicine, 21*, 58-62.

Lali, M., Abedi, A., & Kajbaf, M. B. (2012). Construction and validation of the lifestyle questionnaire (LSQ).

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Journal of Clinical Epidemiology, 62*(10), e1-e34.

Lin, C. Y., Miller, J. L., Lennie, T. A., Biddle, M. J., Mudd-Martin, G., Hammash, M., & Moser, D. K. (2020, Nov/Dec). Perceived Control Predicts Symptom Status in Patients With Heart Failure. *The Journal of cardiovascular nursing, 35*(6), 530-537. https://doi.org/10.1097/jcn.0000000000000684

Lind, S. B., Jacobsen, H. B., Solbakken, O. A., & Reme, S. E. (2021). Clinical Hypnosis in Medical Care: A Mixed-Method Feasibility Study. *Integrative Cancer Therapies, 20*, 15347354211058678.

Lorig, K. R., Ritter, P. L., Laurent, D. D., & Plant, K. (2006). Internet-based chronic disease self-management: a randomized trial. *Medical care*, 964-971.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy, 33*(3), 335-343.

Lynn, S. J., Pollizi, C. P., Green, J. P., Aksen, D. E., Gautam, A., & Evans, J. (2020). Hypnosis and health psychology. *The Wiley Encyclopedia of Health Psychology*, 257-263.

Maddison, R., Mhurchu, C. N., Jiang, Y., Vander Hoorn, S., Rodgers, A., Lawes, C. M., & Rush, E. (2007). International physical activity questionnaire (IPAQ) and New Zealand physical activity questionnaire (NZPAQ): a doubly labelled water validation. *International Journal of Behavioral Nutrition and Physical Activity, 4*(1), 1-9.

Mangge, H., Stelzer, I., Reininghaus, E., Weghuber, D., Postolache, T., & Fuchs, D. (2014). Disturbed tryptophan metabolism in cardiovascular disease. *Current medicinal chemistry, 21*(17), 1931-1937.

Maté, G. (2022). Beyond the Medical Model: Addiction as a response to trauma and stress. In *Evaluating the Brain Disease Model of Addiction* (pp. 431-443). Routledge.

McLaughlin, T. J., Aupont, O., Bambauer, K. Z., Stone, P., Mullan, M. G., Colagiovanni, J., Polishuk, E., Johnstone, M., & Locke, S. E. (2005). Improving psychologic adjustment to chronic illness in cardiac patients: The role of depression and anxiety. *Journal of general internal medicine : JGIM, 20*(12), 1084-1090. https://doi.org/10.1111/j.1525-1497.2005.00256.x

Mehran, R., Vogel, B., Ortega, R., Cooney, R., & Horton, R. (2019). The Lancet Commission on women and cardiovascular disease: time for a shift in women's health. *The Lancet, 393*(10175), 967-968. https://doi.org/10.1016/S0140-6736(19)30315-0

Merritt, C. J., de Zoysa, N., & Hutton, J. M. (2017). A qualitative study of younger men's experience of heart attack (myocardial infarction). *British journal of health psychology, 22*(3), 589-608. https://doi.org/https://doi.org/10.1111/bjhp.12249

Mir, R. M. (2019). Health Psychology and Cardiovascular Disease Research Models. *Am J Biomed Sci & Res., 6*(2). https://doi.org/10.34297/AJBSR.2019.06.001014.

Mohamdiheris, V., Shakerdolag, A., Khademi, A., Zeynali, A., & Safai, N. (2020). The effect of acceptance and commitment therapy on chronic pain, resilience and self-care in women with coronary artery disease. *Iranian Journal of Cardiovascular Nursing, 9*(1), 152-163.

Morea, J. M., Friend, R., & Bennett, R. M. (2008). Conceptualizing and measuring illness self-concept: a comparison with self-esteem and optimism in predicting fibromyalgia adjustment. *Research in Nursing & Health, 31*(6), 563-575.

Moreno Hernández, D., Téllez, A., Sánchez-Jáuregui, T., García, C. H., García-Solís, M., & Valdez, A. (2022). Clinical hypnosis for pain reduction in breast cancer mastectomy: A randomized clinical trial. *International Journal of Clinical and Experimental Hypnosis, 70*(1), 4-15.

Oppizzi, L. M., & Umberger, R. (2018). The effect of physical activity on PTSD. *Issues in Mental Health Nursing, 39*(2), 179-187.

Oris, L., Luyckx, K., Rassart, J., Goubert, L., Goossens, E., Apers, S., Arat, S., Vandenberghe, J., Westhovens, R., & Moons, P. (2018). Illness identity in adults with a chronic illness. *Journal of clinical psychology in medical settings, 25*(4), 429-440.

Oris, L., Rassart, J., Prikken, S., Verschueren, M., Goubert, L., Moons, P., Berg, C. A., Weets, I., & Luyckx, K. (2016). Illness identity in adolescents and emerging adults with type 1 diabetes: introducing the illness identity questionnaire. *Diabetes Care, 39*(5), 757-763.

Pacella, M. L., Hruska, B., & Delahanty, D. L. (2013). The physical health consequences of PTSD and PTSD symptoms: a meta-analytic review. *Journal of anxiety disorders, 27*(1), 33-46.

Petriček, G., Buljan, J., Prljević, G., Owens, P., & Vrcić-Keglević, M. (2015, 2015/01/02). Facing the diagnosis of myocardial infarction: A qualitative study. *European Journal of General Practice, 21*(1), 19-25. https://doi.org/10.3109/13814788.2014.907269

Petrie, K., & Weinman, J. (2006). Why illness perceptions matter. *Clin Med (Lond), 6*(6), 536-539. https://doi.org/10.7861/clinmedicine.6-6-536

Piepoli, M. F., Abreu, A., Albus, C., Ambrosetti, M., Brotons, C., Catapano, A. L., Corra, U., Cosyns, B., Deaton, C., & Graham, I. (2020). Update on cardiovascular prevention in clinical practice: a position paper of the European Association of Preventive Cardiology of the European Society of Cardiology. *European journal of preventive cardiology, 27*(2), 181-205.

Poole, L., Kidd, T., Leigh, E., Ronaldson, A., Jahangiri, M., & Steptoe, A. (2015). Psychological Distress and Intensive Care Unit Stay After Cardiac Surgery: The Role of Illness Concern. *Health Psychol, 34*(3), 283-287. https://doi.org/10.1037/hea0000183

Ranjbaran, H., Sokol, S. I., Gallo, A., Eid, R. E., Iakimov, A. O., D'Alessio, A., Kapoor, J. R., Akhtar, S., Howes, C. J., & Aslan, M. (2007). An inflammatory pathway of IFN-γ production in coronary atherosclerosis. *The Journal of Immunology, 178*(1), 592-604.

Reason, J. (2000). Human error: models and management. *BMJ, 320*(7237), 768-770.

Riegel, B., Carlson, B., Moser, D. K., Sebern, M., Hicks, F. D., & Roland, V. (2004, 2004/08/01/). Psychometric testing of the self-care of heart failure index. *Journal of Cardiac Failure, 10*(4), 350-360. https://doi.org/https://doi.org/10.1016/j.cardfail.2003.12.001

Sanaie, N., Darvishpoor-Kakhki, A., & Ahmadi, F. (2021). Patient commitment to cardiac rehabilitation: A qualitative study. *Iranian Journal of Nursing and Midwifery Research, 26*(6), 479.

Schultchen, D., Reichenberger, J., Mittl, T., Weh, T. R., Smyth, J. M., Blechert, J., & Pollatos, O. (2019). Bidirectional relationship of stress and affect with physical activity and healthy eating. *British journal of health psychology, 24*(2), 315-333.

Senol-Durak, E. (2014). Stress related growth among diabetic outpatients: role of social support, self-esteem, and cognitive processing. *Social Indicators Research, 118*(2), 729-739.

Shahabi, A., Ehteshamzadeh, P., Asgari, P., & Makvandi, B. (2021). Effectiveness of ACT vs Guided Imagery on Emotional Regulation of Cardiac Patients. *Journal of Research and Health, 11*(3), 191-202.

Shaw, S., Crozier, S., Strömmer, S., Inskip, H., Barker, M., Vogel, C., & the, E.-B. S. T. (2021, 2021/01/12). Development of a short food frequency questionnaire to assess diet quality in UK adolescents using the National Diet and Nutrition Survey. *Nutrition Journal, 20*(1), 5. https://doi.org/10.1186/s12937-020-00658-1

Sheibani, H., Sheibani, K. A., Amreei, N. N., & Masrour, M. J. (2019). An investigation of the effects of the acceptance and commitment therapy in groups on the cognitive strategies of emotion regulation and self-control in coronary heart disease patients. *Journal of medicine and life, 12*(4), 361.

Shemesh, E., Yehuda, R., Milo, O., Dinur, I., Rudnick, A., Vered, Z., & Cotter, G. (2004). Posttraumatic stress, nonadherence, and adverse outcome in survivors of a myocardial infarction. *Psychosomatic Medicine, 66*(4), 521-526.

Sigurdardottir, A. K., Sigurlásdóttir, K., Ólafsson, K., & Svavarsdóttir, M. H. (2017, Nov). Perceived consequences, changeability and personal control of coronary heart disease are associated with health-related quality of life. *J Clin Nurs, 26*(21-22), 3636-3645. https://doi.org/10.1111/jocn.13734

Silavanich, V., Nathisuwan, S., Phrommintikul, A., & Permsuwan, U. (2019). Relationship of medication adherence and quality of life among heart failure patients. *Heart & Lung, 48*(2), 105-110.

Slavich, G. M. (2020). Psychoneuroimmunology of stress and mental health. *The Oxford handbook of stress and mental health*, 519-546.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of personality and social psychology*, *60*(4), 570.

Spatola, C. A. M., Manzoni, G. M., Castelnuovo, G., Malfatto, G., Facchini, M., Goodwin, C. L., Baruffi, M., & Molinari, E. (2014a). The ACTonHEART study: rationale and design of a randomized controlled clinical trial comparing a brief intervention based on Acceptance and Commitment Therapy to usual secondary prevention care of coronary heart disease. *Health Qual Life Outcomes*, *12*(1), 22-22. https://doi.org/10.1186/1477-7525-12-22

Spatola, C. A. M., Manzoni, G. M., Castelnuovo, G., Malfatto, G., Facchini, M., Goodwin, C. L., Baruffi, M., & Molinari, E. (2014b). The ACTonHEART study: rationale and design of a randomized controlled clinical trial comparing a brief intervention based on Acceptance and Commitment Therapy to usual secondary prevention care of coronary heart disease. *Health and quality of life outcomes*, *12*(1), 22-22. https://doi.org/10.1186/1477-7525-12-22

Stanton, A. L., Revenson, T. A., & Tennen, H. (2007). Health psychology: psychological adjustment to chronic disease. *Annu. Rev. Psychol.*, *58*, 565-592.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80.

Steptoe, A., Poole, L., Ronaldson, A., Kidd, T., Leigh, E., & Jahangiri, M. (2015, 2015/04/28/). Depression 1 Year After CABG Is Predicted by Acute Inflammatory Responses. *Journal of the American College of Cardiology*, *65*(16), 1710-1711. https://doi.org/https://doi.org/10.1016/j.jacc.2014.12.068

Tangney, J. P., Baumeister, R. F., & Boone, A. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of personality*, *72 2*, 271-324.

Tennant, C. (2002). Life events, stress and depression: a review of recent findings. *Australian & New Zealand Journal of Psychiatry*, *36*(2), 173-182.

Tilden, B., Charman, D., Sharples, J., & Fosbury, J. (2005). Identity and adherence in a diabetes patient: Transformations in psychotherapy. *Qualitative health research*, *15*(3), 312-324.

Van Bulck, L., Goossens, E., Apers, S., Moons, P., & Luyckx, K. (2021). Illness identity in adults with congenital heart disease: Longitudinal trajectories and associations with patient-reported outcomes and healthcare use. *Journal of advanced nursing*, *77*(12), 4743-4754.

Van Bulck, L., Goossens, E., Luyckx, K., Oris, L., Apers, S., & Moons, P. (2018). Illness identity: A novel predictor for healthcare use in adults with congenital heart disease. *Journal of the American Heart Association*, *7*(11), e008723.

Van Bulck, L., Luyckx, K., Goossens, E., Oris, L., & Moons, P. (2019). Illness identity: Capturing the influence of illness on the person's sense of self.

Wancata, J., Krautgartner, M., Alexandrowicz, R., & Meise, U. (2001). General Health Questionnaire (GHQ) in general hospitals: selecting a set of items using a stepwise hierarchical procedure. *International Journal of Methods in Psychiatric Research*, *10*(2), 108-117. https://doi.org/https://doi.org/10.1002/mpr.105

Wiedemar, L., Schmid, J.-P., Müller, J., Wittmann, L., Schnyder, U., Saner, H., & von Känel, R. (2008, 2008/03/01/). Prevalence and predictors of posttraumatic stress disorder in patients with acute myocardial infarction. *Heart & Lung*, *37*(2), 113-121. https://doi.org/https://doi.org/10.1016/j.hrtlng.2007.03.005

Williams, R. B. (2022). *The Hostility Questionnaire Instructions: Taking a written test is the first and easiest way to evaluate. Course Hero.* https://www.coursehero.com/file/10866689/The-Hostility-Questionnaire/

Windle, G., Markland, D. A., & Woods, R. T. (2008, May). Examination of a theoretical model of psychological resilience in older age. *Aging Ment Health*, *12*(3), 285-292. https://doi.org/10.1080/13607860802120763

Wirtz, P. H., & von Känel, R. (2017). Psychological stress, inflammation, and coronary heart disease. *Current cardiology reports*, *19*(11), 1-10.

World Health Organisation. (2021). *Cardiovascular Diseases*. Retrieved 1/12/2021 from https://www.who.int/health-topics/cardiovascular-diseases#tab=tab_3

Yang, Y., Zhang, X., & Lee, P. K. (2019). Improving the effectiveness of online healthcare platforms: An empirical study with multi-period patient-doctor consultation data. *International Journal of Production Economics*, *207*, 70-80.

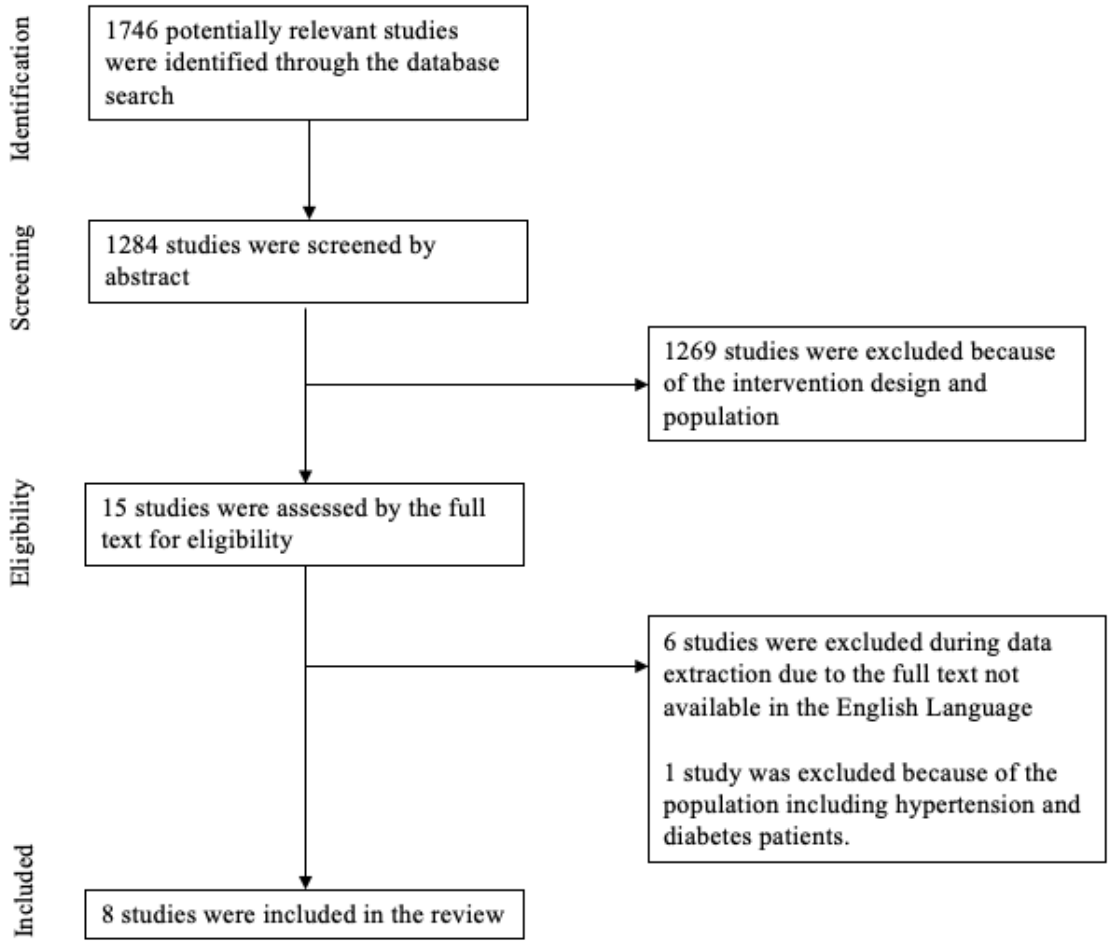
Yasunari, K., Maeda, K., Nakamura, M., & Yoshikawa, J. (2002). Oxidative stress in leukocytes is a possible link between blood pressure, blood glucose, and C-reacting protein. *Hypertension*, *39*(3), 777-780.

Yildiz, E. (2020). The effects of acceptance and commitment therapy on lifestyle and behavioral changes: A systematic review of randomized controlled trials. *Perspectives in Psychiatric Care*, *56*(3), 657-690.

Zhang, C.-Q., Leeming, E., Smith, P., Chung, P.-K., Hagger, M. S., & Hayes, S. C. (2018). Acceptance and commitment therapy for health behavior change: a contextually-driven approach. *Frontiers in psychology*, *8*, 2350.

Supplementary materials

Figure 1. PRISMA flow diagram of the data extraction process.



Quantitative Study

Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to address illness identity and improve psychological flexibility and eating behaviours and in adults with heart disease.

Alex Robson[1] orcid.org/0000-0002-1287-507X [*], **Dr Mark J. Forshaw**[1] orcid.org/0000-0001-8916-1633, **Dr Tara Kidd**[1] orcid.org/0000-0002-8307-5221

[1]Liverpool John Moores University, School of Psychology, Faculty of Health
Tom Reilly Building Byrom Street, Liverpool, L3 3AF, UK

*** Correspondence:**
Alex Robson
a.robson@2018.ljmu.ac.uk

Abstract

Patients with coronary heart disease (CHD) are at risk of a secondary coronary event and premature death which can be greatly reduced by modifiable health behaviours and psychological adjustment post myocardial infarction (MI). Acceptance and Commitment Therapy (ACT) is an evidence-based approach for psychological adjustment post MI, and it can be measured by psychological flexibility. According to the literature, illness perception, including four constructs of illness identity, *rejection*, *acceptance*, *engulfment* and *enrichment*, can influence health behaviours and psychological adjustment post MI. Therefore, The Self-Regulatory Model of Illness Perception and ACT were combined as a theoretical framework to develop the *Mind your Heart* one-time 50-minute online webinar randomised control trial intervention for 60 male and female adults with CHD. Outcomes were assessed by mixed-methods ANOVA to explore effects of the intervention between baseline and post measures at two-weeks against a control group. Results showed there to be a significant increase in *acceptance* illness identity and a reduction in *rejection* illness identity which supports the literature. Future recommendations are highlighted such as conducting the *Mind your Heart* intervention as a live online webinar for attrition and internal validity and assessing the psychological measures against behavioural outcomes such as sleep, exercise and stress-management.

Declarations: All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors did not receive support from any organisation for the submitted work. The data that support the findings of this study are available from the corresponding author, upon request. Ethical approval was obtained from the Liverpool John Moores University Research Ethics Committee.

Keywords: Coronary Heart Disease, Illness Perception, Illness Identity, Acceptance and Commitment Therapy, Psychological Flexibility, Psychological Intervention.

Introduction

Coronary Heart Disease (CHD) is associated with modifiable biological, psychological, and social risk factors with vast evidence around lifestyle and behavioural health including diet and exercise (Janssen et al., 2013; Mir, 2019; Piepoli et al., 2020; World Health Organisation, 2021). According to the British Heart Foundation (BHF), in the UK there are 63,000 deaths caused by CHD each year killing one in eight men and one in thirteen women (British Heart Foundation, 2021). Many people who are living with heart disease have experienced a cardiac event such as a heart attack, known as a myocardial infarction (MI). In most cases, an MI causes permanent damage to the heart (Kasprzyk et al., 2018). The restriction of oxygen to the heart muscle walls by a blockage in the coronary arteries causes necrosis (Kasprzyk et al., 2018). The necrosis of heart muscle wall tissue leaves a lasting impact on ventricular functioning whereby heart's efficiency to pump blood around the body is decreased (Kasprzyk et al., 2018). Each MI can cause additional necrosis resulting in a further reduction in ventricular functioning (Kasprzyk et al., 2018). Not only are the chances of survival significantly reduced for a second MI, but it can also lower quality of life and health status (Byrne et al., 2005).

Furthermore, people are at risk of developing depression and anxiety post MI which can be a predictor of poor clinical outcomes such as longer stay in an intensive care unit (ICU) following Coronary Artery Bypass Graft surgery (CABG) (Poole et al., 2015). Steptoe et al. (2015) found that depression was predicted by acute inflammatory responses one-year after CABG surgery, particularly with high concentrations of interferon gamma (IFN-γ) one-to-three days after surgery. The expression of IFN-γ is involved in lowering the availability of serotonin in the brain and also concerns cardiovascular pathology (Mangge et al., 2014; Ranjbaran et al., 2007). This not only has implications for mental health and wellbeing, but also for adverse cardiovascular outcomes (Steptoe et al., 2015). In addition, attachment anxiety, whereby individuals magnify stressful events demonstrated by greater levels of stress hormone, cortisol, predicted inflammation measured by plasma interleukin 6 (IL-6) which is associated with poor cardiac function post MI (Groot et al., 2019; Kidd et al., 2014). Kidd et al. (2014) also found that anxious attachment predicted longer stays in ICU following CABG surgery. Therefore, it is important for those living with heart disease to adapt their way of living through modifiable risk factors to maintain both mental and physical health and decrease risk of a repeat event (Byrne et al., 2005; Janssen et al., 2013; Kasprzyk et al., 2018; Kidd et al., 2014; Mir, 2019; Poole et al., 2015; Steptoe et al., 2015; World Health Organisation, 2021).

Illness perception is suggested to be both a facilitator and barrier to psychological outcomes and health behaviour change in people living with CHD (Arat et al., 2018; Petrie & Weinman, 2006; Sigurdardottir et al., 2017). In Leventhal, Meyer and Nerenez's (1980) Self-Regulatory Model of Illness (SRMI), key components of illness perceptions impact the way in which a person with CHD manages their condition are presented (Diefenbach & Leventhal, 1996). Core elements of illness perception include a patient's views on the identity of their illness, causal beliefs, timeline beliefs, beliefs about control or cure and consequences and can vary greatly between individuals with the same condition (Diefenbach & Leventhal, 1996; Petrie & Weinman, 2006). It is said that when faced with a new diagnosis or symptom, people will actively build a cognitive framework of the threat, and

this will impact how they will respond (Petrie & Weinman, 2006). Table 1 depicts the core illness perception components and the relevance of SRMI to a CHD patient is expanded below.

Table 1

Leventhal, Meyer and Nerenez's (1980) Self-Regulatory Model of Illness.

Component	Description	Clinical relevance
Identity of their illness	The degree in which an illness is integrated into a person's identity. The framework used for illness identity is the constructs of engulfment, rejection, acceptance, and enrichment (Van Bulck et al., 2019).	The patient's view of their illness can be different from the medical staff providing treatment. This may cause difficulties to motivate positive behavioural changes. Depending on the construct, the psychological intervention approach may be vastly different from patient to patient.
Causal beliefs	A belief about from where the illness originated and the reason why it has developed. Derived from Heider's Attribution Theory (1944).	Causal beliefs can influence the types of treatment the patient will seek or the behavioural changes they make to try and control their condition.
Timeline beliefs	The way in which the patient sees the period of their illness and how long it will impact their health. This can range from acute to chronic.	The timeline that a patient sees their illness can impact medication adherence with acute patients less likely to finish their course of medicine (Petrie & Weinman, 2006).
Beliefs about control or cure	The way that the patient assesses the level of control they have of returning to full health and by what timescale. Derived from Wallston and Wallston's (1982) Health Locus of Control.	Strongly linked to causal and timeline beliefs, patients tend to perceive a shorter timeline with higher levels of control over their illness (Petrie & Weinman, 2006).
Consequences	The assessment of the impacts that the illness will have on the patients work, lifestyle, relationships, and finances.	The subjective severity of a patient's illness can impact the perceived consequences regardless of objective clinical markers of disease severity (Petrie & Weinman, 2006).

Research by Van Bulck et al. (2019) argues that the illness identity component can be distinguished further within illness perceptions to predict a person's behaviours following a health condition diagnosis (Oris et al., 2018). They suggest that through measuring illness identity alone, it is possible to find four distinct components some, *acceptance, rejection, engulfment,* and *enrichment.* The *rejection* illness identity refers to the degree by which the patient's diagnosis is seen as a threat or is unaccepted as part of their identity (Oris et al., 2016; Van Bulck et al., 2018). It associated with poor medication adherence and poor self-management which is linked to adverse psychological outcomes such as anxiety and depression (Tilden et al., 2005; Van Bulck et al., 2019). Similarly, an *engulfment* style illness identity is demonstrated by the patient's identity being consumed by their illness and is associated with health anxiety and depression and predicts frequent healthcare use (Morea et al., 2008; Van Bulck et al., 2018). The remaining constructs represent positive integrations into illness identity, *acceptance* and *enrichment* (Van Bulck et al., 2018). The *acceptance* illness identity is associated with psychological adjustment which facilitates positive health behaviours and psychological wellbeing (Morea et al., 2008; Van Bulck et al., 2018). And, similarly, an *enriched* illness identity is associated with positive health behaviour change and psychological adjustment maintained through social outcomes (Senol-Durak, 2014; Van Bulck et al., 2018). It is said that those with an *enriched* illness identity are more likely to become active in community groups to support others with CHD (Senol-Durak, 2014; Van Bulck et al., 2018). Although illness identity has not been assessed

specifically for CHD patients, it has been examined across long-term and chronic conditions including diabetes (Oris et al., 2016; Senol-Durak, 2014; Tilden et al., 2005), congenital heart disease (Van Bulck et al., 2021; Van Bulck et al., 2018) and fibromyalgia (Morea et al., 2008) by which psychological adjustment is an important process for mental and physical health outcomes. However, researchers have not yet addressed the psychological mechanisms which can change illness identity from *rejection* and *engulfment* to *acceptance* and *enrichment* with psychological intervention. More specifically there have not been any studies that have researched CHD patients specifically. Therefore, the present study aims to address the gap in the literature base.

A psychological intervention that is shown to be effective for addressing both psychological and behavioural outcomes of long-term and chronic conditions (LTCC) such as CHD is Acceptance and Commitment Therapy (ACT) Hayes' (1986) (Gloster et al., 2020; Graham et al., 2016; Yildiz, 2020; Zhang et al., 2018). ACT uses six core components to promote a 'willingness to pivot towards acceptance' to overcome unwanted behavioural outcomes, such as experiential avoidance, as the foundation of practice (Hayes et al., 2006; Zhang et al., 2018). Level of experiential avoidance, or, arguably, *rejection* of diagnosis within illness identity (Van Bulck et al., 2019), is measured by psychological flexibility and the ACT approach has a strong evidence base for health behaviour change in those with LTCC (Hayes et al., 2006). Specific components in the ACT Hexaflex model include, *contact with values, present moment awareness, cognitive defusion, self-as context,* and *value consistent action* (Hayes et al., 2006). Table 2 depicts the ACT Hexaflex model which includes psychological rigidity, or experiential avoidance, as a pathology and psychological flexibility, or *acceptance*, as a health and treatment process (Hayes et al., 2006).

According to ACT, in the example of a CHD patient with a perceived illness identity of *rejection*, introducing ACT activities to promote *acceptance* could overcome the barriers to health behaviour change (Hayes et al., 2006; Hayes et al., 2012; Van Bulck et al., 2019; Zhang et al., 2018). For someone with an *engulfment* illness identity *present moment awareness*, *cognitive defusion* and *self-as-context* ACT activities could be beneficial for over attachment to a conceptualised-self, pre-CHD diagnosis and health anxiety (Hayes et al., 2006; Hayes et al., 2012; Kidd et al., 2014; Van Bulck et al., 2019; Zhang et al., 2018). *Contact with values* could also potentially facilitate meaningful and life purpose based behaviours and promote psychological flexibility for CHD patients presenting with *rejection and engulfment* illness identity (Hayes et al., 2006; Van Bulck et al., 2019).

Table 2

Hayes et al.'s (2012) ACT Hexaflex core components in relation to CHD patients.

Psychological Rigidity	Psychology Flexibility
Experiential avoidance: Avoidance of emotions or thoughts by engaging in avoidance strategies like busyness or distraction.	Acceptance/Willingness: A willingness to move towards acceptance of whatever is out of your control and choosing to act mindfully rather than react.
Dominance of conceptualised past and fear of future: Continuous worry, rumination and planning.	Being in the present moment: Behaving mindfully and having an awareness of what's going on in the here and now.
Absent or confused values:	Clarity and contact with values:

Avoidance, of meaningful life activities and an overreliance on what others or society promotes as important.	These are different to goals and usually promote pro social behaviours.
Inactivity, avoidance and impulsivity: Actions are only pursued under certain conditions; procrastination is evident and committed action is not seen as a free choice.	Committed actions based on values: Actions are made in line with core values and are flexible with choice and autonomy.
Attachment to the conceptualised self: Individuals see themselves no more than verbal descriptions and memories rather than a self as perspective in context.	The self as context: Developing the ability to see the self as an observer. You are not your thoughts and emotions.
Cognitive fusion: Attachment to internalised beliefs, and difficulty recognising thoughts as the product of the mind.	Defusion: Flexibility of thoughts in context, non-attachment to beliefs.

With current COVID-19 restrictions on group work and minimised face-to-face contact with patients, especially in healthcare settings, recourses should be guided towards generating effective remote psychological interventions across online platforms. Thus, the proposed study was designed to be delivered online as a practical adjustment to reflect the changes in ways of communicating and interacting with healthcare (Yang et al., 2019).

To address the discrepancies in the literature base, the following research questions are posed. Will the one-time online webinar, *Mind your Heart*, psychological intervention improve illness perceptions (BIPQ; Broadbent et al., 2006), illness identity (IIQ; Oris et al., 2016), psychological flexibility (AAQ-II; Bond et al., 2011) and healthy eating behaviours (SFFQ; Shaw et al., 2021) in a population of UK adults with CHD from baseline at two-week post measure and between the intervention and control group? Furthermore, are there any interactions between the four illness identity constructs, *acceptance*, *rejection*, *engulfment*, and *enrichment*, and psychological flexibility (AAQ-II; Bond et al., 2011) and healthy eating behaviours (SFFQ; Shaw et al., 2021) between the intervention and control group?

Hypotheses

1) A one-time online webinar, *Mind your Heart*, psychological intervention will show improvement by a decrease in illness perception scores (BIPQ; Broadbent et al., 2006), *rejection* and *engulfment*, illness identity scores (IIQ; Oris et al., 2016), psychological flexibility scores (AAQ-II; Bond et al., 2011), and food consumption frequency scores (SFFQ; Shaw et al., 2021) and an increase in *acceptance* and *enrichment* illness identity scores (IIQ; Oris et al., 2016) from baseline at two-week post measure compared to a control group.

2) The control group will not differ from baseline for each of the outcome measures (Bond et al., 2011; Broadbent et al., 2006; Oris et al., 2016; Shaw et al., 2021).

3) There will be an interaction effect between the four constructs of illness identity, *acceptance*, *rejection*, *engulfment*, and *enrichment* (IIQ; Oris et al., 2016) and illness perceptions (BIPQ; Broadbent et al., 2006), psychological flexibility (AAQ-II; Bond et al., 2011) and healthy eating behaviours (SFFQ; Shaw et al., 2021) between the experimental and control group which will not differ from baseline.

Method

The aim of this study was to quantitatively explore whether a one-time psychological intervention online webinar, *Mind your Heart*, using Leventhal's (1980) SRMI illness perception framework combined with ACT constructs will positively change the way a person perceives and identifies with their illness, improve psychological flexibility and change eating behaviours in 60 adults with CHD in the UK compared to a control group (Diefenbach & Leventhal, 1996; Hayes et al., 2006; Van Bulck et al., 2019). This aims to address the gap in the current literature and potentially provide an evidence-based approach for CHD patients with *rejection* and *engulfment* illness identity to facilitate mental and physical health outcomes.

Design

This was an online randomised control trial design with exploring both between and within subjects variables, over a two-week period. The independent variables were time with two levels, including baseline and two-week post-test, and condition with two levels, experimental and control group. The dependent variables were illness perception, the four constructs of illness identity *acceptance, rejection, engulfment,* and *enrichment,* psychological flexibility and food type consumption frequency.

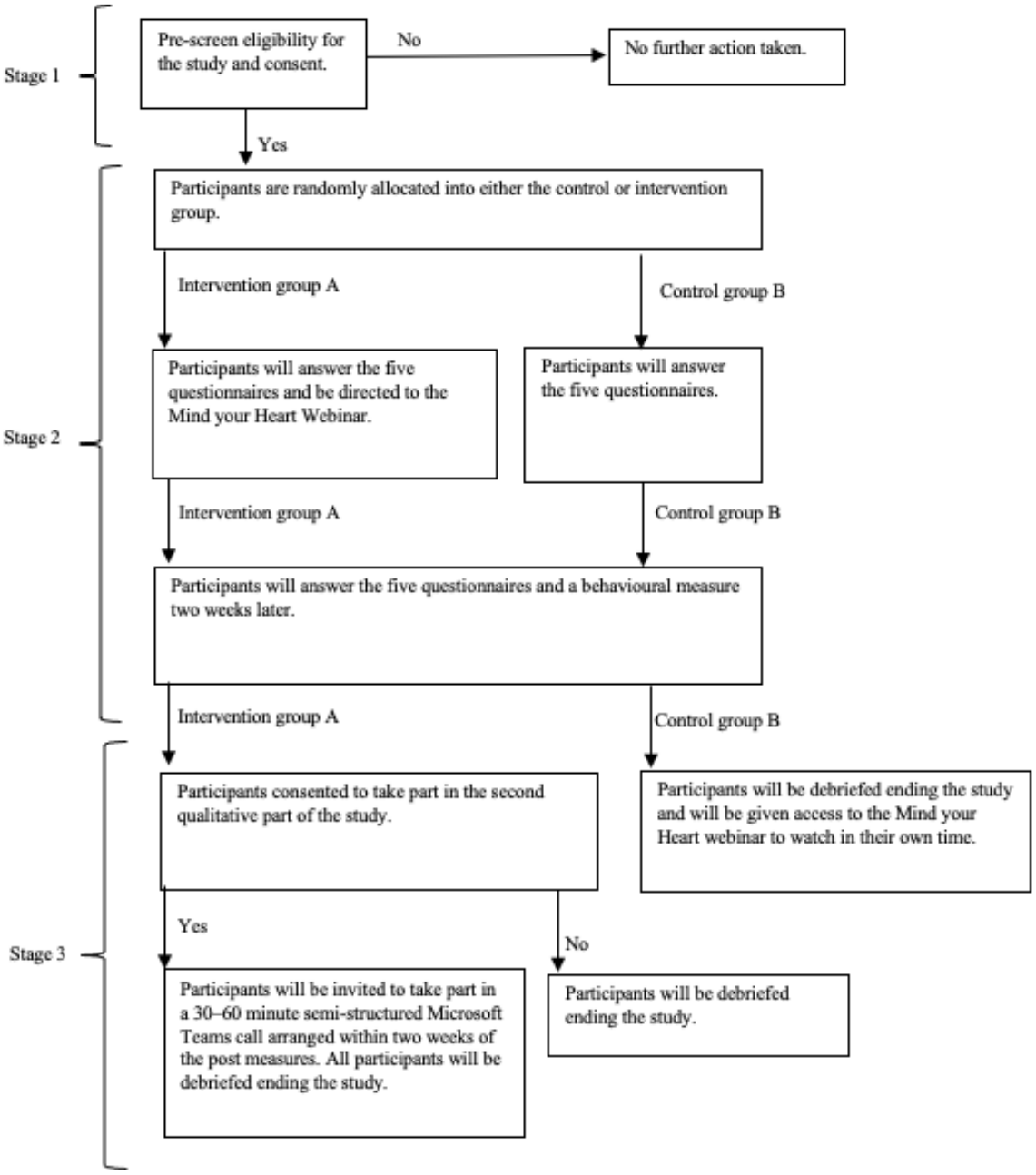
Participants

Participants were recruited from online platform social media advertisement, and from gatekeepers at phase four cardiac rehabilitation support services across the UK. See Figure 1 below for recruitment process flowchart. The advertisements contained the link to the study pre-screening which then automatically either provide the participant with the link to proceed to the full study or rejected the participant based on the inclusion and exclusion criteria. From a sample of 86 that completed the pre-screening information to take part in the study, 60 participants completed the full study, 38.3% of which were female with an age range of 43-77 years and a mean age of 59.9 years (SD = 7.6). A total of 27 participants were randomly allocated to the control group. Reasons for this uneven split between experimental and control group was because of more than 80% missing data and dropouts. See results section for additional demographic data.

Reasons for only using low-risk heart disease patients in the study was that the participants were encouraged to make changes to their health behaviours during the intervention, and the risk of engaging with health behaviours such as dietary changes must be low to ensure their safety, prevent harm and to maximise benefits from the study (American Association for Cardiovascular and Pulmonary Rehabilitation, 2012). Guidance was taken from the American Association for Cardiovascular and Pulmonary Rehabilitation (AACPR) (2012) which is the global standard of risk stratification for cardiac rehabilitation.

Figure 1

Study recruitment process flowchart



Inclusion criteria

The AACPR (2012) informed recruitment of adults in the general UK population who have managed and stable CHD six-months post diagnosis including low risk for comorbidities such as managed and under control Type 1 and Type 2 diabetes, hypertension, hypercholesterolemia. This included people who have had one coronary event

such as an MI and have received either PCI or CABG surgery more than a six-months prior to the study without complications.

Exclusion criteria

Those who had experienced a more than one MI with complications causing heart failure, tachycardia and arrythmias, were fitted with an implantable cardioverter defibrillator (ICU), have had a stroke, a cardiac arrest, or a cardiac transplant, or have had hereditary conditions such as valvular heart disease and congenital heart diseases were excluded. These conditions are high risk according to the American Association of Cardiovascular and Pulmonary Rehabilitation risk stratification (AACPR) (2012) and any dietary, fitness or lifestyle changes should be done under medical supervision. Similarly, unstable metabolic conditions such as uncontrolled or newly diagnosed (within the last month) hyperthyroidism and Type 1 diabetes and Type 2 diabetes were excluded due to their risk for medically unsupervised health behaviour changes.

Measures

Pre-screen: Participants were pre-screened using the AACPR (2012) risk assessment to ensure that only those with managed and under control low-risk heart disease took part in the study. It was presented in an eligibility criterion where the participant was instructed to read the questions and if they ticked yes to all in the *"eligible"* category and no to all in the *"not eligible"* category then they were presented with the next stages of the intervention. Guidance on working with this population has been drawn from the British Association of Cardiac and Pulmonary Rehabilitation and the principal researcher is a trained cardiac rehabilitation fitness instructor so was aware of the guidelines and practice. If at any point the participant answered questions that deemed them not eligible for the study, then they could not access the next stages of the intervention and were directed to close the programme. In addition to qualifications in cardiac rehabilitation exercise instructing, the principal investigator was also a certified ACT practitioner.

Pre and post measures: Participants were asked to complete a demographic questionnaire including information including age, gender, ethnicity, marital status, occupation, and education level. The BIPQ was used to provide an overall measure of illness perception. This eleven-item questionnaire uses an eleven-point Likert scale scoring 0-10, zero being varying responses such as *"no affect at all"* and *"don't understand at all"*, to ten being various responses such as *"extremely helpful"* and *"understand very clearly"*. The final three questions ask the participant to list the three most important factors they believe caused their illness. Items three, four and seven were reverse scored with ranges of 0-80 and a higher score indicates a threatening view of their illness. No cut off points are reported.

The Illness Identity Questionnaire (IIQ) (Oris et al., 2016) was used to measure the changes in the way the participants identify with their CHD within four constructs *rejection* ($\alpha = .76$), *acceptance* ($\alpha = .81$), *engulfment* ($\alpha = .92$), and *enrichment* ($\alpha = .95$). This 25-item questionnaire is presented on a five-point Likert scale from *"strongly disagree"* to '*strongly agree".* There are no cut off scores, the highest score between each of the four categories gives an indication of the dominant illness identity.

The Acceptance and Action Questionnaire (AAQ-II) (Bond et al., 2011) (α = .89) was used to measure the changes in psychological flexibility and acceptance in relation to their CHD which is predicted by use of ACT components. The seven-item test uses a seven-point Likert scale ranging from one, *"never true"*, to seven, *"always true"* to assess general psychological flexibility in acceptance and action. Lower scores indicate psychological flexibility which is a positive result. There are no reported cut off scores apart from 24-28 which are thought to be associated with symptoms of depression and anxiety.

The Short Food Frequency Questionnaire (SFFQ) (Shaw et al., 2021) (α = .92) was used to capture behaviour change between baseline and two-weeks follow up. This 21-item questionnaire assesses the frequency of foods eaten over a period of two-weeks with the additional questions asking about adding salt to food. Items are scored on a seven-point Likert scale ranging from *"never"* to *"more than once a day".* Items 3, 11, 12, 13, 14, 15, 17, 18, 20 and 21 are reverse scored. Higher scores indicate better food choices.

Finally, only those in the experimental group A were asked about the SMART goal they set and if they achieved this at two-weeks post intervention. This brief five-item questionnaire comprises of a mixture of *"yes/no"* answers, open-ended questions, and ten-point Likert-scales to assess whether SMART goals the participant set themselves at the end of the webinar were achieved at the two-week follow up and any feedback about their experience.

Intervention

The *Mind your Heart* online webinar psychological intervention took 50 minutes to complete and contained a combination of images, text and audio and activities derived from SRMI (Diefenbach & Leventhal, 1996) and ACT evidence base (Hayes et al., 2006). The webinar was designed to be an educational psychological intervention. The participant was required to listen and watch the webinar presentation, which they could pause at any time and take part in the activities as they were prompted. The webinar was broken down into four subcategories of A) basic terminology of heart disease, B) evidence-based health advice and guidance for people with heart disease, C) acceptance and commitment therapy for living with heart disease and D) action and further support. Participants used basic keyboard functions instructed by the online platform Qualtrics to navigate through the webinar, and they could take a break and skip questions they did not want to answer. The elements that map onto illness perception are addressed in sections, A and B and D (Diefenbach & Leventhal, 1996). Elements that corresponded to ACT was introduced in section C (Hayes et al., 2006).

The NHS website reports to be an average reading age of 16 years, but studies have shown the UK's average reading age to be in line with the level of a nine-year-old (NHS, 2022). Therefore, this study used language in line with a nine-year-old reading age which was ascertained through an online readability report tool. Section A) contained an introduction to heart disease which included basic terminology and anatomy of the human heart. The SRMI component addressed by this section was *causation beliefs, control/cure beliefs, consequence and timeline beliefs*. Section B) explored ways in which the participant can maintain heart health with explanations of modifiable risk factors compared to unmodifiable risk factors such as dietary salt intake, cholesterol, healthy fats and unhealthy fats, exercise, self-assessment, and medication adherence. The SRMI elements addressed in this

section were *illness identity, causation beliefs, control/cure beliefs, consequence and timeline beliefs*. Section C) provided ACT around living with CHD and an interactive activity of identifying personal values through ranking 40 common values was included as to promote the ACT component *contact with values*. Following this activity, the participants watched the passengers on a bus metaphor which prompted self-reflection and facilitated the ACT components of *willingness to accept*, s*elf-as-context* and *cognitive defusion*. The ACT component *contact with the present moment* was facilitated by a 60 second mindfulness activity which involved focusing on an orange circle and breathing in sync with it expanding and contracting. Finally, Section D) taught the concept of SMART goals and prompted the participant to complete their own SMART goal to complete in two-weeks at post measure. Also, non-medical support information and medication resources was provided.

Procedure

Stage 1. Pre-screen: From social media advertisement, participants used the study link to consent to the pre-screening questionnaires. Participants could not continue to the next stages of the research unless they fulfilled the pre-screening criteria. It took around five-minutes to complete this stage. If eligible, the participants received the link to the study via email where they were randomly allocated to either the experimental group or the control group. The computer programme, Qualtrics, automatically did this and the link provided either contained the consent to the full study baseline questionnaires and webinar if they are in the experimental group or just the consent to the full study and baseline questionnaires if they are in the control group..

Stage 2. Baseline: The participants used an individual link sent to their email address to complete the full study. They could complete this stage immediately or they could have waited to complete it at a convenient time. Once they clicked on the link, the participants were directed Qualtrics to answer all four baseline questionnaires that appeared in succession on screen. This took no more than 30 minutes. For those participants in the control group, they were directed to close the programme after completing the baseline questionnaires. Those in the experimental group were directed to watch the *Mind your Heart* webinar which appeared on screen following the completion of the baseline questionnaires. It took 50 minutes to watch the webinar. The participant was directed to set themselves a SMART target in Qualtrics and were then asked to close the programme. The control group was given access to the webinar after the post measures data was collected via a link sent to their email address.

Post measures: The participants were emailed with the link to the post measures two-weeks after the date they completed the baseline questionnaires. This contained the same four online questionnaires in Qualtrics which appeared in succession. An additional questionnaire assessing completion of their SMART goal that the participants in the experimental group set themselves at the end of the webinar also appeared on screen to those allocated to this group. This took approximately 30 minutes. All participants were emailed a debrief containing support information.

Data analysis

Statistical software IBM SPSS version 26 was used throughout the analysis. The following assumptions were checked which informed the analysis of the data to include parametric and non-parametric tests. All dependent variables (DV) yielded interval data. All measures were calculated by total mean score apart from the IIQ (Oris

et al., 2016) which was separated into four individual measures of illness identity to reflect each construct *rejection, acceptance, engulfment* and *enrichment.* Four individual mean scores were calculated by questions related to each factor (Oris et al., 2016). Skewness and kurtosis was assessed and revealed that only the BIPQ (Broadbent et al., 2006), the *acceptance* IIQ (Oris et al., 2016), AAQ-II (Bond et al., 2011) and the SFFQ (Shaw et al., 2021) had normal distribution and homogeneity of variance. The remaining DVs were analysed using non-parametric tests. Additional checks of Boxes M was carried out to assess covariance for repeated measures ANOVA. The four outcomes that met the assumptions were analysed by within-subjects ANOVAs and the remaining two that did not meet parametric assumptions were analysed by the non-parametric equivalent, a Friedman's Test.

Results

Individual within-subjects ANOVAs were performed and where assumptions were not met, a Friedman non-parametric test was conducted. Assumptions were met for, illness perceptions (Broadbent et al., 2006), illness identity *acceptance* construct questions (Oris et al., 2016), psychological flexibility (Bond et al., 2011) and food consumption frequency behaviour (Shaw et al., 2021) only and were analysed by a one-way ANOVA. The descriptive statistics show demographics between the experimental and control group detailed in Table 3 below.

The BIPQ (Broadbent et al., 2006) revealed there was no significant difference found between experimental and control groups from baseline, Wilks' $\Lambda = .999$, F (1, 58) = .051, $p = .823$ partial $\eta^2 = .001$. Participants' illness perceptions towards CHD (BIPQ; Broadbent et al., 2006) did not significantly differ based on their exposure to the Mind your Heart webinar psychological intervention from baseline measures.

The IIQ *acceptance* (Oris et al., 2016) showed a significant difference between experimental and control groups from baseline, Wilks' $\Lambda = .847$, F (1, 58) = 10.468, $p = .002$ partial $\eta^2 = .153$. The participants' illness identity *acceptance* towards CHD (Oris et al., 2016) significantly differed based on exposure to the Mind your Heart webinar psychological intervention from baseline measures.

The AAQ-II (Bond et al., 2011) revealed there was no significant difference found between experimental and control groups from baseline, Wilks' $\Lambda = .985$, F (1, 58) = .892, $p = .349$ partial $\eta^2 = .015$. Participants' psychological flexibility (AAQ-II; Bond et al., 2011) did not significantly differ based on their exposure to the Mind your Heart webinar psychological intervention from baseline measures.

The SFFQ (Shaw et al., 2021) revealed there was no significant difference found between experimental and control groups from baseline, Wilks' $\Lambda = .937$, F (1, 58) = 3.872, $p = .054$ partial $\eta^2 = .063$. Participants' food consumption frequency behaviours (SFFQ; Shaw et al., 2021) did not significantly differ based on their exposure to the Mind your Heart webinar psychological intervention from baseline measures.

Table 3

Demographic data.

Characteristic	A			B		
	%	M	SD	%	M	SD
Age		60.97	8.7		58.67	5.98
Gender		1.55	.506		1.67	.480
Male	54.5			66.7		
Female	45.5			33.3		
Ethnicity		1.45	1.03		1.30	.86
White	81.8			88.9		
South Asian	12.1			3.7		
Black	3			7.4		
Other	3					
Qualification		2.79	1.99		1.78	.93
GCSE	36.4			48.1		
Higher National Diploma	27.3			33.3		
Not Specified	21.2					
A-Level	6.1			11.1		
Post Graduate Degree	6.1					
Undergraduate Degree	3			7.4		
Occupational Status		1.36	.653		1.56	.69
Retired	72.7			55.6		
Employed	18.2			33.3		
Unemployed	9.1			11.1		
Marital Status		1.79	1.29		2.04	1.19
Married	66.7			48.1		
Divorced	15.2			25.9		
Widowed	9.1			7.4		
Co-habiting	6.1			14.8		
Separated	3					
Dating				3.7		

Note. A = experimental group. B = control group. N = 60, [a]n = 33, [b]n = 27.

Table 4

Results for the within-subjects ANOVA for the outcomes that met parametric assumptions.

Outcome Measure			Mean	SD	Sum of Squares	*df*	F	*p*
BIPQ								
	Baseline	Experimental	6.606	.635				
		Control	6.902	.649				
	Week-two	Experimental	4.787	.352				
		Control	5.037	.427				
	Time*Group				.017	1	.051	.823
IIQ Acceptance								
	Baseline	Experimental	3.051	.382				
		Control	3.135	.514				
	Week-two	Experimental	3.257	.361				
		Control	3.037	.611				
	Time*Group				.695	1	10.486	.002*
AAQ-II								
	Baseline	Experimental	3.298	.746				
		Control	3.354	1.028				
	Week-two	Experimental	2.103	.666				
		Control	2.471	.991				
	Time*Group				.719	1	.892	.349
SFFQ								
	Baseline	Experimental	3.588	.521				
		Control	3.529	.432				
	Week-two	Experimental	3.548	.415				
		Control	3.562	.432				
	Time*Group				.041	1	3.872	.054

Note. * Indicates a significant mean difference at a level of .05.

The following tests did not meet parametric assumption and were analysed using a Friedman test. IIQ *rejection* (Oris et al., 2016) experimental group from baseline significantly differs, p <.05*, mean rank = 1.89 at baseline and 1.52 at two-weeks. The control from baseline, p = .819, indicates a significant response compared to the control group which was expected to not differ from baseline. This indicates that the *Mind your Heart* intervention significantly reduced *rejection* illness identity towards CHD from baseline at two-weeks compared to the control group.

IIQ *engulfment* (Oris et al., 2016) experimental group from baseline did not significantly differ, p = .083. However, the control from baseline, p = .025, was significantly different which was not expected. Therefore, the *Mind your Heart* intervention did not change *engulfment* illness identity towards CHD from baseline at two-weeks compared to the control group.

IIQ *enrichment* (Oris et al., 2016) experimental group from baseline does not significantly differ, p = .134. The control from baseline, p =.275 was significantly different which was to be expected. Therefore, the *Mind your Heart* intervention did not change *enrichment* illness identity towards CHD from baseline at two-weeks compared to the control group.

Table 5

Results of the Friedman test for the outcomes that did not meet parametric assumptions.

Outcome Measure		Mean	SD	Mean Rank
IIQ Rejection				
Baseline	Experimental	2.709	.692	1.89
	Control	2.585	.788	1.48
Week-two	Experimental	1.672	.449	1.11
	Control	2.763	.576	1.52
IIQ Engulfment				
Baseline	Experimental	2.841	.561	1.45
	Control	2.625	.463	1.31
Week-two	Experimental	2.859	.552	1.55
	Control	2.944	.585	1.69
IIQ Enrichment				
Baseline	Experimental	3.055	.446	1.41
	Control	3.222	.352	1.59
Week-two	Experimental	3.141	.377	1.59
	Control	3.067	.296	1.41

Discussion

The present study found evidence to support that illness identity *acceptance* was improved and *rejection* was reduced (IIQ; Oris et al., 2016) in people with CHD from taking part in the *Mind your Heart* webinar ACT based psychological intervention compared to a control group at two weeks post measures (Hayes et al., 2006; Van Bulck et al., 2018). A higher score indicates higher levels of a *rejection* illness identity and two weeks post measures for the experimental group showed lowered *rejection* compared to the control group.. In addition, the IIQ (Oris et al., 2016) illness identity *acceptance* differed both baseline and post between groups. A higher score indicates higher levels of an *acceptance* illness identity and scores for the experimental group show higher levels of *acceptance* compared to the control group at post measure. The literature and the results from this study provide support for the effect of ACT based psychological online intervention on the positive illness identity attribute of *acceptance* (Hayes et al., 2006; Van Bulck et al., 2018). In addition, this approach provides promising results for addressing the adverse illness identity constructs such as *rejection* that are known barriers of psychological wellbeing and behaviour change post MI (Hayes et al., 2006; Van Bulck et al., 2019). The findings support the wider literature on use of brief online ACT interventions with a CHD diagnosis and the importance of addressing adverse illness perceptions and *rejection* illness identity and facilitating *acceptance* illness identity (Gloster et al., 2020; Hayes et al., 2006; Morea et al., 2008; Oris et al., 2018; Senol-Durak, 2014; Tilden et al., 2005; Van Bulck et al., 2021; Van Bulck et al., 2018; Van Bulck et al., 2019; Zhang et al., 2018) .

The BIPQ (Broadbent et al., 2006), the AAQ-II (Bond et al., 2011) and the SFFQ (Shaw et al., 2021) was not statistically significant from baseline against the control group. These results defied initial expectations from the literature review and possible reasons for this are explored drawn from the estimated marginal means plots from all SPSS statistical outputs. Furthermore, the IIQ *engulfment* and *enrichment* (IIQ; Oris et al., 2016) did not produce statistically significant changes from baseline against the control group and are discussed from the mean rank scores in Table 5.

BIPQ (Broadbent et al., 2006) illness perception in the experimental group differed from baseline. A lower score indicates better illness perception. Therefore, despite producing a result that did not statistically differ, this effect was expected. However, the control group also differs between baseline and post measures indicating better illness perception at post measure. This would suggest that illness identity improved for both groups at post measure from baseline and is a threat to validity suggesting that the SRMI and ACT psychological intervention did not influence illness perceptions and unknown variables may have been involved. The study design could have influenced illness perceptions in that the activity of answering the online questionnaires alone may have been factor. Further investigation of this is needed with a repeat trial of the study.

The AAQ-II (Bond et al., 2011) psychological flexibility differed from baseline. A lower score indicates higher levels of psychological flexibility and scores for the experimental group show lower scores compared to the control group at post measure. However, the control group also differs between pre and post measures indicating higher psychological flexibility at post measure. This would suggest that psychological flexibility improved for both groups at post measure from baseline and is a threat to intervention validity. To reiterate, this was not an expected result and further investigation is needed to assess the effect.

The SFFQ (Shaw et al., 2021) dietary behaviours differed both pre and post and between groups. A lower score indicates better dietary behaviours and scores for the experimental group show lower scores compared to the control group at post measure. However, the control group also differs between pre and post measures indicating poor dietary behaviours at post measure. This confirms what was to be expected in that the experimental group scores would increase to suggest better dietary behaviours and the control to either stay the same or get worse over time. In a short timeframe of two weeks, it would have been expected for the control group to have no difference from baseline. However, there are extraneous factors that could have influenced this including the time of year which traditionally sees a notable rise in health behaviours following Christmas holidays, and history effects such as a change in personal circumstances or motivation to change eating behaviours due to public health promotion and advertisement.

IIQ (Oris et al., 2016) illness identity *engulfment* mean rank scores for the experimental group differed both from baseline and between groups. A higher score indicates higher levels of an *engulfment* illness identity. Mean rank scores for the experimental group at baseline show a small incline in *engulfment* which was not to be expected. Furthermore, the control group showed the more of a difference from baseline at post measure. This is also a concern for internal validity in that the control saw a significant negative effect on higher scores of engulfment at two-weeks post measure. It could perhaps be explained by a lack of psychological support for the control group after completing the prequestionnaires from the *Mind your Heart* intervention, which the experimental group received. Perhaps the prequestionnaires alone primed the participants to think more about their CHD and the adverse impacts.

IIQ (Oris et al., 2016) illness identity *enrichment* differed from baseline and between groups. A higher score indicates higher levels of an *enrichment* illness identity. Mean rank scores for the experimental group at baseline show higher levels of *enrichment* at post measure, which was not expected. In addition, the control group showed a decline from baseline at post measure. The control group at post measure showed higher levels of *enrichment* compared to the control group. Again, this is a threat to internal validity as it is assumed that the control groups' scores would not change over time. However, it could be that the baseline measures primed the control group to think about their CHD which for unknown reasons facilitated enrichment in the control group. There are history effects that could have impacted these results that were not controlled such as external support sources such as family, friends and services along with characteristics such as resilience and coping styles.

Limitations

The results of the study have highlighted limitations in the approach in that it the original amount of outcome measures were over ambitious. In addition, the sample was small and there was missing data on two outcome measures that were not included in the study due to more than 80% missing data, the International Physical Activity Questionnaire (Maddison et al., 2007) which measured physical activity behaviours, and the SMART goal assessment which was a post measure available to the experimental group only because it was based on the webinar. Both the questionnaires excluded from the results were labour intensive when compared to the multiple-choice questionnaires and because of their design most responses were left blank. It was envisaged that this study

could provide evidence to support diet and exercise behaviour change, but only dietary behaviours were measured. Furthermore, during the data collection process, feedback from potential participants highlighted that the pre-screening was too restrictive. The parameters set missed out on a lot of people living with coronary artery disease that have not had an MI and have had MI preventative treatment. Future research will aim to be more inclusive to the CHD population.

Future recommendations

The current research highlights recommendations for health psychology research and practice with a population with CHD. Further research is needed to account for the limitations of the study and to explore the mechanisms of change in illness identity in CHD patients through psychological intervention (Morea et al., 2008; Senol-Durak, 2014; Tilden et al., 2005; Van Bulck et al., 2019). The following recommendations are highlighted. Regarding the design of the intervention, the online delivery could perhaps be live to facilitate participant engagement and attrition and to provide additional learning on areas such as the SMART goal section, which was not completed by most participants. To alleviate potential test fatigue, it is suggested that the Mind your Heart webinar is broken down into a smaller section and delivered over a multi-session course rather than in one session. Furthermore, attempts should be made to provide a clear explanation of the link between stress and CHD and the direct application of ACT.

As for the study design, future research should explore the relationship between illness identity and psychological flexibility on health behavioural outcomes such as sleep (Steptoe et al., 2015), diet, exercise, and stress reduction activities (Kidd et al., 2014; Morea et al., 2008; Senol-Durak, 2014; Van Bulck et al., 2021; Van Bulck et al., 2018; Van Bulck et al., 2019). A behavioural health outcome measure should be created specifically for the study to be brief and include all the aforementioned health behaviours, because currently it does not exist. If possible, characteristics such as attachment style, resilience, coping strategies and access to psychological and social support should be controlled for to mitigate threats to internal validity and to assess person-centred intervention (Kidd et al., 2014; Morea et al., 2008).

Conclusion

Although the majority of outcomes did not produce statistically significant results, there were effects found which indicate that the *Mind your Heart* psychological intervention for people with CHD was successful in improving illness identity *acceptance* and reducing *rejection* based illness identity, which according to the literature are involved in health behaviour change and psychological adjustment post MI (Hayes et al., 2006; Morea et al., 2008; Senol-Durak, 2014; Van Bulck et al., 2019). The research highlights the need for more research in this area to improve psychological intervention for people with CHD and address the limitations outlined in the study.

References

American Association for Cardiovascular and Pulmonary Rehabilitation. (2012). AACVPR Stratification Algorithm for Risk of Event. https://www.aacvpr.org/resources-for-professionals#CRPR

Arat, S., De Cock, D., Moons, P., Vandenberghe, J., & Westhovens, R. (2018). Modifiable correlates of illness perceptions in adults with chronic somatic conditions: A systematic review. *Research in Nursing & Health*, *41*(2), 173-184.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011, Dec). Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: a revised measure of psychological inflexibility and experiential avoidance. *Behav Ther*, *42*(4), 676-688. https://doi.org/10.1016/j.beth.2011.03.007

British Heart Foundation. (2021). Heart Statistics. *2021*(11 August). https://www.bhf.org.uk/what-we-do/our-research/heart-statistics

Broadbent, E., Petrie, K. J., Main, J., & Weinman, J. (2006). The Brief Illness Perception Questionnaire.

Byrne, M., Walsh, J., & Murphy, A. W. (2005). Secondary prevention of coronary heart disease: patient beliefs and health-related behaviour. *Journal of psychosomatic research*, *58*(5), 403-415.

Diefenbach, M. A., & Leventhal, H. (1996). The common-sense model of illness representation: Theoretical and practical considerations. *Journal of social distress and the homeless*, *5*(1), 11-38.

Gloster, A. T., Walder, N., Levin, M., Twohig, M., & Karekla, M. (2020). The empirical status of acceptance and commitment therapy: A review of meta-analyses. *Journal of Contextual Behavioral Science*.

Graham, C. D., Gouick, J., Krahé, C., & Gillanders, D. (2016). A systematic review of the use of Acceptance and Commitment Therapy (ACT) in chronic disease and long-term conditions. *Clinical Psychology Review*, *46*, 46-58. https://doi.org/https://doi.org/10.1016/j.cpr.2016.04.009

Groot, H. E., Al Ali, L., van der Horst, I. C. C., Schurer, R. A. J., van der Werf, H. W., Lipsic, E., van Veldhuisen, D. J., Karper, J. C., & van der Harst, P. (2019, 2019/06/01). Plasma interleukin 6 levels are associated with cardiac function after ST-elevation myocardial infarction. *Clinical Research in Cardiology*, *108*(6), 612-621. https://doi.org/10.1007/s00392-018-1387-z

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy*, *44*(1), 1-25.

Hayes, S. C., Pistorello, J., & Levin, M. E. (2012). Acceptance and commitment therapy as a unified model of behavior change. *The Counseling Psychologist*, *40*(7), 976-1002.

Janssen, V., Gucht, V. D., Dusseldorp, E., & Maes, S. (2013). Lifestyle modification programmes for patients with coronary heart disease: a systematic review and meta-analysis of randomized controlled trials. *European journal of preventive cardiology*, *20*(4), 620-640.

Kasprzyk, M., Wudarczyk, B., Czyz, R., Szarpak, L., & Jankowska-Polanska, B. (2018). Ischemic heart disease–definition, epidemiology, pathogenesis, risk factors and treatment. *Postępy Nauk Medycznych, 31*(6), 358-360.

Kidd, T., Poole, L., Leigh, E., Ronaldson, A., Jahangiri, M., & Steptoe, A. (2014, 2014/08/01/). Attachment anxiety predicts IL-6 and length of hospital stay in coronary artery bypass graft surgery (CABG) patients. *Journal of psychosomatic research*, *77*(2), 155-157. https://doi.org/https://doi.org/10.1016/j.jpsychores.2014.06.002

Maddison, R., Mhurchu, C. N., Jiang, Y., Vander Hoorn, S., Rodgers, A., Lawes, C. M., & Rush, E. (2007). International physical activity questionnaire (IPAQ) and New Zealand physical activity questionnaire (NZPAQ): a doubly labelled water validation. *International Journal of Behavioral Nutrition and Physical Activity, 4*(1), 1-9.

Mangge, H., Stelzer, I., Reininghaus, E., Weghuber, D., Postolache, T., & Fuchs, D. (2014). Disturbed tryptophan metabolism in cardiovascular disease. *Current medicinal chemistry*, *21*(17), 1931-1937.

Mir, R. M. (2019). Health Psychology and Cardiovascular Disease Research Models. *Am J Biomed Sci & Res.*, *6*(2). https://doi.org/10.34297/AJBSR.2019.06.001014.

Morea, J. M., Friend, R., & Bennett, R. M. (2008). Conceptualizing and measuring illness self-concept: a comparison with self-esteem and optimism in predicting fibromyalgia adjustment. *Research in Nursing & Health, 31*(6), 563-575.

Oris, L., Luyckx, K., Rassart, J., Goubert, L., Goossens, E., Apers, S., Arat, S., Vandenberghe, J., Westhovens, R., & Moons, P. (2018). Illness identity in adults with a chronic illness. *Journal of clinical psychology in medical settings*, *25*(4), 429-440.

Oris, L., Rassart, J., Prikken, S., Verschueren, M., Goubert, L., Moons, P., Berg, C. A., Weets, I., & Luyckx, K. (2016). Illness identity in adolescents and emerging adults with type 1 diabetes: introducing the illness identity questionnaire. *Diabetes Care*, *39*(5), 757-763.

Petrie, K., & Weinman, J. (2006). Why illness perceptions matter. *Clin Med (Lond)*, *6*(6), 536-539. https://doi.org/10.7861/clinmedicine.6-6-536

Piepoli, M. F., Abreu, A., Albus, C., Ambrosetti, M., Brotons, C., Catapano, A. L., Corra, U., Cosyns, B., Deaton, C., & Graham, I. (2020). Update on cardiovascular prevention in clinical practice: a position paper of the European Association of Preventive Cardiology of the European Society of Cardiology. *European journal of preventive cardiology*, *27*(2), 181-205.

Poole, L., Kidd, T., Leigh, E., Ronaldson, A., Jahangiri, M., & Steptoe, A. (2015). Psychological Distress and Intensive Care Unit Stay After Cardiac Surgery: The Role of Illness Concern. *Health Psychol*, *34*(3), 283-287. https://doi.org/10.1037/hea0000183

Ranjbaran, H., Sokol, S. I., Gallo, A., Eid, R. E., Iakimov, A. O., D'Alessio, A., Kapoor, J. R., Akhtar, S., Howes, C. J., & Aslan, M. (2007). An inflammatory pathway of IFN-γ production in coronary atherosclerosis. *The Journal of Immunology*, *178*(1), 592-604.

Senol-Durak, E. (2014). Stress related growth among diabetic outpatients: role of social support, self-esteem, and cognitive processing. *Social Indicators Research*, *118*(2), 729-739.

Shaw, S., Crozier, S., Strömmer, S., Inskip, H., Barker, M., Vogel, C., & the, E.-B. S. T. (2021, 2021/01/12). Development of a short food frequency questionnaire to assess diet quality in UK adolescents using the National Diet and Nutrition Survey. *Nutrition Journal*, *20*(1), 5. https://doi.org/10.1186/s12937-020-00658-1

Sigurdardottir, A. K., Sigurlásdóttir, K., Ólafsson, K., & Svavarsdóttir, M. H. (2017, Nov). Perceived consequences, changeability and personal control of coronary heart disease are associated with health-related quality of life. *J Clin Nurs*, *26*(21-22), 3636-3645. https://doi.org/10.1111/jocn.13734

Steptoe, A., Poole, L., Ronaldson, A., Kidd, T., Leigh, E., & Jahangiri, M. (2015, 2015/04/28/). Depression 1 Year After CABG Is Predicted by Acute Inflammatory Responses. *Journal of the American College of Cardiology, 65*(16), 1710-1711. https://doi.org/https://doi.org/10.1016/j.jacc.2014.12.068

Tilden, B., Charman, D., Sharples, J., & Fosbury, J. (2005). Identity and adherence in a diabetes patient: Transformations in psychotherapy. *Qualitative health research, 15*(3), 312-324.

Van Bulck, L., Goossens, E., Apers, S., Moons, P., & Luyckx, K. (2021). Illness identity in adults with congenital heart disease: Longitudinal trajectories and associations with patient-reported outcomes and healthcare use. *Journal of advanced nursing, 77*(12), 4743-4754.

Van Bulck, L., Goossens, E., Luyckx, K., Oris, L., Apers, S., & Moons, P. (2018). Illness identity: A novel predictor for healthcare use in adults with congenital heart disease. *Journal of the American Heart Association, 7*(11), e008723.

Van Bulck, L., Luyckx, K., Goossens, E., Oris, L., & Moons, P. (2019). Illness identity: Capturing the influence of illness on the person's sense of self.

World Health Organisation. (2021). *Cardiovascular Diseases*. Retrieved 1/12/2021 from https://www.who.int/health-topics/cardiovascular-diseases#tab=tab_3

Yang, Y., Zhang, X., & Lee, P. K. (2019). Improving the effectiveness of online healthcare platforms: An empirical study with multi-period patient-doctor consultation data. *International Journal of Production Economics, 207*, 70-80.

Yildiz, E. (2020). The effects of acceptance and commitment therapy on lifestyle and behavioral changes: A systematic review of randomized controlled trials. *Perspectives in Psychiatric Care, 56*(3), 657-690.

Zhang, C.-Q., Leeming, E., Smith, P., Chung, P.-K., Hagger, M. S., & Hayes, S. C. (2018). Acceptance and commitment therapy for health behavior change: a contextually-driven approach. *Frontiers in psychology, 8*, 2350.

Qualitative Study

Improving psychological intervention for people living with coronary heart disease: exploring psychological adjustment post-MI and participant experiences of the Mind your Heart online webinar.

Alex Robson[1*], Dr Mark J. Forshaw[1] orcid.org/0000-0001-8916-1633**, Dr Tara Kidd[1]** orcid.org/0000-0002-8307-5221

[1]Liverpool John Moores University, School of Psychology, Faculty of Health
Tom Reilly Building Byrom Street, Liverpool, L3 3AF, UK

*** Correspondence:**

Alex Robson

a.robson@2018.ljmu.ac.uk

Abstract

Background: Acceptance and Commitment Therapy (ACT) is said to facilitate psychological adjustment following a CHD diagnosis. However, no research has been conducted to assess MI survivors' experiences following an online psychological intervention based on ACT. **Aims:** Thematic analysis was applied as a framework to understanding the mechanisms of psychological adjustment in individuals with CHD that have taken part in a brief online ACT based psychological intervention, *Mind your Heart*. **Methods:** A sample of three women and four men, age range of 51-77 years, took part in semi-structured interviews. **Findings:** Thematic analysis revealed key themes are outlined as 1) Control 2) Behaviour Change and included *Mind your Heart* Intervention Recommendations. **Conclusion:** The findings highlighted the importance of person-centred psychological intervention to promote psychological adjustment post MI. Future research is needed to explore ACT interventions across demographics improve clinical care and facilitate psychological adjustment post MI.

Keywords: Coronary Heart Disease, Psychological Adjustment, Health Behaviour Change, Acceptance and Commitment Therapy Intervention, Thematic Analysis.

Declarations: All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors did not receive support from any organisation for the submitted work.

Ethics approval: Ethical approval was obtained from the Liverpool John Moores University Research Ethics Committee.

Introduction

In the UK there are currently 7.6 million people living with Coronary Heart Disease (CHD) (World Health Organisation, 2021). Despite cardiovascular diseases being the leading cause of death globally, medical advancements in cardiology have increased the chances of survival from a myocardial infarction (MI) to 90-97% (World Health Organisation, 2021). However, the risk of a second cardiac event is significantly increased following the first and it can lead to more cardiovascular damage, decreased quality of life and, in some cases, premature death (Byrne et al., 2005). Health Psychology is dedicated to improving clinical care, health outcomes for those living with LTC to prevent second cardiac events and maintain quality of life (Mir, 2019; Stanton et al., 2007).

It is widely reported that psychological determinants such as depression, anxiety and stress influence the management and adjustment of living with CHD (Frasure-Smith & Lesperance, 2008; McLaughlin et al., 2005). Research has highlighted how stress management plays a key role in the management of CHD with its psychosomatic influence on blood pressure, blood glucose levels and inflammatory immune response (Wirtz & von Känel, 2017; Yasunari et al., 2002). In addition, stress, depression and anxiety are shown to predict a greater risk in major adverse repeat events in CHD patients (Frasure-Smith & Lesperance, 2008). Moreover, it is suggested that the experience of a coronary event can leave lasting psychological distress (Edmondson, 2014). Some CHD patients report psychological distress that is difficult to overcome, from intense pain and discomfort, invasive emergency medical treatments, the sudden threat to mortality and personal control with potential loss of consciousness (Edmondson, 2014; Shemesh et al., 2004). Wiedemar et al. (2008) found that subjective perceptions of MI experience, regarding threat to mortality, intense fear, helplessness and horror, predicted Post-Traumatic Stress Disorder (PTSD) and that PTSD symptoms predicted further coronary events (Shemesh et al., 2004). They report that PTSD is linked to psychological distress and avoidance of stimuli associated with MI, poor lifestyle habits, reduced quality of life and impaired daily and social functioning (Edmondson, 2014; Shemesh et al., 2004; Wiedemar et al., 2008). Similar studies report that psychological distress also predicted longer stay in Intensive Care Unit following Coronary Artery Bypass Graft Surgery (Poole et al., 2015). Furthermore, a sudden change of lifestyle post MI is a known stressor, which is linked to the development of depression and anxiety in some people (Tennant, 2002).

Age is a demographic factor that can impact psychological adjustment following an MI. A qualitative study by (Merritt et al., 2017) on the effects of an MI on a sample of nine male younger adults aged 45 years found themes around experiencing a loss of perceived masculinity associated with strength, independence and ability to provide, “shortened horizons” which induced existential worry, and lifestyle related changes resulting in a loss of pleasure. Although younger adults under the age of 45 are less likely to experience MI, they accounted for 2% of CVD in the UK in 2011 (Bhatnagar et al., 2016), which is significantly lower than 28% for males and 22% for females over the age of 65 years. However, it means that in 2011 there were approximately 1.29 million people in the UK living with CVD under the age of 45 years old. Although the figures did not detail type of CVD, CVD is a major risk factor for MI. More recent statistics detailing the amount of under 45 year-olds with CVD in the UK is not currently available, with the British Heart Foundation (BHS) providing information on a single age category of under 75 year-olds (British Heart Foundation, 2021). Therefore, psychological intervention should consider the unique demographic characteristics of an individual that impacts psychological adjustment post MI.

It has been highlighted that successful psychological intervention aimed at those with a LTC, such as CHD, is person-centred and accounts for acceptance and adjustment to a new way of living after diagnosis (Ahmadi Ghahnaviyeh et al., 2020a; Petriček et al., 2015; Sanaie et al., 2021; Spatola et al., 2014a). The aim of psychological intervention is not to cure the condition, but to help the individual improve psychological outcomes, health behaviours and quality of life (Ahmadi Ghahnaviyeh et al., 2020a). As cognitive-behavioural based therapies have developed over the years, there has been an emergence of a therapeutic model that has been reported to be better suited to a LTC, known as Acceptance and Commitment Therapy (ACT) (Hayes, 1986; Karekla et al., 2019). Hayes (1986) ACT uses the foundation of Cognitive Behavioural Therapy (CBT) with more emphasis on the behavioural aspect to facilitate the main outcome of psychological flexibility. Psychological flexibility, characterised by six core components (see Table 1), is the degree to which as person accepts their issue, whether it be health or general life stressors, and behaves in a way to achieve their desired outcome in line with their core values (Hayes et al., 2006; Zhang et al., 2018). The ACT model was developed to be used as both an investigation of psychological pathology known as psychological rigidity, and as a therapeutic intervention to promote psychological flexibility (Hayes et al., 2006; Zhang et al., 2018).

Table 1. Hayes et al.'s (2012) ACT Hexaflex core components.

Psychological Rigidity	**Psychology Flexibility**
Experiential avoidance:	Acceptance/Willingness:
Avoidance of emotions or thoughts by engaging in avoidance strategies like busyness or distraction.	A willingness to move towards acceptance of whatever is out of personal control and choosing to act mindfully rather than react with impulsivity, avoidance or attempts to control.
Dominance of conceptualised past and fear of future:	Being in the present moment:
Continuous worry, rumination and planning.	Behaving mindfully and having an awareness of what is going on in the here and now.
Absent or confused values:	Clarity and contact with values:
Avoidance, of meaningful life activities and an overreliance on what others or society promotes as important.	These are deeply held core beliefs that are different to goals and usually promote pro social behaviours.
Inactivity, avoidance, and impulsivity:	Committed actions based on values:
Actions are only pursued under certain conditions; procrastination is evident and committed action is not seen as a free choice.	Actions are made in line with core values and are flexible with choice and autonomy.

Attachment to the conceptualised self:	The self as context:
Individuals see themselves no more than verbal descriptions and memories rather than a self as perspective in context.	Developing the ability to see the self as an observer. You are not your thoughts and emotions.
Cognitive fusion:	Defusion:
Attachment to internalised beliefs, and difficulty recognising thoughts as the product of the mind.	Flexibility of thoughts in context, non-attachment to beliefs.

The *Mind your Heart* online webinar psychological intervention took 50 minutes to complete and contained a combination of images, text and audio and activities derived from illness perceptions (Diefenbach & Leventhal, 1996) and ACT evidence base (Hayes et al., 2006). The webinar was designed to be an educational psychological intervention. The participant was required to listen and watch the webinar presentation, which they could pause at any time and take part in the activities as they were prompted. The webinar was broken down into four subcategories of A) basic terminology of heart disease, B) evidence-based health advice and guidance for people with heart disease, C) acceptance and commitment therapy for living with heart disease and D) action and further support. Participants used basic keyboard functions instructed by the online platform Qualtrics to navigate through the webinar, and they could take a break and skip questions they did not want to answer. The elements that map onto illness perception are addressed in sections, A and B and D (Diefenbach & Leventhal, 1996). Elements that corresponded to ACT was introduced in section C (Hayes et al., 2006).

Rationale

There is a wide spanning body of literature on ACT psychological interventions for LTC, and qualitative studies exploring psychological adjustment post MI, however, no research has been conducted to assess the unique characteristics of MI survivors' experiences following an online psychological intervention based on ACT. Qualitative accounts of people that have experienced an MI could provide a deeper exploration of the complex contextual constructs of individual experience to inform evidence-based, person-centred health psychology practice and research to improve biopsychosocial outcomes following a cardiac event. Furthermore, qualitative data provides a deeper and meaningful context that is beneficial to health psychology research and practice (Byrne et al., 2005; Sanaie et al., 2021). Therefore, the present study aimed to address this by qualitatively exploring the experience of psychological adjustment in CHD patients using a thematic analysis framework with participants who took part in a *Mind your Heart* intervention to inform evidence-based practice for future psychological interventions (Diefenbach & Leventhal, 1996; Hayes et al., 2006).

Research questions

1. What were the unique characteristics of psychological adjustment for the participants that took part in the study?
2. Was the *Mind your Heart webinar* effective in improving psychological outcomes and promoting behavioural changes MI?
3. What improvements are recommended by the participants for the *Mind your Heart* webinar intervention?

Methods

Participants

A sample of four male and three female adult participants with CHD were invited to take part in the ACT *Mind your Heart* online psychological intervention that contained heart health information to facilitate behaviour change. They were recruited via gatekeepers who deliver cardiac rehabilitation phase four community programmes across the UK and online opportunity sampling through social media advertisement. All participants had undergone percutaneous coronary intervention (PCI) with only two receiving coronary artery bypass graft surgery (CABG) as further treatment. The age range of the sample was 50 and 77 years and all participants were white British. For small projects, a sample size of six to ten participants is recommended for thematic analysis if data saturation is reached (Malterud, Siersma, & Guassora, 2016). Table 2 contains participant characteristics.

Table 2

Participant characteristics

Characteristic	Age	Marital Status	Occupation	Number of years post MI	CABG	Comorbidities	Attended cardiac rehabilitation
Andrew	50	Married	Education	1	No	None	Yes
Bernard	76	Married	Retired skilled labourer	20	No	Diabetes and throat cancer	Yes
James	56	Co-habiting	Business owner	2	No	Gallbladder disease	No
May	71	Married	Retired	8	No	Arrythmia	Yes
Ron	77	Married	Retired skilled labourer	29	Yes	Hypertension	Yes

Sam	54	Divorced	Business owner	6	No	Breast cancer and Achilles tendon rupture	No
Sarah	75	Married	Retired healthcare practitioner	21	Yes	Arrythmia and diabetes	Yes

Ethics

Ethical approval was received from the Research Ethics Committee at Liverpool John Moores University and the researchers followed British Psychological Society codes of conduct and ethical practice guidelines in designing and delivering the psychological intervention and conducting the research.

Inclusion criteria

The sampling was targeted at those who have completed the *Mind your Heart* psychological intervention. The participants had stable managed CHD at least six-months post diagnosis and had had at least one coronary event and had had either PCI or CABG surgery without complications. Participants could have had comorbidities of hypertension, type 2 diabetes, and hypercholesterolemia that were stable and managed for at least six months prior to the intervention.

Exclusion criteria

Participants in the control group of the *Mind your Heart* psychological intervention were excluded. In addition, participants who did not fully complete the psychological intervention were excluded.

Data collection

The data was collected retrospectively one-to-two weeks after the *Mind your Heart* webinar intervention study had completed quantitative data collection. Socratic questioning was used to develop an open reflective dialogue for the interview to draw out participant experience (Carey & Mullan, 2004). The interview was conducted online via a live *Microsoft Teams* video call, whereby the participant's voice only was recorded, and it was their choice whether they used their video cameras during the call.

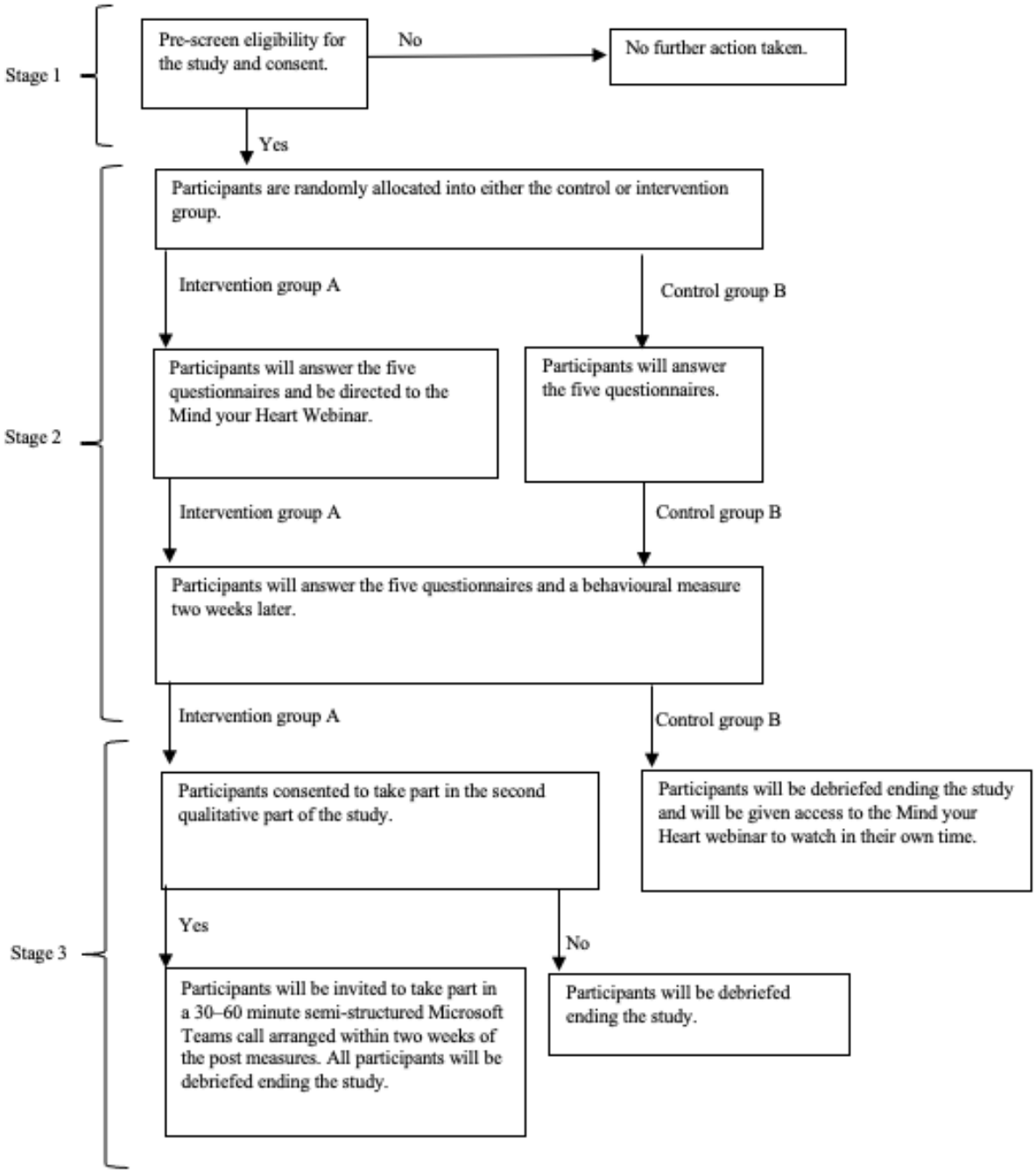
Procedure

The *Mind your Heart* psychological intervention was an online one-off one-hour webinar that contained basic heart health information and ACT activities to attempt to facilitate psychological outcomes such as psychological

flexibility and health behaviour change from baseline measures (Leventhal, Meyer & Nerenez, 1980; Hayes., 1989). Participants volunteered to take part in the qualitative study after taking part in the *Mind your Heart* online study and were part of the experimental group. After providing post-measures, participants scheduled the *Microsoft Teams* interview call via email with the researcher. As an incentive for agreeing to share experiences on a one-to-one *Microsoft Teams* call with the researcher, the participants are entered into a prize draw to win an additional £25 *Amazon* gift voucher. See flowchart in Figure 1 for process of recruitment. Each interview was recorded and transcribed and lasted between 30 and 45 minutes. The participants were fully debriefed at the end of the interview.

Figure 1

Study recruitment process flowchart



Data analysis

A qualitative constructivist interpretative approach was applied using thematic analysis as a framework. This qualitative approach is used to provide a retrospective account and exploration of participant experience of the

Mind your Heart webinar, psychological barriers and facilitators of behaviour change and improvements for future research. The participants were given pseudonyms to protect confidentiality. The data were analysed using the following recommended seven steps of transcription; reading and familiarisation, coding, searching for themes, reviewing themes, defining and naming themes, and finalising the analysis (Damayanthi, 2019). Data was coded line-by-line allowing patterns to emerge. This allowed themes to be generated and then re-examined in the interview transcripts. The final development of key themes was checked to ensure the interpretation was within context of the original transcript (Damayanthi, 2019). In addition, reflexivity was maintained throughout the process to create an awareness of the authors' personal beliefs, experiences and professional practice which could influence the interpretation and analysis (Damayanthi, 2019).

Findings

The analysis of the data revealed two main themes of control, positive psychological change, behaviour change and webinar recommendations. Main themes and subordinate themes are detailed in Table 3.

Table 3

Superordinate and subordinate themes

Superordinate theme	**Subordinate theme**
Control	Disempowerment
	Acceptance
Behaviour Change	Barriers
	Facilitators

1: Control

Control was a strong theme when participants described their psychological adjustment process following their cardiac event. The feeling of not being in control over their health was disempowering with averse psychological impacts, and perceptions of control were associated with and psychological adjustment. This theme comprised of two subthemes, *disempowerment* and *acceptance,* which were consistent throughout the data. The first subtheme *disempowerment* was chosen as patients spoke about the discomfort of not being in control over their health after their MI, as Andrew explains,

> *"In some ways, if I've been, you know, smoking and drinking and doing these unfit things I'm gonna think I can change. So, I think if I could make some changes, and then I might be able to do something to prevent another one. I can't do that. And lots of people can. The majority of people having heart attacks have changed something".* Line 204.

Andrew describes his disempowerment without being able to modify his behaviours as he does not smoke, drink alcohol and is a healthy weight with a competitive athletic level of fitness. Andrew is left searching for the ability to regain a level of control over his health and this is impacting on his wellbeing. Andrew also mentioned that he did not gain the support he was looking for from cardiac rehabilitation classes because of his level of fitness, something that was frustrating and disempowering for him. One of the patients, Sam, was unable to attend cardiac rehabilitation due to rupturing her Achilles tendon prior to her MI. This impacted her psychological adjustment because it significantly reduced her mobility. This increased social isolation took away her level of control over her health behaviours and her usual coping strategies of exercising and accessing support services. Her disempowerment is clear when she explained,

> *"I felt so helpless, I didn't know what to do, and although they gave me tablets and sent me on my way, for the first time I felt like I had let my body down and I didn't know how to feel healthy again."* Line 73.

The second subtheme of *acceptance* became evident as participants spoke about an understanding of not being able to control all aspects of their health from the *Mind your Heart* webinar and with it marked a noticeable improvement in feeling better. Interestingly, acceptance of certain aspects of life and health that are out of anyone's control is the aim of ACT which demonstrates psychological adjustment and the participants supported this throughout their narratives. Sam explained,

> "*I realise that it's okay to not be in control of everything and I realise that I have learned that we're not always in control but it's okay because I'm still going to enjoy life."* Line 182.

Conversely, Sarah explained that she already felt a sense of acceptance regarding her perception of control over her health status following her MI that was not influenced by the webinar. Sarah's level of acceptance implies a sense of psychological adjustment through her natural coping resources such as letting go of worries and value consistent action towards a life that is meaningful and purposeful. Therefore, Sarah has unique characteristics that have perhaps allowed her to develop a natural level of psychological adjustment. However, unlike Andrew who has only recently experienced his MI a year ago from the date of the interviews, Sarah experienced her MI 21 years ago. This could also mean that time without further health complications impacts psychological adjustment. Sarah describes,

"*For me, it hasn't made me any different. I try to let go of any worries that come up and not let them get in my way. I think that that's important after having a heart attack. Both my husband and I still enjoy the same life that we always have and everything in moderation."* Line 199

2: Behaviour Change

This theme emerged as the participants spoke about the *barriers* and *facilitators* of health behaviour change in relation to the *Mind your Heart* online psychological intervention as they became the two main subthemes. The *Mind your Heart* webinar contained heart health information in the first section to facilitate behaviour change before introducing ACT themes in the second section. However, the first section of the webinar was not effective for some participants and presented as a *barrier*, as Ron said,

"The beginning bit was stuff that I already knew, I sort of know what causes a heart attack and I just don't feel like there's anything else I can do to prevent another one [heart attack] *from happening."* line 229.

This would suggest that the first section of the *Mind your Heart* webinar that contained heart health information and guidance was not effective for Ron because of his pre-existing level of knowledge from involvement in a cardiac rehabilitation support group. It did not motivate him to change his behaviours because he was already engaging with all of the recommended suggestions such as a healthy diet, reduced salt intake, exercise and medication adherence. He highlights an important issue with the intervention content as his needs were not met.

It was interesting that Bernard described stress as being a barrier to health behaviour change and that he believes to have caused his MI. Bernard experienced his MI when he was at the age of early retirement and was fortunate enough to be financially secure to take it. With the support of the cardiac rehabilitation group and his wife, he was able to psychologically adjust and make health behavioural changes. However, he highlighted that stress management is an area of behaviour change still to be addressed. This suggests that the link between ACT and stress management was not clear in the webinar. Bernard said,

"I learned a lot about heart disease through the support group, so it wasn't really new to me. I can't really change much, so stress is the main thing that gets in the way." Line 226.

The participants described aspects of positive psychological change *facilitated* by to the *Mind your Heart* intervention. It seems that the participants recognised the values and mindfulness activity as being catalysts in

positive psychological change. Participants noted an increased awareness following the intervention and reported on the "Mindful Moment" activity which entailed noticing the breath for 60 seconds. Sam said,

> *"I think it's important to have that breathing space and be aware of the positive things in life because it's easy to get caught up in all what's going on around you."* Line 190.

Another participant, James, provided his thoughts on how awareness has helped him facilitate positive psychological changes. He found that going for walks and practicing mindfulness helped him in the initial stages following his MI two-years prior to the interview. It seems as though the mindfulness therapeutic element was beneficial and well received by the participants and they recognised the benefits for themselves and shared how they felt it would be helpful for others. James said,

> *"I think the mindfulness stuff was great. I thought it was really good to encourage people to do that and I've even started to do that more and I feel better for it."* Line 285

The participants also spoke about how the "Forty Common Values" (Hayes et al., 2006) activity allowed for reflection of their behaviours and they were able realign with their values and try a different approach to living. In James' case continuing to work gave him a sense of meaning and purpose that facilitated a better way of living which resulted in positive psychological change. This was facilitated by the values activity that helped him be flexible in his approach to his value of work.

> *"It made me really reconsider how I'm going to approach work because I've never said I don't want to go to work. I've got to prove myself to be a useful engine like Thomas the Tank Engine. Doing the values activity is something that's actually changed my approach to many things, and I feel like this new way of living is calm and much better."* Line 267.

Similarly, Sarah reflected on how it would serve others to connect with their values and highlighted her perspective on younger people who have experienced an MI. It is interesting that she mentioned the values activity, because it is something that is familiar to her and affirmed her existing beliefs and behaviours towards living a meaningful life, and from her perspective it facilitates positive psychological change. Also, she mentions age, that from her perspective as being younger is a disadvantage and she is thus more likely to struggle with finding meaning and life purpose.

> *"I try to enjoy life and I think other people should do the same, so I liked the bit about what gives your life a sense of meaning. I think that can be beneficial for some younger folk who don't know what makes them happy."* Line 131.

Webinar Feedback

The participants were asked to provide recommendations for the *Mind your Heart* psychological intervention based on their experiences. The following recommendations emerged regarding the format, content and delivery. Almost all participants described the heart health information in the first section of the webinar to be too basic and obvious. It was difficult for the participants to engage with because they felt it added to a sense of disempowerment and did not cater to their own unique circumstances. This does suggest that the participants demonstrated good levels of health literacy around their condition (Giuse et al., 2012). Therefore, the heart health information should not be included in future versions of the webinar unless specifically targeting those with poor health literacy.

Sam gave a practical recommendation as to the format of the webinar suggesting an audio version on podcast. This is an important point to consider as people have different ways of learning and processing information (Giuse et al., 2012). Furthermore, it would also make it more accessible to those with a visual impairment. Therefore, the future version of the webinar should be reformatted to be compatible as an audio only version, alongside a video version, and perhaps a live online version to facilitate participant engagement. Similarly, Bernard mentioned that the online webinar could be split into smaller sessions to make the information more easily digestible. The webinar lasted for 50 minutes and for some people, the duration was too long for to have to concentrate on a computer screen. It is suggested that the future webinar is split into a series

Finally, May mentioned that she experiences issues with sleep and would have liked more information on this subject within the webinar. Sleep is a known issue for post MI patients and is both a symptom of psychological disturbance and a predictor of poor health. The webinar did not explore this in depth and future versions should incorporate more on this subject. In addition, May was not just expressing her issues with sleep, she was also talking about health anxiety behaviours, such as intrusive thoughts. Research suggests health anxiety to be a key predictor of patient rehabilitation which supports the illness identity engulfment style. Therefore, the connection between health anxiety, sleep and psychological adjustment strategies, such as ACT, should be included in the webinar.

Discussion

The findings of the study suggest that the participants that took part in the *Mind your Heart* psychological intervention found the ACT therapeutic activities to be beneficial, but the CHD health information was not effective in promoting psychological adjustment. However, the findings revealed the two main themes of *Control*

and *Health Behaviour Change*, which provided rich insight for future studies around the unique characteristics of psychological adjustment post MI.

Control was a theme that emerged throughout the data as the participants spoke about it being a strong influence on their psychological adjustment following their MI. This supports the literature around illness perceptions as perceived control was found to predict clinical and psychological outcomes in CHD patients (AbuRuz, 2018; Lin et al., 2020). However, one participant, Andrew, reported that the *Mind your Heart* intervention did not influence his level of perceived control as he still struggled with disempowerment around a repeat cardiac event post intervention. Sam explained that she initially had issues with the feeling of disempowered over her health, but, through taking part in the *Mind your Heart* intervention, she was able to reframe her perspective on life and let go of attempts to control regarding her health status which signifies an acceptance. Furthermore, one participant, Sarah, had a pre-existing level of acceptance before starting the *Mind your Heart* intervention and recognised that this contributed to her psychological adjustment post MI, which meant that it did not impact on her in this way. Interestingly, this shows the differences between the participants pre-intervention based on their individual characteristics. For example, Andrew was the youngest participant at 50 years old and was the most physically active being engaged in extreme competitive outdoor sports. Andrew also experienced his MI one year prior to this study which was the shortest period of time. Sam was the second youngest participant at 54 years old whose level of personal control was influenced by the *Mind your Heart* webinar as she was able to reintegrate her pre-MI activities such as work and moderate level exercise back into her life post-MI which was six years prior to this study. This was echoed by James who was able to resume work, which is a physical job that requires mobility, with the acceptance of a new, flexible approach. For Andrew, it was not possible for him to re-engage with his level of competitive sports independently and without anxiety for a repeat event. Therefore, he was unable to regain a sense of perceived control.

Sarah at 77 years old had an existing level of acceptance towards unwanted thoughts around her health status that could have been a character strength or related to her age as a factor of accumulated resilience. This was mirrored by May who was 71 years old and had supported her partner through an MI before experiencing her own and so expressed higher levels of acceptance indicating psychological adjustment that was not influenced by the *Mind your Heart* intervention. Finally, Bernard and Ron were heavily involved in a cardiac support group, and they described that this contributed to their level of acceptance towards post MI psychological adjustment. The similarities that can be drawn from the participants that had higher levels of acceptance are that they were over 70 years old which would support the literature, however, more research is needed to explore this potential phenomenon. In a wider sense, understanding the participant group as a whole, it indicated the importance of person-centred intervention considering pre-existing levels of perceived control for patients to psychologically adjust post MI. Further intervention studies should control for these unique characteristics, demographics and coping mechanisms.

Behaviour change was a theme that provided insight into the barriers and facilitators of change. The barriers explained by the participants related to the webinar in that the level of heart health information provided in the *Mind your Heart* webinar was too basic and did not address stress management. This was a barrier for the participants to change their health behaviours. There is also the sense that the information was not personalised to the individual. It also highlights that a psychological intervention containing information on modifiable risk factors with a person who has unknown or genetic causes to their MI is not appropriate and therefore should be targeted at a different population. Nevertheless, for those who have unknown or genetic causes of the MI there should be a different approach to psychological intervention. Further research is needed to assess the mechanisms required for psychological intervention for psychological adjustment targeting those with unknown or genetic causes of MI. However, the participants supported the use of ACT reporting that the values activity and mindfulness element promoted positive change. It is suggested that researchers explore this in more depth.

The final theme of *Webinar Recommendations* provided information on the participants' experiences as they confirmed that the health information around modifiable risk factors of CHD was not engaging. The participants explained that the level of information was too basic. The health information in the *Mind your Heart* webinar provided information modifiable risk factors, however, it may be beneficial in the future to provide information on psychological adjustment post MI and health anxiety. Furthermore, a strong link between ACT activities and CHD could be made clearer to facilitate psychological adjustment to living with CHD change misconceptions around risk factors (Hayes et al., 2006; Sigurdardottir et al., 2017). The ACT therapeutic activities, such as mindfulness, "Passengers on a Bus" and "Forty Common Values" were well received by the participants but there was a distinct lack of connection to living with a LTC such as CHD and, therefore, it is suggested that stronger links are made in future interventions (Hayes et al., 2006). To elaborate, one participant, May, recommended including information about sleep, but on further inspection they particularly struggled with health anxiety intrusive thoughts. Intrusive thoughts, insomnia and health anxiety are behavioural outcomes that can be alleviated through ACT (Hayes et al., 2006; Zhang et al., 2018). Therefore, a clear link to ACT in context of health issues that impact CHD will be implemented in future interventions (Hayes et al., 2006; Zhang et al., 2018). Finally, a practical suggestion from one participant highlighted the importance of considering providing different formats of the webinar delivery such as podcasts and paper-based learning. From research into visual, auditory, kinaesthetic learning styles, people have different ways of processing information and having additional formats could also make it more accessible (Giuse et al., 2012).

Limitations

Generalisability is an issue with this study as it was not representative of all the participants who took part in the *Mind your Heart* study. However, each step recommended by Damayanthi (2019) was carried out with transparency to provide rigour and trustworthiness. Furthermore, the participants had varied length of time since their MI so this could have impacted on their response to the *Mind your Heart* intervention and their narratives in the semi-structured interview. Research should address this limitation in future to ensure participants have a similar timeline within a smaller range post MI.

Conclusion

The participants provided a deeper exploration of their experiences of the *Mind your Heart* intervention and highlighted the need for person-centred psychological intervention. The findings reveal recommendations for improvement for the *Mind your Heart* psychological intervention such as providing different formats and platforms of delivery like a podcast or live webinar, moving focus away from modifiable risk factors, and strengthening the link between CHD related health anxiety and the application of ACT. Overall, a sense of disempowerment post MI was seen to have adverse impacts on the psychological adjustment process which was facilitated with support, time and acceptance. Further research needed to address ACT psychological intervention controlling for unique characteristics and demographics such as age, perceived control and causal factor for psychological adjustment post MI (Hayes et al., 2006; Van Bulck et al., 2019).

References

AbuRuz ME (2018) Perceived control moderates the relationship between anxiety and in-hospital complications after ST segment elevation myocardial infarction. *Journal of Multidisciplinary Healthcare* 11: 359.

Ahmadi Ghahnaviyeh L, Bagherian B, Feizi A, et al. (2020) The Effectiveness of Acceptance and Commitment Therapy on Quality of Life in a Patient with Myocardial Infarction: A Randomized Control Trial. *Iran J Psychiatry* 15(1): 1-9.

Bhatnagar P, Wickramasinghe K, Wilkins E, et al. (2016) Trends in the epidemiology of cardiovascular disease in the UK. *Heart* 102(24): 1945-1952.

British Heart Foundation (2021) Heart Statistics. 2021(11 August).

Byrne M, Walsh J and Murphy AW (2005) Secondary prevention of coronary heart disease: patient beliefs and health-related behaviour. *Journal of psychosomatic research* 58(5): 403-415.

Carey TA and Mullan RJ (2004) What is Socratic questioning? *Psychotherapy: theory, research, practice, training* 41(3): 217.

Damayanthi S (2019) *Thematic analysis of interview data in the context of management controls research.* SAGE Publications, Limited.

Diefenbach MA and Leventhal H (1996) The common-sense model of illness representation: Theoretical and practical considerations. *Journal of social distress and the homeless* 5(1): 11-38.

Edmondson D (2014) An enduring somatic threat model of posttraumatic stress disorder due to acute life-threatening medical events. *Social and personality psychology compass* 8(3): 118-134.

Frasure-Smith N and Lesperance F (2008) Depression and anxiety as predictors of 2-year cardiac events in patients with stable coronary artery disease. *Archives of general psychiatry* 65(1): 62-71.

Giuse NB, Koonce TY, Storrow AB, et al. (2012) Using health literacy and learning style preferences to optimize the delivery of health information. *Journal of health communication* 17(sup3): 122-140.

Hayes SC, Luoma JB, Bond FW, et al. (2006) Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy* 44(1): 1-25.

Lin CY, Miller JL, Lennie TA, et al. (2020) Perceived Control Predicts Symptom Status in Patients With Heart Failure. *The Journal of cardiovascular nursing* 35(6): 530-537.

McLaughlin TJ, Aupont O, Bambauer KZ, et al. (2005) Improving psychologic adjustment to chronic illness in cardiac patients: The role of depression and anxiety. *Journal of general internal medicine : JGIM* 20(12): 1084-1090.

Merritt CJ, de Zoysa N and Hutton JM (2017) A qualitative study of younger men's experience of heart attack (myocardial infarction). *British journal of health psychology* 22(3): 589-608.

Mir RM (2019) Health Psychology and Cardiovascular Disease Research Models. *Am J Biomed Sci & Res.* 6(2).

Petriček G, Buljan J, Prljević G, et al. (2015) Facing the diagnosis of myocardial infarction: A qualitative study. *European Journal of General Practice* 21(1): 19-25.

Poole L, Kidd T, Leigh E, et al. (2015) Psychological Distress and Intensive Care Unit Stay After Cardiac Surgery: The Role of Illness Concern. *Health Psychol* 34(3): 283-287.

Sanaie N, Darvishpoor-Kakhki A and Ahmadi F (2021) Patient commitment to cardiac rehabilitation: A qualitative study. *Iranian Journal of Nursing and Midwifery Research* 26(6): 479.

Shemesh E, Yehuda R, Milo O, et al. (2004) Posttraumatic stress, nonadherence, and adverse outcome in survivors of a myocardial infarction. *Psychosomatic Medicine* 66(4): 521-526.

Sigurdardottir AK, Sigurlásdóttir K, Ólafsson K, et al. (2017) Perceived consequences, changeability and personal control of coronary heart disease are associated with health-related quality of life. *J Clin Nurs* 26(21-22): 3636-3645.

Spatola CAM, Manzoni GM, Castelnuovo G, et al. (2014) The ACTonHEART study: rationale and design of a randomized controlled clinical trial comparing a brief intervention based on Acceptance and Commitment Therapy to usual secondary prevention care of coronary heart disease. *Health Qual Life Outcomes* 12(1): 22-22.

Stanton AL, Revenson TA and Tennen H (2007) Health psychology: psychological adjustment to chronic disease. *Annu. Rev. Psychol.* 58: 565-592.

Tennant C (2002) Life events, stress and depression: a review of recent findings. *Australian & New Zealand Journal of Psychiatry* 36(2): 173-182.

Van Bulck L, Luyckx K, Goossens E, et al. (2019) Illness identity: Capturing the influence of illness on the person's sense of self.

Wiedemar L, Schmid J-P, Müller J, et al. (2008) Prevalence and predictors of posttraumatic stress disorder in patients with acute myocardial infarction. *Heart & Lung* 37(2): 113-121.

Wirtz PH and von Känel R (2017) Psychological stress, inflammation, and coronary heart disease. *Current cardiology reports* 19(11): 1-10.

World Health Organisation (2021) *Cardiovascular Diseases*. Available at: https://www.who.int/health-topics/cardiovascular-diseases#tab=tab_3 (accessed 1/12/2021).

Yasunari K, Maeda K, Nakamura M, et al. (2002) Oxidative stress in leukocytes is a possible link between blood pressure, blood glucose, and C-reacting protein. *Hypertension* 39(3): 777-780.

Zhang C-Q, Leeming E, Smith P, et al. (2018) Acceptance and commitment therapy for health behavior change: a contextually-driven approach. *Frontiers in psychology* 8: 2350.

Research Commentary

Research Methods: Research Commentary

After finalising my drafts for the teaching and training, BCI and consultancy competencies a month earlier than I expected, I began to dedicate my time to the research competency planning stages in April 2021. Although I felt like I wasted the first year of my doctorate not having any finalised work to show for it, I learned a lot from my mistakes. This time I will ensure that I give the research competency my full undivided attention and patience.

Systematic Review:

From the 13th of April, I started to plan out my research competency starting with a systematic review. On my monthly video call with my supervisor, we spoke about systematic review questions and so I implemented his advice and guidance, which was to check existing and unpublished systematic reviews on a subject area of interest. I began to narrow my research question down to a few interchangeable variables using the PICO method. Interventions were categories such as ACT, stress management, brief intervention, online delivery, populations included general adults, non-healthcare workers, healthcare workers and students. I also searched around issues such as burnout, heart disease, weight-management, stress and general health. I am still searching the literature and databases and I am giving myself a full month for this preparatory stage so that I can write a thorough protocol and eventually conduct the review.

Update - 10.05.2021

After searching the literature on my interests mentioned above, I decided to look at ACT on a specific long-term and chronic health condition. I am delighted to have found that no systematic reviews have been published specifically under heart disease and ACT interventions. There have been many written on most long-term and chronic conditions and health behaviours such as diet, exercise, sleep, addiction, diabetes and cancer. Therefore, my search terms are specific but include variation of use of terms and abbreviations for example, “heart disease”, “coronary heart disease”, and “CHD”, which are commonly used interchangeably.

Update - 03.08.2021

I started to develop the rationale and refine the literature search. I searched across several databases and found there to be more research there than I found in my initial basic search. I

found 17 eligible papers with a further 3 excluded for being duplicated by the researchers published with different title wording. Since is summer break, I took a chance on this development and created a table outlining the characteristics of each study so I could present it to my supervisors once they return from annual leave in September. The findings at this current moment are promising and I feel like I have come across something good. However, I have felt like this in the past only for it to be completely wrong, so I am cautiously optimistic. What sets this apart from my previous attempts is that I have systematically taken my time with each stage involving my supervisors more than usual and that I have a good rationale based on literature. The research is interesting, and I feel like I would like to specialise in this area because of the relevance to health psychology. Most of the studies are RCTs and reading through each individual study has inspired my quantitative research plans.

Update - 31.01.2022

Having worked on the systematic review over December 2021 and January 2022, I feel confident with the first draft I am about to submit this week. Looking through the work completed, I feel quite proud of how in depth and comprehensive it is and will endeavour to get it published. I realise there will be amendments, but I feel a sense of accomplishment already at the amount of work that I've done for this paper alone. I have spent a lot of time editing and revisiting sections already complete with my supervisors' pre-empted comments in mind so that I can improve it to a higher standard. I understand the value of a systematic review and I feel like I would be able to repeat the process again with more ease and confidence. I recognise my growth and development as a researcher throughout the health psychology doctorate and I have certainty improved my confidence and practice in conducting a systematic review.

Planning the research project

In the past I have always planned at least six to ten-week complex research interventions and having come across 'Brief Intervention', I was intrigued. Not only because of my time commitments in the obvious benefits of producing a brief intervention, but also because there is a lot of evidence of its use in healthcare settings and even within ACT. I spoke with my supervisor about this on April the 13th and he sparked my interests further by asking me, "*what's better? A long intervention with a small sample of people? Or a brief intervention with*

a large number of participants?" This made me realise that from a research perspective, it's better to find an effect in a large amount of people from a brief intervention because it demonstrates impact and power across a larger population. From the participant's perspective a brief intervention is more attractive and less of a chore, and I feel like I have neglected this aspect over my years of doing research. From my perspective a brief intervention could make data collection less laborious, allow me to respond to a pattern of response or easily spot and rectify issues with the content or delivery and to make data collection a smooth process.

I questioned how the easily quantitative intervention could have a qualitative element and since I have less experience in qualitative research, I am looking forward to the learning process. In my final meeting with one of my supervisors for the summer on 27th of July, we had spoken about health literacy and illness perceptions, and after that I was deeply enthralled in the literature. I decided to learn more about qualitative research by reading qualitative papers that would appear in my searches around CHD, health literacy, and illness perception.

Update - 16.08.2021

Having focused on my systematic review protocol in July 2021, it developed my ideas for the research studies throughout August 2021. I found deeply interesting studies on health literacy, illness perceptions, CHD and the link to Acceptance and Commitment Therapy (ACT) (Hayes, 1986; Karekla, Karademas & Gloster, 2019). Taking my time and completing a thorough literature review, I now feel more confident in the application of health psychology to those issues. The literature review also helped me to plan and develop the methodology of the research from the evidence-based recommendations (DeWalt at al., 2009; Baker et al., 2011; DeWalt et al., 2012). I was also pleased to find that these papers presented the content of their health literacy illness perception interventions and from that I was also to form the basis of my intervention that I have decided to name Mind your Heart as a working title.

As I read more literature around illness perceptions, I started to wonder if there was scope for to incorporate elements of ACT as a therapeutic method to help the patient pivot towards acceptance and therefore change illness perceptions and potentially health behaviours. To my knowledge, there are currently no other papers that address this, and I am excited to explore it in the Mind your Heart intervention.

Reading the most up to date evidence-based research and frameworks on illness perception and health literacy provided me with the confidence to approach cardiology units across Northeast

hospitals so I can gain more experience from shadowing. I currently hold certified training in both ACT and fitness instructing for cardiac rehabilitation. And over the year I have worked with ten separate clients using three-month ACT interventions through my business and have shadowed NHS Level 3 Cardiac Rehabilitation groups in 2019 for three-months. I feel that the impact and the value of psychological intervention for CHD is evident and something that is easily communicated by the reduction of clinician time, service use and the promotion of health behaviours. I'm thrilled to find this body of literature and I feel it has helped me to grow in my confidence in abilities within Health Psychology.

Update - 28.10.2021

I'm delighted to report that have gained employment as a trainee health psychologist in a cardiology department at a local hospital to progress to full health psychologist once I complete my doctorate. This was from the enquiring about shadowing across hospitals in the Northeast. Naturally, I am ecstatic about this opportunity, and I am eager more than ever to finish my final research. I attempted to complete my ethical application for the full board review on the 23rd of October, but there was too much still left to work out before submission. This left me feeling disheartened after the added pressure of wanting to finish as soon as possible because of my new role. I am not feeling too defeated because I know that getting the fundamentals of a research study correct at the ethical application stages is beneficial in the data collection and write up stages. So, I remember that I can never go backwards or lose precious progress, even though barriers can seem to slow things down at the time.

I have learned the importance of writing a hypothesis and how it differs to a research question. I also have learned that just because it would be interesting to measure all sorts of outcomes such as depression and anxiety and health literacy, if it's not the main purpose of my research then I should not include it. I think I got confused initially between health literacy and illness perception, and whilst they're both interrelated, they may not be relevant in the context of my study. I have decided to take out health literacy as a framework and an outcome measure for this study, but I will be interested to learn more about it in future research or practice. Having addressed some basic fundamental errors in my hypotheses and methods has made it much clearer and simpler and I feel more confident now to continue to submit for the next ethical application intake at the end of November 2021

Recruitment

On the 20th of December, I received a favourable ethical opinion and approval from LJMU University Research and Ethics Committee. Naturally, I was delighted knowing I could begin the recruitment phase of my intervention in January 2022 as planned. I reflect, "*I am so proud of myself for all of the hard work I have done in the lead up to Christmas break. I also feel proud to display my research to the public across online platforms, it's a subject that not only do I find incredibly interesting but is also a worthy and current research topic. I feel like I am an expert on the literature and I'm part of the vanguard of Health Psychology research and practice"*. This is where I start to see more evidence of the benefits of my health psychology background. I feel this research played a major part in shifting my perspective of the practical value of health psychology research to clinical issues. Receiving ethical acknowledgement from the University Research and Ethics Committee validated this.

In January 2022, I began recruiting for my study via Facebook, LinkedIn and Twitter. My additional approach involves sending out an email and study poster to targeted contacts and contacts at phase 4 cardiac rehabilitation (CR) groups in the UK. I gathered individual contact details from the British Heart Foundation National Audit of Cardiac Rehabilitation from CR phase 4 groups across the UK. I write on the 10th of January (2022), *'I'm so glad that this database of certified cardiac rehabilitation phase 4 community groups exists and what's more is, that they include specific contact details. It would have taken me a long time to firstly find the specific name of the group and their location, and secondly to find their contact details. I have contacted all areas in England and it's also great that I have been able to contact all groups in Scotland, Northern Ireland and Wales to ensure that my sample is representative to the UK population. I have already received emails and had phone calls with a positive response which makes me feel valued and connected. It makes me feel like what I'm doing is valid because of the helpfulness and interest people have shown already.*' I noticed that in some areas like Scotland and Wales, the same person would appear to be the contact for several CR groups, so I searched for them on LinkedIn and connected. I feel that I now have a great network of relevant connections, and it feels really good, it feels like I'm part of a professional team working to help those with heart disease.

Running the online intervention

Taking time to save time has been my mantra for these past twelve months and the running of the online intervention has reflected this. I spent a lot of time and energy before the Christmas break problem solving every issue in Qualtrics as the platform for my study. It feels so good to have the running of the study mostly automated, and it's a really easy and smooth process for both the participant and me.

Qualitative research paper

On the 31st of January 2022, I began to focus on the qualitative research paper having only briefly outlined the literature review, aims and methods for my ethical application. My writing has improved significantly from my first draft, and I owe this to conducting the systematic review with my supervisors' comments in mind as I wrote it. I conducted my first two interviews this week and I learned a lot from my questioning and my research aims. Although the first two interviews contain sufficient data, I felt my communication style was a stilted and I aim to improve the flow for the next participants. I have decided to amend my questions to be less ridged and allow experiential themes to naturally emerge. I got confirmation from my supervisor that this is the correct process for qualitative research, and this made me feel validated in my approach.

Interestingly, the first two participants gave me inspiration on my literature review as I took a slightly different approach in my writing. Having written the quantitative paper, which is heavily focused on the consequences of health behaviours on the management of CHD, I began the qualitative paper in the same tone of voice. However, having spoken to two people living with CHD, I now have a different approach of exploring wider experiential and lifestyle constructs that both impact and are impacted. I have now explored literature on the interaction between CHD and occupation and level of activity and mobility pre-MI, as well as looking an MI as a potential traumatic event in some people, which I have since found, is not as documented as I thought it would be. Perhaps, it's too obvious that a cardiac event is near death experience and that it's bound to require post psychological adjustment. However, speaking with the participants and reviewing the literature, I have since found it to be a potential gap in both psychological practice and research.

11.02.2022 - Update

My questioning skills have improved from conducting the semi structured interviews. Interestingly, I started out with 24 questions and by the third participant I realised that I didn't need to ask all the questions. All I need to do is explain about the research and that this was their time to share their experiences of living with heart disease. After that they would begin telling their story and I would keep the list of questions in front of me as they were speaking, and I would mentally tick them off one by one without much prompting. Most people gave me all of the information I needed, and I would just have around two-to-three questions at the end to either pick up on something in more detail or to cover something they hadn't already. I found this way of interviewing much more beneficial to my research and for the participant. I feel I have massively improved my skills in compassionate listening, and I have learned to hold silence.

Results

Previous to starting the study my research interests were heavily based around health behaviour change particularly recently with CHD risk factor behaviours such as diet, physical activity, sleep, smoking and stress. However, as I have emersed myself in working with patients with CHD throughout the qualitative interviews, I have found that their issues for which they request psychological support are different to what I expected. For example, health anxiety and psychological trauma post MI is prevalent which in turn impacts quality of life and health behaviours. As I was transcribing the interviews, I was interested in their perspectives on their current health behaviours, for example, sleep, and it seems that they are impacted by rumination and health anxiety. For example, one participant described having trouble with sleep because of being *"unable to stop the constant thoughts"*. Another participant explained his frustration with being unable to be 'more healthy' if he tried in that he was remarkably fit, young, had a healthy BMI, had a good diet and did not smoke or drink alcohol. This presented new and unforeseen challenges to my approach in that there are some patients with CHD who are fit, healthy and young. Therefore, health information advice and guidance and behaviour change are not appropriate in this context and psychological adjustment strategies better reflect the participants' needs. This research experience has improved my approach to practice to be more person-centred and dynamic and has improved my listening skills.

Thematic analysis revealed four main themes of *healthcare experience, beliefs and perceptions of living with CHD, psychological adjustment post MI* and *webinar feedback.* Although I find qualitative data analysis to be exhausting and labour intensive, I enjoyed the process as I felt

like I got to know the participants and understand their perspectives and it made me feel motivated to share their insight. I have a newfound appreciation for qualitative research as the richness of data provided by the participants was deeply valuable. In the future I would like to cover different types of qualitative analysis and look at in depth Interpretative Phenomenological Analysis methods to advance my skills.

I learned a lot about statistic from conducting the quantitative results. Having learned more about repeated measures ANOVA and non-parametric tests, I will be able to confidently use them again in the future. The results were disappointing and as I reflect on my aims, I feel I was a little over ambitious with what I wanted to achieve. For example, I tried to measure both behavioural and psychological outcomes which I believe were labour intensive for the participants and ended up having a lot of missing data on the behavioural outcomes. In the future I will have more of an awareness for the time it takes for a participant to fill out measures. I intend to continue this research and address the limitations by reducing the outcome measures to only look at illness identity, psychological flexibility, and a combined short health behaviour questionnaire to include sleep, diet, exercise, and stress reduction activities which I will create. However, I feel my quantitative research skills have improved significantly with my deeper awareness of advanced statistical methods, design, and current knowledge on available outcome measures.

Summary and Future Direction

Conducting three comprehensive research projects at the same time has been a mighty task for which I am immensely proud. I have gained new strengths by addressing old weaknesses and have fortified my knowledge, understanding and application of health psychology research in an area for which I am passionate to pursue further.

Having secured employment at a hospital working with cardiac patients as a Health Psychologist in Training I am grateful to be able to demonstrate my practice and progress towards Health Psychology status once qualified. The doctoral level research conducted in this area of interest is already proving to be beneficial and I look forward to continuing my research and practice to help those with CHD improve physical health, mental health, and quality of life.

CHAPTER 5: PROFESSIONAL PRACTICE

Reflective Report

Introduction

Undertaking the professional doctorate in Health Psychology has been one of the most challenging experiences both professionally and personally. It has shaped a significant period of my life as I finalise my official training and transition into professional practice, something for which I have been working towards since I started studying at college in 2008.

It was always within my plan to become a practicing psychologist. From the moment I found out about Health Psychology in my final year of my bachelor's degree in psychology at Teesside University (2012), I knew that it was the right path for me. Where possible, I had previously chosen my option modules and assignment topics around the study of positive psychology, health and wellbeing, and so Stage 1 training for the MSc in Health Psychology and Clinical Skills (2015) at Teesside University was a natural progression.

Life before starting the doctorate was very different. I had a high level of control over my studies with very few academic setbacks. I have always been under the illusion that working hard gets results in a timelier manner. And this way of working delivered desired results throughout my studies. However, the Professional Doctorate in Health Psychology at Liverpool John Moores University in 2018 challenged my approach to work in ways I could not have foreseen. Whilst the personal belief of working extra hard to get things done more efficiently has not been entirely dispelled, through a myriad of personal and professional setbacks, I have learned patience and acceptance in the face of rejection. This experience has significantly improved my resilience and is now a character strength. I have also learned an important lesson of taking more time over conceptualisation and planning stages of any project to save time in the future, which is now a personal mantra: *take time to save time*. It's obvious and simple, like most realisations are, but the value of taking my time with fine detail in initial stages has now been forever engrained into my ways of working. And in doing so, it has unexpectedly increased my productivity and time efficiency. Working this way has also lowered performance-based stress and anxiety which now gives me a sense of calm and harmonious work-life balance, something that is a necessary to prevent burnout as I transition into full time practice.

Whilst working at the charity for survivors of illegal cultural practices, I felt that it was the right time and circumstances to undertake the Health Psychology stage 2 qualification. By chance, I came across the professional doctorate in Health Psychology at Liverpool John Moores University in 2018 and I enrolled onto the course. I continued to work at the illegal cultural harmful practice charity for the first year of the doctorate. I also worked at a charity as a Health and Wellbeing Adviser covering five offices across County Durham for people who were long-term unemployed with health issues. Finally, I set up my first business, Mindbody Coaching, as self-employed coach to help people change health behaviours, manage health conditions and stress. I kept a reflective diary and activity log throughout the training which I will refer to throughout the report using the Gibb's Reflective Cycle as a framework (Gibbs, 1988). The Health and Care Professions Council (HCPC) Standards of Conduct, Performance and Ethics (2018) and the British Psychological Society (BPS) Code of Ethics and Conduct (2018) were adhered to throughout my training.

This reflective report is split into four themes of learning and are outlined below.

Theme 1: Placements

Illegal Cultural Harmful Practices Survivor Charity

It was through networking at community events that I secured employment in a charity for survivors of illegal cultural practices such as honour-based violence (HBV), female genital-mutilation (FGM) and forced marriage. I was already aware of health inequalities of low-socioeconomic demographics and Black, Asian, and Minority Ethnic (BAME) populations, having focused my Stage 1 qualification on general health and wellbeing promoting behaviours such as access to healthcare, diet, exercise, and stress management. I preferred to keep my research and practice focused on the impact of stress and health inequalities on health behaviour change. Reasons for this are that stress adversely impacts on, and positive health behaviours influence, all illness and chronic disease. This meant that I could have a broad approach and allow work opportunities to organically arise whilst using my listening and observational skills. I kept a reflective log throughout Stage 1, and I attended meetings with local authorities, visited community services and worked at community health and wellness events to learn from people and their experiences.

False starts

Whilst on this placement at the start of the doctorate in 2018, I attempted to complete my research competency before all others. I felt that if I could tackle what I considered to be the most intense and difficult competency within the first year of my doctorate, then I would be able to relax into the remaining competencies. I started with the systematic review, and I poorly planned it out without a concise research question, not making use of supervision with Mark and Tara. I unsystematically explored literature on body-based therapies to help female BAME survivors of HBV, FGM and forced marriage to find no consistent or quality literature. I spent around six months of the year working too independently only for my supervisors to rightly point out that I needed to make drastic changes to the work I had done in haste. I reflect on the 19th of February 2018 "*Initially, I had issues with being clear about the connection between BAME female trauma survivors and health psychology as well as narrowing the research question. A quick search of Google Scholar revealed that there was not much literature available in terms of wellbeing aftercare for HBV specific cases. I also learned that there was not a great deal of studies and interventions conducted for the BAME female population in the UK. Therefore, I'm not certain of my initial plans for the systematic review."* Reading through this entry I get the sense of naivety and I realise how much I have learned since then. Despite expressing doubts about the systematic review topic, I carried on regardless hoping that it would become clearer. Suffice it to say, it did not, and I abandoned it entirely. This was a classic example of my old ways of working. Having now completed a systematic review in February 2022, that I am very proud of, it was a relatively easy and a far less stressful process by comparison. It was a pivotal point when I considered doing it *systematically* and with patience. Again, this is a glaringly obvious point that I seem to have missed the first time around.

Working with minority populations

I spent a lot of time working with the participants in smaller groups or on an individual basis, chaperoning them to healthcare appointments, helping with housing arrangements, supporting them at the refuge, providing a compassionate safe space to talk about their issues. I learned about the cultural values of British Muslims, and I felt proud to be part of the community and supporting vulnerable women and girls. I reflect on the 16th of February 2018, *"I took a lady who spoke very little English to a biometrics appointment. She was overwhelmed and looked*

frightened, so it was important for me to try and find a way to connect. I spoke small phrases in Urdu, and it made her smile, and her body language became more at ease." Connecting with people across cultures is something that has always been important to me and still remains to this day. I believe this to be a very important skill across all psychology disciplines and therapeutic settings, particularly in the case of Health Psychology when targeting health inequalities. I learned so much from spending time with people from different cultures and backgrounds; it taught me to never assume, to be comfortable with not knowing or understanding, to be more open, and effective communication across language barriers.

Group work

I learned a lot about group work as this was the first time I had created and coordinated a course independently. I reflect on 27th of September 2018, "*I found it difficult to control the direction of the session today because we were in a really small room with poor layout. This session has left me with a lack of confidence in my abilities to deliver these sessions and, on a grand scale, I'm questioning whether I will be good enough to become a Health Psychologist."* From this session I learned the following points as the reflection continues, *"Room facilities are crucial. The room must have the following: plenty of space, a projector, comfortable chairs set up in a semi-circle, be at a comfortable temperature. Today it was overcrowded, hot and stuffy with no projector and chairs all-over the room in no orderly fashion. Plus, I did not have adequate set up time. The following week I asked to not be in that particular room, and I will make sure I am there at least an hour before the start."* Reading through this reflection, I can see the experiential learning taking place here as I now take my group work coordination skills as a given. I now recognise the extra preparation involved for basic requirements of a group session. What shines through is my resilience and tenacity despite setbacks, and my ability to recognise and adapt to new challenges which I owe to consistent reflection.

More tests of resilience

In December 2018 I discovered that my placement had to end because of funding cuts. Not only had I lost a job I cared about, working with the people I had built strong professional relationships with, but I also had nothing to show for my first year of being on the doctorate. I did not find another placement in time for leaving in March 2019 which forced me to pause the

doctorate. I felt like a failure. This was a very stressful time for me. However, I decided to spend the final few months making the most of ending the professional relationship with participants I had supported. I reflect on 4th of February 2019, *"Since I was definitely leaving at the end of March, I spent some time closing my support with the clients that I had worked with over the years. It was a great exercise and I felt that I was getting closure as well as the clients. It reaffirmed the impact I had made in my time here and I felt proud of the work that I had done. I have grown as a professional in lots of ways and although I haven't got a finished piece of work for the doctorate, I have maintained thorough professional practice which is a large running competency."* Despite my devastation, I'm proud of my positive outlook and how I remained professional until the very end. It was important to retain a good working relationship with my previous employer and I feel like I demonstrated professionalism as a character strength even when faced with adversity.

Health and Wellbeing Adviser Role at an Employment Charity

Trauma informed practice

The most important learning about professional practice that took place when working at the employment charity placement was the biopsychosocial impact of trauma on individuals and health and social care systems. Most of the participants at the employment charity where I worked struggled with readjusting to a single or, more often, series of traumatic events. Post-Traumatic Stress Disorder (PTSD) has strong links to long-term and chronic conditions (LTCC), and it is within the scope of Health Psychology to be aware of the practice implications and the impact on health and wellbeing (Felitti & Anda, 2010; Maté, 2022; Pacella et al., 2013). I reflected on the 14th of August 2020, *"In my experience working with a charity supporting survivors of abuse, it was obvious that I would be exposed to PTSD. However, nearly every person that walks through my door in this job has both a long-term and chronic condition and underlying trauma.*" From this placement I learned to understand trauma informed practice mainly around diffusing states of hyperarousal and psychological distress, somatic exercises for disassociation, effective communication, tailored advice and guidance and appropriate referrals (Corrigan et al., 2011).

Group behaviour change intervention and teaching and training

Within my role as a Health and Wellbeing Adviser, I would deliver group sessions as well as one-to-one appointments. Having conducted three group sessions per week for six months in this role, I had more confidence in my group behaviour change intervention piece. I decided to dovetail this piece of work to write up as the teaching and training series also. As COVID-19 spread across the globe in March 2020, ways of working had to be adapted. This meant that all face-to-face group sessions were suspended. My manager asked me to provide support my colleagues because of the stress and low morale due to the pandemic. Because of the remote delivery, I did not have to arrange room bookings, transport or lunch, which took a lot of stress out of it for me. Furthermore, I did not have any concerns in terms of technology, since all staff had been having telephone conference meetings three times per week as standard since our team was split between five offices across a large county. The ten-week series was named Wellbeing Wednesdays, it ran smoothly and received great feedback. I reflected on 16th October 2021, "*Telephone delivery was perfect for this intervention, and I also enjoyed it much more than had it been face-to-face. It worked really well under the circumstances. I have learned that I do not like conducting face-to-face group work and will avoid it in favour of virtual sessions unless absolutely necessary.*" My opinion on face-to-face group work still stands; however, I do know that if I need to conduct face-to-face group work in the future, I will not organise or conduct it alone and I will allow for more time to prepare.

Self-employed Coaching Business, Mindbody Coaching

GDPR

I reflect on the first week of being self-employed on the 6th of November 2020, ***"****I still don't have any regret about going self-employed and leaving employment when I did last week. I managed to configure and secure all my IT settings today. This is something that was always going to take a lot of patience and spare time to organise, since I had to learn all about data encryption and best methods of keeping my work on my personal computers protected from malware and viruses as well as data protection breaches.*" Data protection is deeply embedded in ethical practice, so before I could begin to start working for myself, I knew that my home computers needed a security check-up. I changed all my passwords and set up two-step verification with one-time passcodes, downloaded a new and more secure browser with strict security settings, and I minimised the risk of storage for my client session notes. Deciding to

keep all records online, I found what I believe to be the most secure way to store my client notes to the best of my ability and resources.

I continue the reflection from the 6th of November 2020, *"I have implemented multiple security barriers across different software providers and made use of encryption. For example, I do not share my computers with anyone in my home and I use Apple, so my primary data is within iCloud known to be secure with added 2-step verification. I encrypt my files on my desktop for further security with Boxcryptor. The software does not hold any information about user passwords. Furthermore, all the passwords to access the separate accounts are randomised and are different from each other and the Boxcryptor also has 2-step verification with one-time password. All the passwords are written on paper and are always kept within my house in a locked desk drawer. So, I feel comfortable that data protection breach is minimised to the best of my ability and compliant with UK law."* What I had in place reminds me a little of the COVID-19 safety measures. I once saw a diagram of slices of Swiss cheese to demonstrate that no safety measure alone is water-tight or *without holes*, but when you stack them together, it becomes more difficult and less likely that an intruder will get through each barrier (Reason, 2000).

The feeling of competency

I enjoyed the one-to-one behaviour change intervention (BCI) competency piece the most and it was the first opportunity to showcase my one-to-one professional practice. Three main learning outcomes emerged during the one-to-one BCI, confidence in planning and delivering psychological interventions, identity as a trainee health psychologist, and overall impact of the intervention. I reflected on 30th of April 2021, *"I feel that I could transfer the activities in this ACT weight-management intervention for a future client. I can get overexcited in the planning stages, and I end up having too many activities for a single two-hour session. It is better to have more activities planned; I just need to remember that I do not necessarily need to cover everything if time does not allow it. I feel my timings will get better the more experience I have of delivering them, all I need to do is practice and develop that awareness."* Reflecting on this entry, I realise how much I have grown in confidence. I used to over plan and, in turn, overwork myself and now I seem to have a balanced mindful approach. I am still diligent with my practice and forensic with administrative duties, but I feel that I have finally reached that feeling of professional competency, confident in my own skills.

From my community-based placements in charity sectors and as a self-employed business, it's clear for me to see my value as an imminent Health Psychologist. My skills in working with vulnerable and diverse populations, group work, GDPR and character strengths of resilience, tenacity and open to opportunities. I feel that I have potentially gained more experience by working across diverse community settings as I have continually reflected on my strengths and weaknesses throughout.

Theme 2: Professional Communication and Networking

Building professional relations has been a rewarding and fruitful endeavour as I managed to secure both placements through professional networks. I completed the consultancy competency for a weight-management service which was well received. I reflected on 1st of October 2020, *"I found over the years that networking doesn't often result in actual work being done so quickly, so after only one prior phone call and a few emails with this contact, I was pleased to have built up a good rapport. I assessed their needs of training through some background information that I gathered on a call with my contact today so that I could evaluate whether it was feasible for me to do and, if it was viable, at what level to pitch the teaching."* I can see my ability to be opportunistic, constantly making use of professional communications with connections. I am always looking for opportunities to connect and through my experiences on the doctorate I have developed my communication skills by compassionate listening, asking open-ended questions, paraphrasing, and mirroring. I also have a natural aura of enthusiasm that has always been part of my character, so I find it easy to build up a rapport with most people. Effective communication is vital for Health Psychology professional practice because it can generate opportunities for partnership and multidisciplinary team working.

My professional communication skills were extremely beneficial when recruiting participants for my quantitative research study as I used all the resources available to connect with cardiac rehabilitation phase 4 community groups across the UK. An entry from my research commentary in January 2022: *"The social media promotion has been quite a development for because before conducting this research I didn't have a good response rate to my social media and marketing for my coaching business. However, I feel that I've been able to use all the online communications skills I've learned over the past year and a half and promote my study*

well. I feel that I now have a great network of relevant connections across the whole of the UK, and it feels really good, it feels like I'm part of a professional team working to help those with heart disease." The skills I refer to here are tone of voice on different platforms, for example, *Facebook* is less formal, *LinkedIn* is more formal and aimed at professionals. I also contacted phase 4 cardiac rehabilitation groups via *LinkedIn* and found the register of BACPR registered groups and contacted them via email and a follow up telephone call. I managed to link into some large groups in the Northeast that were held six-times per week with 20-30 people per session which hugely impacted on data collection. I am immensely proud of what I managed to achieve with the research competency; all the patience with preparation and planning paid off.

Professional communication and networking have always been core strengths that will continue to grow. I must be mindful of my tendencies to be overenthusiastic about meeting new people, so much so that I can over fill my weekly schedule and can burnout easily from social interaction. This is something that I will continue to reflect upon and will hopefully resolve once I am in a period of stability and routine.

Theme 3: Continual Professional Development

As stipulated by the British Psychological Society (BPS, 2017) and The Health and Care Professions Council (HCPC, 2018), CPD has been an integral part of my training and has afforded me the multidisciplinary skills that complement my practice.

In order to be competent in dealing with participant issues I faced whilst working across placements, I decided to undertake training in the areas of counselling skills, working with people with trauma, Acceptance and Commitment Therapy (ACT), yoga, advance fitness instructing for people with health conditions, including cardiac rehabilitation, and Clinical Hypnotherapy. Table 1 below for details.

Table 1

Continual Professional Development

Type of training	Duration	Training provider
Counselling Skills Level 2 (2018)	Distance learning 120 hours.	Bridgewater and Taunton College
The translation of evidence to practice: development, delivery and evaluation of interventions targeting weight management behaviours using psychological evidence, theory, and methods (2018)	1-hour online workshop	BPS
Body-based Therapy for Refugees and War Trauma (2018)	One-day workshop	Professor Peter Levine
Working within the window of tolerance. How to help a person regulate from hyper and hypoarousal (2018)	2-hour online workshop	NICABM
Fitness Instructor Level 3 (2019)	10-week course	Active IQ
GP Referral Fitness Instructor Level 3 (2019)	6-week course	Active IQ
Cardiac Rehabilitation Specialist Fitness Instructor Level 4 (2019)	8-week course	BACPR
Yoga Instructor Level 3 (2020)	200-hour course	YMCA Fit
Introduction to ACT (2020)	One-day online	Contextual Behavioural Science
ACT Introductory Course BPS Approved (2020)	Two-day course	Professor Nuno Ferreira
Certificate in ACT BPS Approved (2020)	Two-day course	Professor Nuno Ferreira
Clinical Hypnotherapy Practitioner Certified by the CMA and BAH (2021)	Twelve-week course	NCCH

Note. National Institute for the Clinical Application of Behavioural Medicine (NICABM), British Association for Cardiovascular Prevention and Rehabilitation (BACPR), Complimentary Medicine Association (CMA), British Hypnotherapy Association (BHS), Northern College of Clinical Hypnotherapy (NCCH).

Research and training on supporting with people with trauma for health and wellness outcomes in my first placement led me to understand the value of practical body-based exercises and movement to help regulate distress intolerance and the fight-flight-freeze response (Classen et al., 2021; Cramer et al., 2018; Oppizzi & Umberger, 2018). Furthermore, trauma is an extreme stress response, and the discipline of Health Psychology is dedicated to stress management in research and practice across all health conditions and behavioural outcomes (Drake et al., 2004; Heine & Weiss, 1987; Schultchen et al., 2019; Slavich, 2020). I reflect on 13th of August 2018, *"Learning about the new evidence-based methods of working with participants with trauma. I have been drawn to researching on what self-employed therapists do in their practice, since they have to make it work otherwise, they wouldn't be able to generate clients and they would*

get a bad reputation very quickly if whatever they were doing didn't work. I'm hearing more about the somatic approach which appeals to my health psychology approach since it takes into account both the mind and body in reducing stress and anxiety from PTSD and trauma." Reading that entry, I realise how much I was yet to learn, and how much I know now. I can see my thirst for knowledge and answers, and this shaped the CPD training I completed.

I reflected on 27th of August 2018, *"What I am looking for are therapeutic approaches to help me with health behaviour change interventions. I want to know what works. Because right now, I'm not feeling confident in my capabilities. It seems I found yet another brick (pay) wall to the mysteries of therapeutic practice."* This reflection was at the very beginning of my training, and I struggled to finance CPD. I was frustrated at the prospect of finding the money for courses that were the same price and commitment as one year on the doctorate. Eventually, I found free online CPD and funding information in the form of Advance Learner Loans which helped fund my CPD. Looking back I would have liked to have come across ACT and Clinical Hypnotherapy sooner. I feel like it would have given me more confidence in psychological intervention skills early on.

At the time of conducting the Halo Exhale programme in my first placement, I had to hire a yoga instructor to teach one of the sessions, despite having already practiced yoga in my personal life for a long time and being a fit and active person. I reflected on 5th of November 2018, *"Today I hired a local yoga teacher because I am not qualified to conduct this type of movement based physical activity."* I am a practical person and so my lack of practical skills frustrated me. This led me to undertake a series of fitness instructor qualifications which taught me a lot about group work, basic behaviour change skills, and health and safety. The GP exercise referral fitness instructor course introduced me to contraindications and recommended exercises for specific health conditions such as COPD, mental illness, orthopaedics, osteoporosis, arthritis, diabetes, hypertension, and heart disease. From this I decided to take further training into cardiac rehabilitation as my interest for working with this population grew due to Health Psychology being highly applicable and beneficial (Balady et al., 2007; Dendale et al., 2005; Mir, 2019; Petrie & Weinman, 2006). Finally, yoga teacher training taught me fundamental aspects of a slower paced trauma informed group exercise with advanced mindfulness techniques.

I realised early on in the doctorate that I was seeking a behavioural therapeutic model to complement the Health Psychology approach and that's when I became aware of ACT (Hayes

et al., 1999). I decided to train in ACT because of the evidence base and practicalities of use with permanent issues such as a diagnosis of LTCC (Hayes et al., 2012; Hayes et al., 1999; Zhang et al., 2018). Unlike traditional Cognitive Behavioural Therapy (CBT), ACT encourages the participant to accept negative or unwanted situations instead of trying to control, eliminate or avoid the issue (Hayes et al., 2006; Hayes et al., 2012; Hayes et al., 1999; Zhang et al., 2018). I find this approach more empowering for the participant and the BPS approved training gave me a deeper insight into advanced level health behaviour change practice. I reflected on 12th of October 2020, *"In this week I am undergoing live training over video call in ACT. I am nervous to speak within the group and just keen to sit back and learn what I can from the other professionals. It's good to know that this model is behavioural and highly applicable to health behaviour change. It's also given me a confidence and structure to my psychological interventions."* The learning that took place on this course was significant and it shaped my remaining competencies and practice. I now have a high-level knowledge in ACT in both research and practice.

Clinical Hypnotherapy is practiced by qualified Health Psychologists (Lynn et al., 2020) and from a research perspective the evidence is growing for health behaviour change such as smoking cessation (Barnes et al., 2019), weight-management (Erşan & Erşan, 2020), and sleep outcomes (Chamine et al., 2018). Furthermore, it is used to help manage long term and chronic conditions such as Irritable Bowel Syndrome (Krouwel et al., 2018), pain (Elkins et al., 2007), and cancer (Agarwal, Ruggles, Elanko, Elanko, & Powell, 2019). In addition, it is useful for treatment related anxiety, needle phobias, pre-operative distress and post-operative pain which are major issues in healthcare (Agarwal, Ruggles, Elanko, Elanko, & Willis, 2019; Lind et al., 2021; Moreno Hernández et al., 2022). From practice, I knew that participants with underlying trauma weren't comfortable with standard relaxation and mindfulness techniques. Since ACT is a talking therapy and mindfulness is a core component, I felt I needed an additional approach to work with people who find it difficult to relax or have spent a lot of time talking around their health behaviour change, this is why I trained in Clinical Hypnotherapy. I reflected on 22nd of November 2021, *"I really love Clinical Hypnotherapy and I feels it's such a beautiful thing to offer a client that has been struggling with their issues for so long."*

Theme 4: My Health Psychology Identity

On starting the doctorate, I had a fiery enthusiasm that soon extinguished after my first year when I had to go on leave of absence. Since then, I rose to the challenge and undertook additional CPD training which, on top of full-time work and doctorate duties, left me feeling burned out. It was only until I become self-employed that I truly found my identity with Health Psychology. I now had flexibility to finalise my competencies and draw together all of the CPD and experiential learning that took place throughout the placements. I have chosen this reflection in particular to demonstrate my identification with Health Psychology, as I remember it as a significant point of no return. On the 15th of May 2021 I wrote, *"I feel like I am stepping into the role of a Health Psychologist progressing from 'Health and Wellbeing Adviser' in that what I do is more participant-led with less health and wellbeing guidance. I chose a Motivational Interviewing approach of resisting the urge to advise on behaviours and exploring a method in ACT known as creative hopelessness where the client exhausts their current solutions to fixing a behaviour. Once this list is exhausted, the client can pivot towards acceptance. Through this technique the client then takes ownership that self-realisation and learning. This is a powerful method and I really see the value in it for sustained health behaviour change."* I realise that I approach practice with a maturity and a competence now compared to earlier reflections of naivety and self-doubt.

Initially, I was worried about my lack of experience in traditional healthcare settings such as the NHS. I tried many times over my training, with no success, to gain employment within the NHS, and at the time, assistant psychologist posts were scarce, fiercely competitive and usually reserved for Trainee Clinical Psychologists. However, I was determined to create my own opportunities and I found that I could demonstrate my skills in community healthcare settings; from this, I have learned to apply a broad range of skills. Eventually, towards the final months of my doctorate, my work in the community was one of the reasons that I was hired for my dream job for the Clinical Health Psychology department in the NHS, provisionally as a Trainee Health Psychologist for cardiac patients to progress to practitioner status once qualified. This recognition has strengthened my confidence and identity within Health Psychology, and I will continue to learn and grow throughout the role.

Throughout the years of self-reflection, I recognise that I have strengthened my pre-existing qualities of compassion, integrity, dedication, enthusiasm, curiosity, and openness. I still need to be aware of work-life balance, as my enthusiasm and helpful nature can lead me to take on extra work. However, I have gained character strengths of resilience, patience and acceptance through adversity which developed a maturity and an overall feeling of competency. I

understand that carrying the identity of Health Psychology is strongly linked to my core values and character strengths and I know that I will continue to apply my skills and contribute to the pursuit of health and wellness.

Conclusion

Drawing closer to submitting my entire doctorate, I feel an overwhelming sense of joy, pride, and relief for what has been an epic journey of self-discovery and growth. My dreams are soon to become a reality for something I thought would never happen. However, I knew that with time, patience, and dedication I would get to this point. As I approach the ending of a significant chapter in my life, I am grateful for the lessons I have learned and the skillset I now have.

I feel competent in delivering for what I have trained so diligently, to inspire, motivate, and empower people to take control of their health and wellness and to serve humanity in the quest for quality of life.

References

Agarwal, N., Ruggles, S., Elanko, S., Elanko, A., & Powell, S. (2019). Quality Improvement Project (QIP) Using Clinical Hypnotherapy (CH) In Surgical Head And Neck Cancer Patients To Improve Quality Of Life (Qol). *European Journal of Surgical Oncology*, *45*(11), 2228.

Agarwal, N., Ruggles, S., Elanko, S., Elanko, A., & Willis, F. (2019). Case study of patient receiving Clinical Hypnotherapy and Mindfulness (CHAM) Programme For A Severely Needle-Phobic Patient Requiring Bone Marrow Biopsy. *European Journal of Surgical Oncology*, *45*(11), 2228.

Balady, G. J., Williams, M. A., Ades, P. A., Bittner, V., Comoss, P., Foody, J. M., Franklin, B., Sanderson, B., & Southard, D. (2007). Core components of cardiac rehabilitation/secondary prevention programs: 2007 update: A scientific statement from the american heart association exercise, cardiac rehabilitation, and prevention committee, the council on clinical cardiology; the councils on cardiovascular nursing, epidemiology and prevention, and nutrition, physical activity, and metabolism; and the american association of cardiovascular and pulmonary rehabilitation. *Circulation*, *115*(20), 2675-2682.

Barnes, J., McRobbie, H., Dong, C. Y., Walker, N., & Hartmann-Boyce, J. (2019). Hypnotherapy for smoking cessation. *Cochrane Database of Systematic Reviews*(6).

Chamine, I., Atchley, R., & Oken, B. S. (2018). Hypnosis intervention effects on sleep outcomes: a systematic review. *Journal of Clinical Sleep Medicine*, *14*(2), 271-283.

Classen, C. C., Hughes, L., Clark, C., Hill Mohammed, B., Woods, P., & Beckett, B. (2021). A pilot RCT of a body-oriented group therapy for complex trauma survivors: an adaptation of sensorimotor psychotherapy. *Journal of trauma & dissociation*, *22*(1), 52-68.

Corrigan, F., Fisher, J., & Nutt, D. (2011). Autonomic dysregulation and the window of tolerance model of the effects of complex emotional trauma. *Journal of psychopharmacology*, *25*(1), 17-25.

Cramer, H., Anheyer, D., Saha, F. J., & Dobos, G. (2018). Yoga for posttraumatic stress disorder–a systematic review and meta-analysis. *BMC Psychiatry*, *18*(1), 1-9.

Dendale, P., Berger, J., Hansen, D., Vaes, J., Benit, E., & Weymans, M. (2005, 2005/06/01). Cardiac Rehabilitation Reduces the Rate of Major Adverse Cardiac Events after Percutaneous Coronary Intervention. *European Journal of Cardiovascular Nursing*, *4*(2), 113-116. https://doi.org/10.1016/j.ejcnurse.2004.11.003

Drake, C., Richardson, G., Roehrs, T., Scofield, H., & Roth, T. (2004). Vulnerability to stress-related sleep disturbance and hyperarousal. *Sleep*, *27*(2), 285-291.

Elkins, G., Jensen, M. P., & Patterson, D. R. (2007). Hypnotherapy for the management of chronic pain. *Intl. Journal of Clinical and Experimental Hypnosis*, *55*(3), 275-287.

Erşan, S., & Erşan, E. E. (2020). Effects of Hypnotherapy on Weight Loss and thus on Serum Leptin, Adiponectin, and Irisin Levels in Obese Patients. *The Journal of Alternative and Complementary Medicine*, *26*(11), 1047-1054.

Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical disease, psychiatric disorders, and sexual behavior: Implications for healthcare. *The impact of early life trauma on health and disease: The hidden epidemic*, 77-87.

Gibbs, G. (1988). Learning by doing: A guide to teaching and learning methods. *Further Education Unit*.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy*, *44*(1), 1-25.

Hayes, S. C., Pistorello, J., & Levin, M. E. (2012). Acceptance and commitment therapy as a unified model of behavior change. *The Counseling Psychologist, 40*(7), 976-1002.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. Guilford Press.

Heine, H., & Weiss, M. (1987). Life stress and hypertension. *European Heart Journal, 8 Suppl B*, 45-55. https://doi.org/10.1093/eurheartj/8.suppl_b.45

Krouwel, M., Greenfield, S., Farley, A., Ismail, T., & Jolly, K. (2018). Factors which affect the efficacy of hypnotherapy for IBS: Protocol for a systematic review and meta-regression. *European journal of integrative medicine, 21*, 58-62.

Lind, S. B., Jacobsen, H. B., Solbakken, O. A., & Reme, S. E. (2021). Clinical Hypnosis in Medical Care: A Mixed-Method Feasibility Study. *Integrative Cancer Therapies, 20*, 15347354211058678.

Lynn, S. J., Pollizi, C. P., Green, J. P., Aksen, D. E., Gautam, A., & Evans, J. (2020). Hypnosis and health psychology. *The Wiley Encyclopedia of Health Psychology*, 257-263.

Maté, G. (2022). Beyond the Medical Model: Addiction as a response to trauma and stress. In *Evaluating the Brain Disease Model of Addiction* (pp. 431-443). Routledge.

Mir, R. M. (2019). Health Psychology and Cardiovascular Disease Research Models. *Am J Biomed Sci & Res., 6*(2). https://doi.org/10.34297/AJBSR.2019.06.001014.

Moreno Hernández, D., Téllez, A., Sánchez-Jáuregui, T., García, C. H., García-Solís, M., & Valdez, A. (2022). Clinical hypnosis for pain reduction in breast cancer mastectomy: A randomized clinical trial. *International Journal of Clinical and Experimental Hypnosis, 70*(1), 4-15.

Oppizzi, L. M., & Umberger, R. (2018). The effect of physical activity on PTSD. *Issues in Mental Health Nursing, 39*(2), 179-187.

Pacella, M. L., Hruska, B., & Delahanty, D. L. (2013). The physical health consequences of PTSD and PTSD symptoms: a meta-analytic review. *Journal of anxiety disorders, 27*(1), 33-46.

Petrie, K., & Weinman, J. (2006). Why illness perceptions matter. *Clin Med (Lond), 6*(6), 536-539. https://doi.org/10.7861/clinmedicine.6-6-536

Reason, J. (2000). Human error: models and management. *BMJ, 320*(7237), 768-770.

Schultchen, D., Reichenberger, J., Mittl, T., Weh, T. R., Smyth, J. M., Blechert, J., & Pollatos, O. (2019). Bidirectional relationship of stress and affect with physical activity and healthy eating. *British journal of health psychology, 24*(2), 315-333.

Slavich, G. M. (2020). Psychoneuroimmunology of stress and mental health. *The Oxford handbook of stress and mental health*, 519-546.

Zhang, C.-Q., Leeming, E., Smith, P., Chung, P.-K., Hagger, M. S., & Hayes, S. C. (2018). Acceptance and commitment therapy for health behavior change: a contextually-driven approach. *Frontiers in psychology, 8*, 2350.

APPENDICES

Appendix A: Consultancy

Appendix A1. Pre evaluation form.

Pre-Evaluation

1. What is your understanding/knowledge of Health Psychology?

My understanding of health psychology is limited in this context. As a business we have some general awareness and knowledge of common concepts, but not specific expertise in this area

2. How confident do you feel that you could apply Health Psychology theory to the Four Ways to Healthy Weight? 0 = not at all confident, 10 = very confident

0 1 2 3 4 5 **6** 7 8 9 10

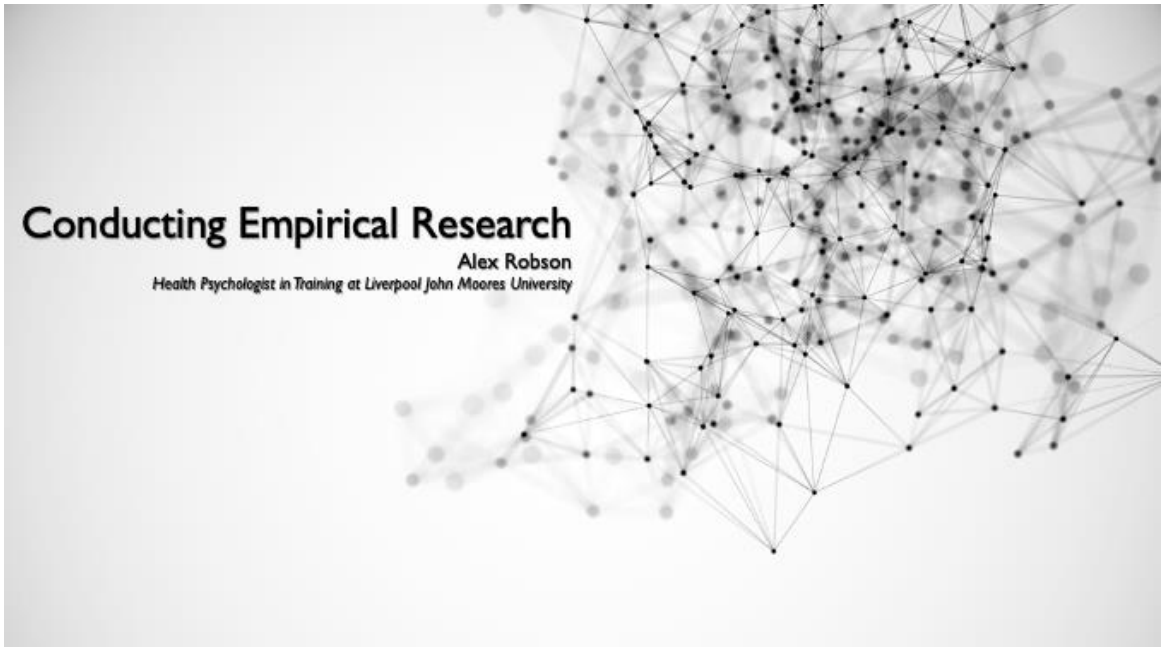
3. What is your understanding of empirical research?
Our understanding of empirical research is also limited. Again, we have awareness of key concepts, but we have not undertaken a formal empirical research project as a business previously.

4. Please rate your confidence on conducting empirical research. 0 = not at all confident, 10 = very confident

0 1 2 3 4 5 **6** 7 8 9 10

Thank you

Appendix A2. *PowerPoint* Slides delivered and given to the client on conducting empirical research for their weight-management intervention.



Empirical Research:

"is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief." – Pennsylvania State University 2020

Key characteristics:

- Clear research question supported by relevant literature
- Population, behaviour of phenomena in question
- Detailed description of the process so that someone could easily replicate and find the same results
- Usually written in the IMRaD format – journals can specify variations.
  - Introduction
  - Methodology
  - Results
  - Discussion

Steps for conducting empirical research:

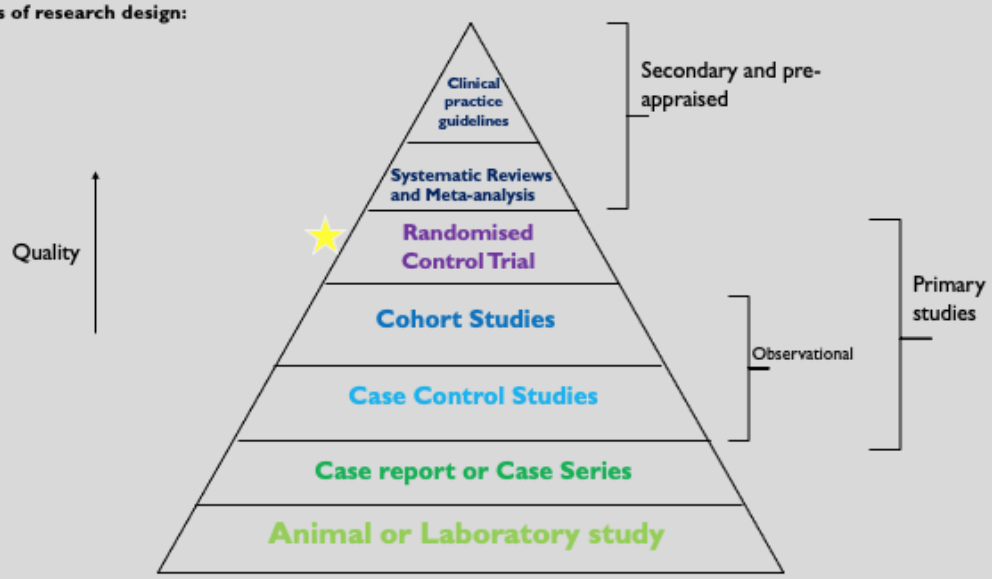
1. Define the purpose and rationale
2. Supporting theory
3. Hypothesis (research question)
4. Methodology (design, sample, measurement)
5. Data collection (intervention, coding of data onto SPSS)
6. Analysis
7. Conclusion and write up

Data Collection:

- Quantitative method involves a large audience, it's quick and easy to collect and aims to answer a set of pre-determined questions. Quantitative data is usually numerical from a measurement using an instrument or questionnaire with a specific rating scale.

- Qualitative method usually involves smaller sample and explores a deeper level of information, usually collected by interviews. Results will usually be descriptive rather than predictive, e.g., single case study.

Types of research design:



Variables

- Independent Variable (IV) is the thing that the experimenter changes or controls. It is assumed that it is not affected by other variables, e.g., age and eye colour, but it is the thing which is being tested as having a direct effect on the dependant variable. They can also have levels or conditions, see below for example.
- Dependant Variable (DV) is the thing being tested usually by an outcome measurement e.g., the Self-Efficacy Scale.

Both variables will be outlined in the research question.

Weight management programme (IV) and total weight lost in Kg (DV)

Some studies have multiple variables:

Experiment (IV1)	Time (IV2)
Level 1 = weight management	Level 1 = pre measures of all DVs
Level 2 = control group	Level 2 = post measures of all DVs

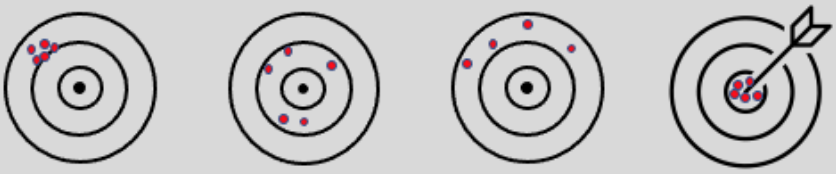
Weight measurement in Kg (DV1), waist circumference in cm (DV2), WEMWBS score (DV3)

Validity:

Face validity	Does it appear to test what it aims to measure? Is that clear?	Can a lay-person understand?
Construct validity	Does the test relate to theory?	Literature review
Internal	Is the relationship causal?	Threats to internal validity exist whenever there may be an un-controlled 'extraneous' variable that contributed to the results of the study: ▪ History ▪ Maturation ▪ Test-retest bias ▪ Instruments ▪ Statistical regression ▪ Selection ▪ Mortality ▪ Interactions
External	Does it generalise to other populations, cultures, times?	Threats to external validity exists when the conditions in the research design are not generalisable to the real-world ▪ Sample selection bias ▪ Intervention conditions

Reliability:

Over time	**Test-retest reliability:** Is the measurement 'standardised' e.g., has it been used over multiple studies with different populations? If yes, then it has good test-retest reliability. Not to be confused with test-retest bias*
Across items	**Internal consistency:** Has the measurement been used across a large sample? Use of a standardised and established measure is recommended. Simple reliability tests of Cronbach's alpha can be found in publications usually reported as 'α = .8' α> .9 excellent α = .8 good α < .7 questionable α <.6 poor
Across researchers	**Inter-rater reliability:** more prevalent in observational studies e.g., judging artwork.



Reliable
Not valid

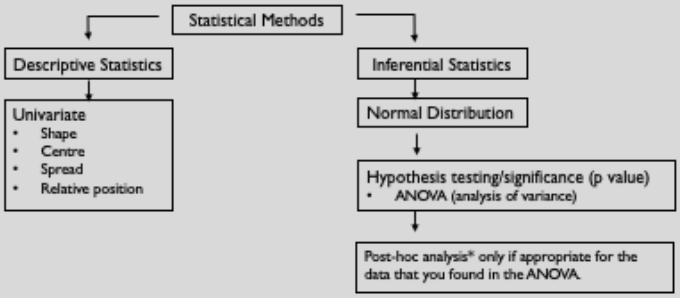
Low Reliability
Low validity

Not reliable
Not valid

Reliable
Valid

Analysis:

Depends solely on the research question and design but for the study in question these are the types of things that need to be investigated:



It is recommended that you use SPSS software to analyse your data, guidance can be found in textbooks and YouTube.

Analysis:

ANOVA – Statistical method that describes the effect of multiple IVs which have levels (pre & post/ control & intervention).

- A one-way ANOVA has a DV (weight in Kg) compared to at least 3 levels in one other IV (pre, post & follow-up). With a one-way ANOVA you would miss out the comparison of the 3rd IV – intervention vs control.

- A two-way ANOVA is conducted when there is a DV (weight in Kg) compared by more than one IV with multiple levels (pre, post & follow-up **AND** control & intervention group). With a two-way ANOVA, you will be able to compare the weight measurements between groups against time.

You typically run separate analysis for each of the DVs.

Further guidance:

- If in doubt find a similar study that has the same research design (RCT with two-way ANOVA) for guidance on how to report findings in the write up.
- IVs are sometimes known as 'factors'.
- DVs are sometimes known as 'continuous response variables'

Recommended reading:

- Forshaw: Easy Statistics in Psychology ISBN-10 : 1405139579
- Jones and Forshaw: Research Methods in Psychology ISBN-10 : 0273737252
- British Journal of Health Psychology
- International Journal of Health Psychology

Appendix A3. Post evaluation forms.

Post-Evaluation

1. What is your understanding/knowledge of Health Psychology?

   My understanding of health psychology has improved significantly as a result of working with Alex. Alex was extremely knowledgeable and supportive with us in taking us through the concepts of health psychology and how it could be applied to our programmes.

2. How confident do you feel that you could apply Health Psychology theory to the Four Ways to Healthy Weight? 0 = not at all confident, 10 = very confident

   0 1 2 3 4 5 6 7 8 **9** 10

3. What is your understanding of empirical research?

   Again, due to Alex's patience, diligence and knowledge, our understanding has increased significantly. Alex has taken time to talk us through how to conduct an empirical research study and has developed a truly excellent protocol for us to follow.

4. Please rate your confidence on conducting empirical research. 0 = not at all confident, 10 = very confident

   0 1 2 3 4 5 6 7 8 **9** 10

5. Please rate your overall satisfaction with the consultancy service provided. 0 = not at all satisfied, 10 = very satisfied

   0 1 2 3 4 5 6 7 8 9 **10**

6. Please comment on the delivery of the consultancy service provided.

   The quality of the consultancy was excellent. Alex approach the project with us in supportive and personable manner which led to us developing a really good working relationship. We have felt supported through the whole process and have really learned a lot from working with Alex, in a relatively short space of time. Thank you!

7. General comments and suggestions for improvements.

   Very happy with the service from Alex who has shown that she has the knowledge, experience and enthusiasm to achieve what she wants to. Thank you for your hard work and support.

Appendix A4. Additional written feedback.

We started working with Alex a couple of months ago as we required her support and expertise to help us to plan a control trial for a new weight management product we are in the process for developing. Our objective was to develop a trial strategy that would enable us to evidence that our product supports Participants to lose weight and to make some positive, healthy, changes to their lifestyle.

Alex worked with us over a number of sessions to map out our requirements, understand what we were aiming to achieve and create and develop a clear set of protocols for our trial. Alex was patient, understanding and took great care to develop a clear, concise set of protocols that provided us with a pathway for running our own trial. Alex then presented these protocols to our working group, was able to answer our questions confidently and supported our internal decision-making process.

Thanks to Alex, we now have a clear strategy for our trial and are looking to implement the trial as soon as we can. Alex also completed a literature review for us in the subject area, which helped us understand the context to our product and it helped us to refine the aims and objectives of the service. Alex was a pleasure to work with and her expertise was invaluable to us being able to move forward with the project.

Appendix A5. Final consultancy report given to the client to outline key points delivered during the project and to summarise recommendations for their weight-management intervention.

Consultancy Report

Introduction

Reed Wellbeing have designed a twelve-week weight management programme designed by their health coaches and clinical lead through on the ground practical knowledge. The health coaches have training in nutrition and physical activity and have valuable experience with working within their community. Reed Wellbeing have run weight management programmes in the past with success but have not yet captured the impact. On 16th October 2020 the consultant, Alex Robson, produced a health psychology weight-management intervention research protocol and delivered a 1-hour video call training meeting on conducting empirical research held online to inform three members of staff at Reed Wellbeing including clinical lead and health coach. Reasons for conducting empirical research are the following: to highlight potential improvements to be made to the existing programme with scientific precision; to contribute to health psychology evidence-based practice and showcase the work of their health coaches; to provide high standard evidence for funding opportunities.

Method

With an extensive background in health psychology, the consultant provided the client with guidance on how to capture the impact of the weight management programme with empirical research methods. This was to be delivered in the following format, a written research protocol also to be presented via a one-hour training video call including a 15-minute *PowerPoint* presentation on conducting empirical research. The written research protocol contains the most up to date research around health psychology theory relevant to weight-management interventions, including critical analysis of the Health Belief Model, Bandura's (1968) Social Cognitive Theory, and The Transtheoretical Model of Change. There will be a specific mention of the role of emotions on health behaviours which is often not accounted for in traditional weight-management theory and intervention. Furthermore, in order to act upon guidance shown in the research protocol, a 15-minute *PowerPoint* presentation on conducting empirical research was delivered.

Pre and post questionnaires were collected to understand the client's current knowledge on the subject and to validate the consultancy provided.

Results:

There were three attendees, as expected, on the video conference call. They gave verbal and non-verbal signals of understanding and had conversations amongst themselves in agreement with the points discussed in the presentation. At the end of the session, they confirmed their understanding and had very few questions, but their conversations were more of a motivated tone. The prequestionnaire demonstrated the level of understanding a health professional would have around the subject of health psychology and the scores increased by post intervention measures. The feedback given further validates the experience from the consultant's perspective in that the work provided was impactful and what the client requested.

Conclusions:

Overall, the process was a positive experience from both the client's and consultant's perspective, demonstrated by the post evaluation scores and additional written feedback received, see Appendix A4. The client was happy to stay in contact for future opportunities to collaborate once again.

Recommendations:

Community weight-management interventions typically work in line with the NHS Tier 2 recommendations for practice such as health information and basic behaviour change theory such as the Health Belief Model. However, as discussed in the research protocol, these community-based weight-management interventions are not as successful with sustained behaviour change. In order to account for the limitations of NHS Tier 2 level community-based weight management interventions, such as lack of sustainability, it is recommended that Reed Wellbeing use elements from NHS Tier 3 weight management programmes that include a health psychology informed approach accounting for the role of emotion on health behaviours. Furthermore, it is recommended that a neuropsychological and behavioural approach to weight loss is incorporated in order to account for the emotional processes that

can impact the sustainability of weight management behaviours. Literature to support this rationale is provided in the protocol such as the study by Felitti (1998) who found a staggering number of clients at an Obesity clinic had Adverse Childhood Experiences (ACE). Therefore, weight-management interventions should contain an evidence-based psychological element from a trained professional to ensure emotional regulation and promote sustained weight-management behaviours.

Finally, the research is to be designed empirically using the format and guidance provided in both the protocol and the *PowerPoint* presentation. The data captured will hopefully provide evidence that is useful to Reed Wellbeing to guide future interventions and impact weight-management in the community, to showcase staff expertise and to secure funding to impact wider populations and contribute towards lowering obesity and co-morbid disease.

Appendix B: Teaching and Training

Appendix B1. Multiple choice pre- and post-quiz questionnaire given to participants before and after the teaching series Wellbeing Wednesdays.

Multiple choice questionnaire on mindfulness.

1. When practicing mindfulness, what is the best posture to adopt? (tick 1)
    a. Sitting upright
    b. Lying down on your back
    c. Standing up
    d. Lying on your side

2. Who should not practice mindfulness unless cleared by a healthcare professional? (tick 2)
    a. Someone with unprocessed psychological trauma
    b. Someone with controlled and stable diabetes
    c. Someone with Chronic Obstructive Pulmonary Disease (COPD)
    d. Someone with a headache

3. Why is it important to have a good spinal posture when practicing mindfulness (tick 3)
    a. To reduce the capacity of the chest cavity
    b. To reduce risk of muscle and joint strain.
    c. To increase capacity of the chest cavity for lungs to expand
    d. To improve hearing
    e. To easily remain still with neutral balance
    f. To increase risk of falling

4. In relation to work, mindfulness can help you (tick 2)
    a. Read faster
    b. Double your memory capacity
    c. Increase focus and ignore distractions
    d. Increase your confidence
    e. Build resilience to stress

5. The vagus nerve is attached to many parts of the body, but what is its main purpose? (tick 3)
    a. To relay information from the brain to the body only
    b. To relay information to the body to the brain only
    c. To communicate information between both the brain and the body
    d. Regulates the rest and relaxation response
    e. Regulates the stress response
    f. Regulates heart rate, blood pressure, sweating, digestion and speaking.

6. You can be in a rest and digest (relaxed) response and fight and flight (stress) at the same time (tick 1)
    a. True
    b. False

7. It's best to practice mindfulness (tick 1)
    a. Once in a while
    b. Only when stressed
    c. Only at home
    d. Regularly and consistently

8. Tick all of the mindfulness activities
    a. Gratitude
    b. Walking
    c. Journaling
    d. Meditation
    e. Breathing exercises
    f. Yoga
    g. Body scan
    h. Grounding exercises
    i. All of the above

9. Pranayama is (tick 1)
    a. A made-up word
    b. Yogic breathing exercises
    c. A term for yoga postures
    d. A part of the brain

10. What is the aim of breathing exercises such as 2:1 ratio breathing (tick 2)
    a. To increase the heart rate and increase respiration
    b. To decrease the heart rate and decrease respiration
    c. To activate the relaxation response
    d. To activate the stress response

Appendix B2. Participant feedback forms for Wellbeing Wednesday

Evaluation form

Please tell me about your experience of Wellbeing Wednesdays using the form below.
1 = Strongly disagree, 2= slightly disagree, 3= neither agree/disagree, 4 = slightly agree, 5 = Strongly agree

1. I enjoyed Wellbeing Wednesdays
   1 2 3 4 5

2. I learned about ways to improve resilience to work stress
   1 2 3 4 5
3. I am happy with the content provided
   1 2 3 4 5

4. I am happy with the delivery of the sessions
   1 2 3 4 5

5. I feel like I could implement mindfulness practices covered in Wellbeing Wednesdays to increase resilience to work stress
   1 2 3 4 5

6. If yes, please explain what you have learned…

   ……..

7. If there was anything you would change about the sessions what would it be?

   …….

8. Do you have any further feedback?

   …….

Thank you

Appendix B3. Wellbeing Wednesday Scripts for weeks one to ten.

Session One – Introduction to Wellbeing Wednesdays

Welcome to Wellbeing Wednesdays – a ten-week step by step programme combining carefully selected mindfulness activities to help you increase resilience to work stress.

The main activities will be around mindfulness as I invite you to sit back, and I will guide you through each practice. You don't need a pen or piece of paper and you can close your eyes if you want to. You can also keep them open if you feel more comfortable.

Please remember that my guidance is always an invitation to practice and not a command. Only participate in what feels comfortable for you and you can get up, stretch and walk around or even leave the practice if you need to do so.

Please note that mindfulness practice can bring up unpleasant, strong and painful thoughts, emotions and memories, this is normal. You may feel relaxed at certain points too and this is normal. The aim is not for relaxation, it is to train the brain and increase your ability to be aware of the present moment. It's harder than it sounds and requires practice. Hopefully over the next 10 weeks you will develop this skill to help you with stressful situations in the workplace.

So, get comfortable in your chair and I'll explain a little bit more about mindfulness and then we'll begin our first practice.

What is Mindfulness?

Sometimes known as meditation, mindfulness is the practice of mental focus and concentration on a particular activity. We train our brain to focus on a neutral stimulus, such as the breath, to help connect to the present moment.

By focusing on what we're doing and not letting our thoughts wander is difficult at first, this is why it takes practice. The mind will always want to wander, just as the heart beats and the lungs inspire. And that's okay. When it wanders down a rabbit hole of thought, we simply bring our focus and attention back to the mindful activity.

This is what's known as being in the 'present moment'. This means that we are not thinking about the past or the future.

If we have had a stressful morning or have some important tasks to do after the mindfulness session, know that you can put them aside for just 30 minutes.

With consistent daily practice, you can start to feel the benefit. That's not to say you won't experience daily stress, you will, that is life, but what you can do is react to stressors in a more constructive way. As you will learn, all emotions no matter how unpleasant are valid and it's important to acknowledge them, but then we let them go.

When we relax it gives our body and mind a break and helps us to understand things with more clarity. It also helps with physical health conditions because stress can interrupt digestion and the immune system and our ability to fall asleep.

One final thing – it's easy to get competitive with ourselves and convince ourselves that we're doing it wrong. Just remember practice is practice. There will be some practices that bring up emotions and memories out of nowhere, there will be practices that will be frustrating, you will feel like giving up. Keep going, you're never doing it wrong, and tomorrow is always another day and another opportunity to practice.

With that, let's get started with our first practice.
Every practice we start by aligning our posture, keeping our spine nice and straight and our front soft but open. This is to allow our body to breath easily and maintain comfort during practice. We create space between the shoulders and the ears. Letting them feel heavy and dropping down towards the earth. Hands rest gently in the lap. We can put them in this position if it feels comfortable, just chose a natural positioning where you will not feel inclined to fidget.

Remember that you are in a safe space where you will not be disturbed for the next 30 minutes. If it feels okay for you to do so today, gently close your eyes and we'll begin to breath in through the nose and out through the mouth. If closing the eyes feels uncomfortable, we can keep them open slightly but gazing down towards the earth.

Begin to notice the breath. See where it's at today.
Notice the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.
So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,

Out 2, 3, 4, 5, 6

In 2, 3, 4,

Out 2, 3, 4, 5, 6

And now explore lengthening the exhale a little longer towards the count of 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as you let the following words wash over you.

Our brain speaks to out body and our body speaks to our brain through our nervous system.

You can imagine our nervous system as small bundles of electrical wires running all throughout our body, connecting everything in its path.

We can directly affect this system not only with our thoughts (brain to body) but with our body systems (body to brain).

You may know that there are 2 systems within the autonomic nervous system that have opposite effects on the same organs.

The sympathetic nerve fibres stimulate an excitatory response such as dilating the pupils, increasing blood pressure and heart rate.

and the parasympathetic nerve fibres stimulate a relaxation response such as digestion, lowering blood pressure and heart rate.

When we breath the sympathetic nerve fibres increase the heart rate and dilate the airways to let air flow easily to our lungs as they expand.

When we breath out the parasympathetic nerve fibres decrease the heart rate and constricts the airways to allow the used air to flow freely out of the lungs.

So, as we're breathing in and out, our body is always responding.

Our breathing directly effects other organs of our body and it's always gently balancing itself in the gentle movements and rhythm of being.

So, with that I invite you to think about all of your wonderful organs including the brain, and how they're all connected and communicating with each other in perfect harmony.
Now take a deep inhale in through the nose and out through the mouth.
Allow yourself to become aware of the support of the chair your sitting on and your feet on the ground. Become aware of your surroundings and gently flutter your eyes open and return to the room.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?
See you next time for session 2 where we will be exploring the nervous system in more depth.

Session Two – The Vagus Nerve

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down

Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.
So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,
Out 2, 3, 4, 5, 6
In 2, 3, 4,
Out 2, 3, 4, 5, 6
And now explore lengthening the exhale a little longer towards the count of 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
Don't worry about it getting there straight away. Just slowly lengthen on each exhale.
If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.
Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.
If you haven't already done so return to relaxed breathing as I recap on the previous session.
Last time we explored the sympathetic and parasympathetic nervous systems and their opposing effects keeping everything balanced in perfect rhythm
what goes up must come down
what flows in must flow out

The two systems cannot be on at the same time. They act as a flip switch between one response and the other.

Today I want to expand a little on the main nerve responsible for parasympathetic activity, the vagus nerve.

If you haven't already come across it, it's the 10^{th} cranial nerve that runs from our brain all the way down through our throat connecting our heart and other organs including the digestive system.

This is why sometimes the relaxation response is known as rest and digest as opposing state to fight or flight.

It is the mind-body connection as it allows for the organs to communicate with the brain and is a mediator between thoughts, emotions and physical sensation.

The vagus nerve is always listening to the breath and sends signals to the heart and brain to respond accordingly.

When we breathe deeply and slowly, it lowers the heart rate. Conversely if our breath is quick and shallow, this stimulates the excitatory panic response

This is why it is important to practice breathing exercises to firstly become aware of our breathing patterns and to start to change them slightly to alter our physiological state to promote relaxation.

Slowing down the exhale so that it is longer than the inhale helps to stimulate the vagus nerve which in turn signals the parasympathetic response for the rest of the organs, including our heart and brain.

Every time we inhale the sympathetic nervous system is activated as the heart rate increases by 1 beat.

and so is the opposite

Every time we exhale the parasympathetic nervous system is activated as the heart rate decreases by 1 beat.

By working with these opposing systems, we can play around with it to get our desired response.

For example, if our inhale is the same length as the exhale, our breathing is stabilised and balanced. The level of oxygen and CO2 is equal in the blood.

However, if we slow the exhale so that it is double the length of the inhale, we can slowly begin to decrease the heart rate.

Tipping the balance of oxygen and CO2 so that there is less oxygen, and more CO2 promotes a relaxed and calm biological state.

This actually encourages oxygen to the brain and helps us to think clearly.
Although recently proved by modern science, this is not a new concept.
One of the central practices of yoga is pranayama, meaning control of the breath and it is mentioned in early texts in around sixth and fifth century BCE.
Prana (breath) is said to be the life force energy, flowing in and out of our bodies.
It is said that the inhale carries an upward curve of energy and has an excitatory response. We can use an inhale to move our body and prepare for action.
Consequently, the opposite is true – when we exhale it carries a downward curve of energy and has a relaxing response. We can use an exhale to sink into a movement such as a deep stretch.
So, bear this in mind when you go to open a door, pick something off the floor, or sit down.
You can use the breath to move as well as to relax.
Think of it as the body's unlimited personal tranquiliser that you carry with you wherever you go.
We're going to finish today's practice with a pranayama technique called the humming bee breath.
Don't worry about feeling or looking silly, no one will be aware of you because we're going to close off our eyes with our fingers and close off our ears with our thumbs. Everyone will be in their own personal world during the practice so don't worry.
I will demonstrate first and then you follow.
Taking the fingers and placing them over the eyes, I close off the ears with the thumbs. We take a deep preparatory breath in and exhaling through the nose keeping the mouth closed we hum for as long as the breath lasts. We do 3 rounds of this.
It creates a lovely resonance of sound vibrations in the head and is really relaxing.
When you're ready close off the eyes and ears, take a deep breath in and begin.
Relaxing the hands back down keeping the eyes closed, just sit with the sensations that arise.
I now invite you to become aware of your surroundings.
Wiggle your fingers and toes and gently flutter your eyelids open and come back to the room.
Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Three – Grounding

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.

When you're ready close your eyes and we'll begin to draw attention to our breath.

See where it's at today.

Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.

Explore sending the breath all the way down into the diaphragm.

If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.

When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.

As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.

This action creates a gentle rising and falling of the lower belly.

Like a wave rolling in towards the shore and washing back out again.

So, with that I invite you to inhale and feel the belly expand like a balloon.

And on an exhale the air is released, and the belly slowly and gently deflates.

Practice this a few more times slowly expanding and gently deflating.

It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.

Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down

Making a smooth transition between the inhale and exhale.

I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.

You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.

As you might breathe in for the count of 4, you breathe out for the count of 4.

In 2, 3, 4,

Out 2, 3, 4,

In 2, 3, 4,

Out 2, 3, 4,

This soothes our nervous systems and creating balance and harmony within our body.

If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.

So, if your inhale was for the count of 4,

Try lengthening the exhale towards the count of 6.

In 2, 3, 4,

Out 2, 3, 4, 5, 6

In 2, 3, 4,

Out 2, 3, 4, 5, 6

And now explore lengthening the exhale a little longer towards the count of 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as I recap on the previous session.

Last week we spoke about the importance of slowing down the HR to increase the amount of CO2 in our blood to activate the relaxation response.

We spoke about the vagus nerve practiced ways to stimulate it via pranayama practice such as the humming bee.

Today we're going to talk about grounding techniques.

It's a phrase commonly used in science and electronics for grounding down electrical charge to the earth.

However, it's also used as a psychotherapeutic technique to create boundaries and a sense of safety and security.

It can help people to deal with dysregulated and overwhelming emotions and anxiety.

If you would like to explore this method, I invite you to take one hand and place it on the forehead.

Now place the other on the heart.

Notice how this feels.

Notice the sensations.
Sit for a while and breathe in the experience and physical sensations.
Now you can take the hand that's on the forehead and place it on the abdomen.
Notice how this feels.
Notice the sensations.
Now you can release the hands and place one hand under the armpit and gently wrap the other arm around you like a hug and gently grasp the elbow or upper arm.
Notice how this feels.
You may be drawn to stroke or tap the upper arm.
Just go with whatever feels good.
You can relax the arms down or keep them where they are and listen to the following words I'd like to share with you today.
The odds of you being born as exactly as you are, are basically zero.
We all wish we could be a different person at some point in our lives but being you is actually a numerical miracle
Your unique qualities and existence of being exactly as you is the probability of two million people getting together to play with a trillion-sided dice.

The odds of you being born exactly as you are, is basically the same as the odds of all those 2 million people rolling that trillion-sided dice and all having the same number.

That is the chances of 1 in 400 trillion.

So next time you look at yourself in the mirror, remember that you are part of the infinite possibility of the universe and the true meaning of the word, unique.

Now if you're feeling okay today we're going to end with some shoulder rolls
One way then the other.
Rotate the wrists then the ankles and gently flutter your eyes open.
Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Four – The body scan

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.

If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.

So, if your inhale was for the count of 4,

Try lengthening the exhale towards the count of 6.

In 2, 3, 4,

Out 2, 3, 4, 5, 6

In 2, 3, 4,

Out 2, 3, 4, 5, 6

And now explore lengthening the exhale a little longer towards the count of 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as I recap on the previous session.

Last week we explored guided imagery and the power of the imagination. Through your thoughts you can reprogramme your subconscious mind to achieve any goals that you want to manifest, this can be healing deep inner wounds, self-development or simply to relax.

This week we're going to explore one of the most basic and grounding exercises that is suitable for beginners right up to advanced practice.

Today I'm going to offer to you the practice of the body scan.

If at any point you feel areas that are uncomfortable, or you have existing pain in these areas you can practice deep breathing but remember in bringing awareness and love to these areas, sometimes uncomfortable feelings or pain can dissipate and soften.

So, as we begin I want you to draw your focus and awareness to the crown of your head

Side of the skull

Brow

Space between eyes

Eye sockets

Temples
Jaw
Lips
Individual teeth
Gums
Tongue
Space beneath your ears
Neck and throat
Shoulders
Top of Arms
Forearms
Wrists
Palms
Space between finger bones
Tips of fingers
Chest and under arm pits
heart area
Space between the rib cage bones as they expand and relax on every inhale
Abdomen muscles
Lower spine
Back of the pelvic griddle
Hip joint
Sacrum and coccyx
Thigh bone and quadriceps
Back of legs and hamstrings
Knee joint, the outer sides, inner sides, back and front
Calf bones and muscle
Ankle joint and top of the foot
Space between the toe bones
Heel and sole of the foot
Ball of the foot
Individual toes
Visit any part of the body that you feel needs some extra attention and with every inhale soften that area.

Take a few moments here to bask in the total body relaxation from head to toe.
Take a deep inhale in here like a waking breath.
You become aware of the surroundings in the room and the weight of your body on the chair.
Gently wiggle your fingers and wiggle your toes
And only when you're ready, gently flutter your eyes back open and come back to room.

Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Five – Heart-brain communication

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.

I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.
So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,
Out 2, 3, 4, 5, 6
In 2, 3, 4,
Out 2, 3, 4, 5, 6
And now explore lengthening the exhale a little longer towards the count of 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
Don't worry about it getting there straight away. Just slowly lengthen on each exhale.
If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.
Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.
If you haven't already done so return to relaxed breathing as I recap on the previous session.
Last week we tried out some grounding techniques to help you in your daily life if ever you start to feel overwhelmed by stress.
In previous sessions we explored the nervous system and how signals can be sent from the brain to different organs and glands in the body.
This is a two-way communication.

Today we're going to look at heart-brain communication.
The heart communicates with the brain as much as the brain communicates with the heart and we can directly measure this.
We've all heard of Heart Rate but have you heart of Heart Rate Variability? It is a measurement for understanding overall health and ability to tolerate stress and think clearly.
If a heart beats at 60bpm, you would assume the heart beats on the second every second.
This is not true, there is variability of milliseconds and depending on your stress levels.
If the heartbeat is uniform and are the same length each time this is low HRV. Meaning little variance.
If the heartbeats are loose and differ each time this is high HRV. Meaning a lot of variances.
Interestingly, when you're HRV is high and your heartbeats vary a lot, this means that your body is in a relaxed and restful state. Imagine a hippy walking down a road with their arms swinging by their side in a relaxed and non-uniform pace. Mellow without a care in the word just letting the feet land and arms swing as they like.

If you have low HRV this means that the heartbeats are more precise and uniform, and it is generally a signal that you are exercising or stressed. Imagine a person with their head down rushing to get somewhere and their arms swinging precisely in time with their legs. Like a tight efficient machine left right left right and so on.
If a person is stressed or overwhelmed – physically and mentally – the heartbeat can be effected.
Low HRV and high stress hormone levels signals a person is in survival (fight or flight) mode, even when the person is resting.
Meaning the heart and the internal systems are behaving like the busy person trying to get to their meeting even though the body is at rest on the outside.
This is very consuming on the body and can result in various mental and physical health problems.
How to work with it is through what you're doing every Wednesday through mindfulness practices with breathing exercises, and simply paying attention to the internal systems. Checking in on what's going on and channelling your inner hippie causally walking down a sunny street.
If you want to explore this further, you can find apps and tools to help you monitor your heart rate variability.

So, with that in mind I invite you to take your hand and place it over your heart and take a long slow inhale in and exhale.
And on the next inhale fill your heart with appreciation and gratitude for all that it does.
When we learn to work with the amazing biological systems in place it can help you to bounce back from stress and live a happier healthier life.
Become aware of the support of the chair, wiggle fingers and toes and gently flutter your eyes open.
Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Six - Gratitude

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.

Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down

Making a smooth transition between the inhale and exhale.

I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.

You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.

As you might breathe in for the count of 4, you breathe out for the count of 4.

In 2, 3, 4,

Out 2, 3, 4,

In 2, 3, 4,

Out 2, 3, 4,

This soothes our nervous systems and creating balance and harmony within our body.

If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.

So, if your inhale was for the count of 4,

Try lengthening the exhale towards the count of 6.

In 2, 3, 4,

Out 2, 3, 4, 5, 6

In 2, 3, 4,

Out 2, 3, 4, 5, 6

And now explore lengthening the exhale a little longer towards the count of 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as I recap on the previous session.

Last week we spoke about the heart and the brain and how they communicate with one another.

We can make big changes to our mental wellbeing by paying close attention to our body and

regularly checking in with what's going on. Simply placing your hand on your heart and becoming aware of the sensations can restore a sense of calm.

We can choose to make these small changes like mindfulness practice, and we can also choose to develop a sense of awareness for the beauty inside you and around you.

This brings us on to today's theme, gratitude.

Gratitude is the act of being thankful for a person, place, situation or object. The possibilities are endless.

And once we start to cultivate this awareness, the easier it will become.

With regular daily practice, we can start to see the beauty in everything and all that is around us and our minds will be more inclined to search for the positive

Practicing gratitude helps re-wire our brain from automatic negative thoughts.

It is linked to the warm feeling that spreads across the chest when we think of a child, a loved one, a happy memory.

We can start to cultivate this response to simple things such as the weather, finding a car parking space, a smile, a telephone call from a friend

and when we really search for it, deeper levels of gratitude for the soil that grew the food that we eat, the workers that keep our shelves stocked, the discovery of electricity and central heating. All these things that help make your day that little bit easier.

What's more is that people who practice gratitude have better sleep, physical health, resilience to stress and improved social connection. Gratitude can directly affect the people around you and can make for a better working environment.

There are many ways we can incorporate gratitude into our lives two of which we will practice now and then I have 3 more suggestions for you to try on your own.

1. We can start by keeping an actual list of 5 things you were grateful for every day. Take a moment to reflect on it daily.

2. Name 5 people you're grateful to have in your life - What has each person done to help you? How has each person made your life better? Does each person know how grateful you are for them?

These are now for you to try at home:

3. Say thank you more, these are all small things - but they are all worthy of a small "Thanks," "I appreciate it," or a friendly hand gesture (such as when saying thanks to someone while driving).
4. Write someone a thank you letter. It doesn't have to be super emotional or serious, but at least be honest and sincere about it. Send the letter to them via mail or email. Don't tell the person you were instructed to do this exercise - just do it on your own.

5. Random acts of kindness Doing a small act of kindness is a great way to express a more positive and appreciative outlook on life. When we do nice things for others, it strengthens our beliefs that we are good people living in a good world, even if it isn't always perfect.

There are so many ways to practice gratitude, get creative with it.

Thank you for your participation, I hope you have enjoyed this session today and I hope it's given you lots of ideas to reflect on.

Would anyone like to share their experience?

Session Seven – The observer

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.

When you're ready close your eyes and we'll begin to draw attention to our breath.

See where it's at today.

Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.

Explore sending the breath all the way down into the diaphragm.

If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.

When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.

As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.

This action creates a gentle rising and falling of the lower belly.

Like a wave rolling in towards the shore and washing back out again.

So, with that I invite you to inhale and feel the belly expand like a balloon.

And on an exhale the air is released, and the belly slowly and gently deflates.

Practice this a few more times slowly expanding and gently deflating.

It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.

Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down

Making a smooth transition between the inhale and exhale.

I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.
So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,
Out 2, 3, 4, 5, 6
In 2, 3, 4,
Out 2, 3, 4, 5, 6
And now explore lengthening the exhale a little longer towards the count of 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
Don't worry about it getting there straight away. Just slowly lengthen on each exhale.
If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.
Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.
If you haven't already done so return to relaxed breathing as I recap on the previous session.
Last week we explored ways to cultivate gratitude in our daily lives. We spoke about all the different ways of bringing awareness to the things in life that we are thankful for.
Today we are going to explore the types of minds, the observer and the thinking mind.
This practice helping you find your "centre" amidst ever changing circumstances.

Helps to defuse (let go of) self-criticism and judgements and train neural pathways to increase psychological flexibility.

Notice your breath (10 seconds pause)

Be aware you're noticing (10 seconds pause)

As you notice your breath, be aware you're noticing.

There's the breath and there's a part of you noticing your breath

Notice what you're thinking ...

Be aware you're noticing ...

Notice what you can hear ....

Be aware you're noticing ....

Notice what your mind is telling you ...

Be aware you're noticing ....

As you notice what your mind is telling you, be aware you're noticing.

There's the thought in your mind and there's a part of you noticing your thoughts.

Notice what you can feel in your feet ....

Be aware you're noticing ....

So, there's a part of you that notices everything

Thoughts and emotions change all the time, coming and going – but the part of you that notices is always there

Life is like a stage show … and on that stage are all your thoughts and feelings and everything you can see, hear, touch, taste and smell … and there's a part of you that can step back and watch the show.

These experiences, sensations, memories and urges are a part of you; but they're nowhere near the whole of you; there's so much more to you.

So, amidst all the changing circumstances in life, the part of you that notices is always there.

Pressing the feet into the floor and take a more wakeful and alert posture as we end this practice today. And, when you're ready open the eyes

Thank you for sharing the practice with me today.

Take a few moments here to reflect on today's practice and enjoy the rest of your day.

Would anyone like to share their experience?

Session Eight – The power of the imagination

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.

So, if your inhale was for the count of 4,

Try lengthening the exhale towards the count of 6.

In 2, 3, 4,

Out 2, 3, 4, 5, 6

In 2, 3, 4,

Out 2, 3, 4, 5, 6

And now explore lengthening the exhale a little longer towards the count of 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

In 2, 3, 4,

Out 2, 3, 4, 5, 6, 7 8

Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as I recap on the previous session.

Last week we explored the difference between the observing mind and the thinking mind.

Today we're going to explore the power of the imagination using guided imagery. As we covered last week, our mind's ability to reprogram itself by thinking and imagining positive statements is truly special.

Cultivating and playing with the imagination is an important aspect of our health and wellbeing. It helps us to reprogram those negative thought patterns but also to bring about feelings of happiness, joy and love.

When we practice gratitude we bring up a mental image of the person, place or thing as we feel a warmth spread across our chest. Remember that imagination is not just about visualisation, it is about sensations of the body and a feeling.

Today we are going to create a healing place of tranquillity in the mind for you to return to any time you feel stressed. Don't worry if you struggle with visualisation. It is something that you can learn to develop with patience and practice.

So, relax a little deeper as we take a journey into our minds.

Begin by taking a nice long inhale through the nose and as you exhale roll the eyes towards the forehead. Not too much that it's straining. Take a few more breaths as you look up towards your third eye, or pineal gland, which is located between the eyes.

Relaxing deeper you see your feet in front of you. On every exhale they are descending down a beautiful white marble staircase. You can feel the cold of the marble under your feet as you slowly make your way down the stairs into the depths of your own mind. Perfectly safe, perfectly supported.

As you sink deeper you feel a comforting sensation as you come closer and closer towards the bottom of the beautiful staircase.

As you reach the bottom you see the marble staircase end as soft luscious green grass begins. As you leave the last step, you step onto the beautiful spongy grass, and you feel the support of the earth under your feet as you come into an expansive and beautiful green space.

You walk across the grass and take a look around you to notice the trees and the beautiful blue sky.

You feel the warmth of the sun on your skin as you breathe in the fresh air.

You notice some areas of woodland with small blue and white flowers, and you catch a drifting scent of the grass with the slight perfume of those flowers.

You hear a bird singing and the distance babbling of a stream.

As you make your way through the trees you come to a clearing with lake so shiny and still it looks like glass as it reflects the light of the sun.

Near the water's edge there are 2 cushioned sun loungers next to a bench with a person sat on it. That person is you. You turn to look towards yourself with a big friendly smile and wave to come over.

As you make your way over, you eventually see yourself stood in front of you. You trace the outline of your body, see the clothes, and the expression on their face.

You notice this version of yourself is weighed down with issues. You see how those issues affect this version of yourself – you might see a rain cloud above their head, you might see some loose ball and chains that the person is holding onto with their hands but not locked into, you might see some cords attached to their body, you might see rocks in their pockets.

You look at yourself with such love and compassion and you agree to help them.

You might give yourself a hug. Really feeling the warmth spread as you wrap your arms around them.

You stand to look at them again and together you work on releasing the issues that you can see.

The rain cloud might float away into the sky to be evaporated by the loving light of the sun.
The ball and chains are safety put away in a nearby bin.
The cords attaching to the body are gently pulled out.
The rocks are thrown into the lake.
Take your time with this until it has all gone.
Look back at yourself and notice your expression and the way you're now standing.
You now see yourself as the best version of you, standing tall and radiating happiness and love.
All the while with the sun shining and the blue sky above.
You both take a seat on the comfortable sun loungers and look out onto the lake.
You lie back and bask in the beautiful sunlight and feel like you're sinking into deep cushions on the sun loungers.
You spend some time here allowing the peace and tranquillity to wash over you. You are so grateful that you came.
You take one last look around and feel the comfort and safety of this healing space.
You gently come up to seated and eventually to standing. You leave the other version of yourself lying peacefully with a smile on their face basking in the warmth of the sun as you say goodbye for now.
You turn to walk back up through the trees, smelling the flowers again on a gentle breeze.
You make your way across the spongy grass as you eventually come to the white marble staircase.
You take a deep inhale as you start to ascend the cool staircase.
Each inhale in takes you higher and higher.
As you make your way to the upper levels of consciousness you take a deep inhale in as if you were waking.
You become aware of the surroundings in the room and the weight of your body on the chair.
You wiggle fingers toes
Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Nine – How to re-write a bad day

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.
This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.

So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,
Out 2, 3, 4, 5, 6
In 2, 3, 4,
Out 2, 3, 4, 5, 6
And now explore lengthening the exhale a little longer towards the count of 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
Don't worry about it getting there straight away. Just slowly lengthen on each exhale.
If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.
Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.
If you haven't already done so return to relaxed breathing as I recap on the previous session.
Last week we did a body scan. It's a relaxing way to ground down into the present moment.
This week we're going to look at resilience and, using the methods we've covered in previous weeks, practice how to rewrite a bad day.
How we feel about today, a person, a memory, a place, it will evolve.
What was once a painful day could become a day to be looked upon with gratitude.
What once could have been our favourite person, place or thing, may become incredibly challenging.
Just know that you, your life and your relationships with everything are always changing and evolving.
We may be feeling unwell exhausted or overwhelmed with responsibilities.

Thinking that we had an entirely "bad day" may feel right, but it is often inaccurate
No day is entirely bad.
There is almost always something good in that day no matter how small.
The brain is more likely to remember only the bad aspects of a day and ruminate on what has happened.

We can re-wire our brain to help see that there are both pleasant and enjoyable moments during the day as well as negative occurrences
And that none of these moments are permanent.
When we do experience the transient painful moments, we can respond by taking time out and having compassion for ourselves
This can help to rewrite the story of the day.
So, I invite you to bring to mind something difficult you have experienced today.
Use a specific event, a general feeling, or whatever arises naturally in the mind.
As the feeling of your "bad day" arises, pay attention to what that experience is like.
Notice if there is a feeling in the body or any thought processes in the mind.
Try not to overthink this situation, tune in to the overall experience and emotion.
With awareness of how this feel, begin offering yourself some compassion.
Silently offer these phrases:
This is a moment of pain or sadness or anger.
I choose to show kindness and compassion to myself.
I am enough
I am a good person
I matter and my feelings are always valid.
I choose to learn from this experience
I choose to let this go
Spend a few more times silently repeating these phrases to yourself.
I now invite you to bring something to mind that has brought you joy or contentment today.
See if you can find a moment in which you weren't consumed by the discomfort or pain.
It may be when you first woke up, a nice conversation with a friend or co-worker, or listening to music on the journey into work.
As something comes to mind, connect with how the experience felt.
Recognize that although you may be having a hard day, here is a moment of freedom from the pain.
Offer the simple phrase "May I appreciate this moment."
Continue bringing to mind other times in which you experienced some contentment during your day.
As each new one comes up, sit with it for a few deep breaths and repeat the phrase.
"May I appreciate this moment."

As you run low on pleasant or enjoyable experiences, look for the neutral moments in your day.
This could be washing your hands at the sink, walking up or down some stairs, getting in and out of your car or on the bus.
As you finish the practice, reflect for a minute on the whole of your day.
Sit now with the knowing that the entire day was not unpleasant.
Tune in to the fact that many moments were pleasant or neutral.
The work you've done today has helped to re-direct negative thought patterns. The more you practice the more your thoughts will be balanced in times of stress.
Next time you feel you're having a bad day, practice this meditation to bring yourself back into balance alignment with reality.
On your next breath take a deep wakeful inhale and sigh as you breathe out.
Gently wiggle the finger and wiggle the toes, becoming aware of the environment around you.
And when you're ready and only when you're ready, gently flutter your eyes open.

Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Session Ten – Self-compassion

Today we'll start by aligning our posture, keeping our spine nice and straight and our front soft but open. Creating space between the shoulders and the ears. Hands rest gently in the lap.
When you're ready close your eyes and we'll begin to draw attention to our breath.
See where it's at today.
Cultivate an awareness of the sensations of the breath as it enters the nose and travels down through the throat in towards the diaphragm.
Explore sending the breath all the way down into the diaphragm.
If you don't know what or where the diaphragm is, it's a flat thin sheet of muscle just below the lungs and above the belly button.
When we breathe in, the diaphragm draws down like a mini trampoline increasing space for the lungs to expand into.
As we breathe out, the diaphragm returns to its flat position as it pushes air out of the very bottom of the lungs.

This action creates a gentle rising and falling of the lower belly.
Like a wave rolling in towards the shore and washing back out again.
So, with that I invite you to inhale and feel the belly expand like a balloon.
And on an exhale the air is released, and the belly slowly and gently deflates.
Practice this a few more times slowly expanding and gently deflating.
It can feel strange at first because we are not used to breathing so fully, but with practice it becomes easier.
Now I would like you to return to a relaxed breath but see if it's possible to lengthen and slow it down
Making a smooth transition between the inhale and exhale.
I invite you to explore slowing down the exhale as you sink deeper into a relaxed state.
You can stay like this or if you like you can explore making the inhale the same length as the exhale as we count in our heads for even breathing.
As you might breathe in for the count of 4, you breathe out for the count of 4.
In 2, 3, 4,
Out 2, 3, 4,
In 2, 3, 4,
Out 2, 3, 4,
This soothes our nervous systems and creating balance and harmony within our body.
If you like you can explore lengthening the duration of the exhale so that it gradually increases to double the count of the inhale.
So, if your inhale was for the count of 4,
Try lengthening the exhale towards the count of 6.
In 2, 3, 4,
Out 2, 3, 4, 5, 6
In 2, 3, 4,
Out 2, 3, 4, 5, 6
And now explore lengthening the exhale a little longer towards the count of 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
In 2, 3, 4,
Out 2, 3, 4, 5, 6, 7 8
Don't worry about it getting there straight away. Just slowly lengthen on each exhale.

If your mind has wandered by now, and it probably already has, congratulate yourself for noticing and simply draw your focus and attention back to the breath.

Remember throughout this practice that if your mind wanders over and over again to past experiences or future events, just remember to draw your attention and focus back to the next inhale.

If you haven't already done so return to relaxed breathing as I recap on the previous session.

Take a moment to centre yourself and notice what is going on around you. Notice the smells and the sensation of gravity weighing your body to the earth. Linger in that moment for a few seconds.

Bring to mind a situation where you felt quite self-critical of your interaction. Notice what you've just said to yourself. Really pay attention to your inner speech in this instance.

What words do you actually use when you're being self-critical? Are there key phrases that come up over and over again? What is the tone of your voice – harsh, cold, angry? Does the voice remind you of any one in your past who was critical of you?

Notice where do you feel this voice coming from and place your hand there. For example, if you feel it coming from your heart, just place your hand on your chest. If you feel it coming from your head, just place your hand on your head.

Now bring your attention to the place your hand is connecting with your body, that is the home of your inner critic.

See if you can notice the properties of your hand in connection with your body. Can you notice the temperature of your hand or how it feels pressed against your skin?

As you notice this gently start moving your hand in a circular motion as if you were comforting a friend or a child. Notice how that feels.

With the gentleness you have just showed yourself, go back to those critical words and notice where they are coming from. What is their function?

Whilst continuing soothing yourself with your hand turn towards your critical voice as you would to someone you would help. Maybe you can say something like "I know you're concerned about it. I know this can make us feel unsafe, but you are causing me unnecessary pain right now. Could you let my inner compassionate self say a few words now?

I know you want to do your best. I know you are working very hard at it. I know you care. I know…I want to tell you that you are doing a great job of reminding me why I care. I want to thank you for keeping this alive inside me. I want to let you know you are always welcomed in my life, as a friend".

Notice your hand again as you slowly stop moving it and take it away. Notice where you are again with all the sounds, smells and body sensations. And open your eyes.

Thank you for sharing the practice with me today.
Take a few moments here to reflect on today's practice and enjoy the rest of your day.
Would anyone like to share their experience?

Appendix B4. The Mindfulness-Based Stress Reduction (MBSR) pre-screening questionnaire for psychological contraindications for mindfulness practice such as trauma and complex mental health issues recommended by Dobkin, Irvin and Amar (2012).

Please answer questions as best you can, remember these are kept confidential. If you have any questions, please give me a call. If you would like to speak with an independent counsellor, please call the Co-Member Support on 08003169337.

PRE-SCREEN

1. Have you ever experienced a traumatic event in your life?

2. Have your ever been treated for a mental health issue?

Appendix B5. Teaching observation feedback from work placement manager

As part of her role Alex supported staff through Wellbeing Wednesday's which took place every Wednesday morning for a number of weeks. In the sessions Alex promoted mindfulness and led a team of 20 members of staff through a guided meditation. Her delivery of this was calm, reassuring and descriptive. The offer was taken up by all staff who were asked, and she made it clear there was no obligation to attend if you didn't want to. The feedback from the rest of the team was extremely positive with some members, including myself, continuing with meditation long afterwards.

Appendix B6. Weekly session content outline.

Week	**Reading**	**Practice**
Week 1	Introduction to mindfulness, anatomy and physiology, safety and precautions	Diaphragm breathing and even breathing and 2:1 breathing.
Week 2	Introduction of Pranayama	2:1, 4:7:8 and Humming Bee.
Week 3	Introduction to grounding techniques	Hand on stomach and heart, hand on head and heart, hand under arm and wrapped around body.
Week 4	Philosophies of Yoga, Jnana, Raja and Karma Yoga	body scan
Week 5	Heart-brain communication, heart rate variability	Diaphragm, even breathing and 2:1 breathing
Week 6	Gratitude + loving kindness	Gratitude list
Week 7	Limiting beliefs + compassion for the self	List limiting beliefs
Week 8	The power of the imagination	Guided imagery of limiting beliefs floating away happy place
Week 9	Resilience	Progressive muscles relaxation
Week 10	Re-writing a bad day	Guided imagery of things that bring joy

Appendix C: Psychological Intervention – Group Behaviour Change

Appendix C1. Wellbeing Wednesdays course outline.

Week	Topic	Purpose	Theoretical element
Week 1	Introduction to mindfulness, anatomy and physiology, safety and precautions.	Ethical conduct, psychoeducation and health literacy on anatomy and physiology.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 2	Vagus Nerve.	Psychoeducation and health literacy on anatomy, physiology and polyvagal theory.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 3	Grounding techniques.	Psychoeducation, health literacy and a practical method of self-regulating the stress response through interoception, exteroception and proprioception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 4	Body Scan.	Psychoeducation, health literacy and practical method of self-regulating the stress response through interoception and exteroception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 5	Heart-brain communication, heart rate variability.	Psychoeducation, health literacy on anatomy and physiology and an introduction to a practical method of self-regulating the stress response through interoception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 6	Gratitude.	Psychoeducation, health literacy on the social aspects of wellbeing. And a practical method of self-regulating the stress response through interoception and social connection.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 7	The Observer vs The Thinking Mind.	Psychoeducation and practical cognitive method of self-regulating the stress response through interoception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 8	The power of the imagination.	Psychoeducation and practical method of self-regulating the stress response through interoception and exteroception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).
Week 9	Re-writing a bad day.	Psychoeducation and practical cognitive method of self-regulating the stress response tailored to the work environment.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).

Week 10	Self-compassion.	Psychoeducation and practical method of self-regulating the stress response through interoception.	Increasing behavioural capacity and promoting self-efficacy and observational learning through verbal instruction (tone, language, pace).

Appendix C2. Questionnaire given to participants.

Your responses are kept with the strictest of confidentiality and will be destroyed on 1st December 2021.

Please answer questions as best you can, remember these are kept confidential. If you have any questions please give me a call. If you would like to speak with an independent counsellor please call the Co-Member Support on 08003169337.

PRE-SCREEN

3. Have you ever experienced a traumatic event in your life?

4. Have your ever been treated for a mental health issue?

The Mindful Attention Awareness Scale (MAAS)

The trait MAAS is a 15-item scale designed to assess a core characteristic of mindfulness, namely, a receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place.

Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84, 822-848.

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1		2	3	4	5	6
almost	always	very frequently	Somewhat frequently	somewhat infrequently	very infrequently	almost never

_____ 1. I could be experiencing some emotion and not be conscious of it until sometime later.

_____ 2. I break or spill things because of carelessness, not paying attention, or thinking of something else.

_____ 3. I find it difficult to stay focused on what's happening in the present.

_____ 4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.

_____ 5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.

_____ 6. I forget a person's name almost as soon as I've been told it for the first time.

_____ 7. It seems I am "running on automatic," without much awareness of what I'm doing.

_____ 8. I rush through activities without being really attentive to them.

_____ 9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.

_____ 10. I do jobs or tasks automatically, without being aware of what I'm doing.

_____ 11. I find myself listening to someone with one ear, doing something else at the same time.

_____ 12. I drive places on 'automatic pilot' and then wonder why I went there.

_____ 13. I find myself preoccupied with the future or the past.

_____ 14. I find myself doing things without paying attention.

_____ 15. I snack without being aware that I'm eating.

Brief Resilience Scale (BRS)

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International journal of behavioral medicine*, *15*(3), 194-200.

Please respond to each item by marking <u>one box per row</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
BRS 1	I tend to bounce back quickly after hard times	1	2	3	4	5
BRS 2	I have a hard time making it through stressful events.	5	4	3	2	1
BRS 3	It does not take me long to recover from a stressful event.	1	2	3	4	5
BRS 4	It is hard for me to snap back when something bad happens.	5	4	3	2	1
BRS 5	I usually come through difficult times with little trouble.	1	2	3	4	5
BRS 6	I tend to take a long time to get over setbacks in my life.	5	4	3	2	1

Appendix C3. Reflective diary weekly entries for the Wellbeing Wednesday intervention sessions.

Schön's reflective model (1991) was used to develop professional insight into the experience of planning and delivering the behaviour change intervention, Wellbeing Wednesdays. It requires two levels, in action reflection and on action reflection. For the in-action reflection you will find diary entries from specific occurrences during each of the ten-week sessions from August-October 2020 with added on-action reflection from April 2021. Looking back and reflecting on reflection from the previous year will allow for a deeper learning process from the experience and contribute to my growth as a trainee health psychologist.

Session One – 05.08.2020

All eighteen participants were present on the call as I introduced the Wellbeing Wednesday sessions and outlined some ground rules as well as basic safety precautions. I felt slightly apprehensive about finally delivering the first session. However, I had given myself a lot of time to prepare which eased my nerves. I took some preparatory deep breathes before the call and reminded myself of my capabilities and experience, and actually how much I enjoy delivering mindfulness activities. The participants had all signed consent forms and returned them electronically prior to this session and were pre-screened for contraindications such as trauma. Once the manager had introduced the call, I then made a start reading from my script in front of me on my computer. The script was made to sound naturalistic, and I wrote it so it contained language that I would normally use around my colleagues. Having delivered mindfulness over the phone many times before, I had become quite good at reading out loud in a mindful tone. My voice was soft, and I remembered to take natural pauses keeping the pace slow and calm. I have to maintain concentration so that I do not misread and mispronounce words. This can be a problem when reading numbers, but I managed to maintain composure. I ended the session by increasing the volume of my voice gradually so as to signal the end of the practice and I thanked them for their participation and asked if anyone would like to share their experience. The participants thanked me and said they were feeling relaxed. I mentioned that I

would be available to speak with in private after this session if anyone felt they needed to talk about the experience further.

I worry about not being good enough that it makes me anxious before delivering interventions, especially with groups. In this situation I found that taking a few slow deep breaths can help stabilise my body and also reminding myself about the preparation I put in to minimise risk of failure. I feel this is good professional practice and what I have learned more recently is the application of ACT on my own anxieties. In this particular example, I now know that I can be both anxious and deliver a professional intervention at the same time and, yes, stress can impact the prefrontal cortex, but this is where preparation and cues provide guidance for moments of brain fog. Furthermore, there is evidence to suggest there is a healthy level of stress that can improve performance.

Session Two – 12.08.2020

All eighteen participants were present on the call today and the theme for this session was to introduce the vagus nerve in more depth and build on the basic information on the nervous system delivered in week one. I started the session with basic safety information leading to the main mindfulness practice. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

I still felt nervous delivering the Wellbeing Wednesday script and was mindful of my pace and tone. I also have to remember to breathe so that it is not audible through the phone so as not to distract the participants. I managed to sync my breathing into natural pauses as I moved slightly away from the phone for deeper breaths. Pausing for breaths is a skill that I have developed through the BCI Wellbeing Wednesday intervention practice. I write my own mindfulness scripts and I find that that helps. I have read out a free script on the internet once with one of my first ever private clients and it didn't work as well as my own script because of the differences in language used. So, I know where to put the natural pauses and the perfect sentence length for me to deliver.

Session Three – 19.08.2020

All eighteen participants were present on the call today and the theme of this session was grounding techniques. I started with the usual precautionary safety advice followed by the main mindfulness practice. In this session I instructed physical movements such as placing the hands on the abdomen in order to feel the sensation of respiration. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

I struggle with automatically knowing my left and right side and this is always a problem when instructing movement. Having fitness instructor qualifications, I am slightly better than I was but today I got myself confused between the left and the right hand. It didn't matter so much because the participants couldn't see through the telephone, but it did make me take an extra-long pause for me to correct myself. The participants probably didn't notice at all, but for me I froze with panic for a few seconds. I realise that even if I panic and lose my way with a mindfulness practice, participants don't seem to notice. This experience has made me more confident in the delivery of mindfulness and I feel much more relaxed when doing it. Even if this occurrence was in a face-to-face setting usually most participants would have their eyes closed so they wouldn't have seen me confuse my left from my right. Even still, it's okay to make mistakes I just need to remember to remain calm, let it go and carry on.

Session Four – 26.08.2021

Today all eighteen participants were present on the call and the topic for this session was to introduce the body scan as a mindfulness activity. I opened the session with the usual introductory precautions followed by the main mindfulness practice. In this session I guided the participants through a sensory awareness activity systematically paying attention to body parts from the head to the toes. At the end of the practice, the participants are reminded to fill out the mid-intervention measures and return them completed to me before the start of the next session which is the halfway point. I remined the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

I personally enjoy the body scan and I practice it as I provide verbal instruction to participants. I wonder if I get the benefits of mindfulness practice whilst delivering it, because I always feel calmer after teaching the body scan. I realise that I can take for granted the simpler practices such as the body scan in favour for new and more advance practices, since I have been engaging

with mindfulness for over five-years now, so it is good to be reminded of the introductory exercises from where the foundation of mindfulness is formed.

Session Five – 02.09.2020

Today all eighteen participants showed up on the morning call and the theme of this session was heart-brain communication. I received the mid-intervention measures via email during the week from all of the participants and after I introduced the session with basic safety precautions, I then delivered the main mindfulness session. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

Conveying basic anatomy and physiology information was difficult, as I did not want the participants to become confused or feel like they had to memorise the learning. However, I feel that my pre-written script was simple enough to follow as I went through it with my husband and parents to check if they could follow the mindfulness activity. Looking back, I think I did the right thing by checking the understanding of core concepts with non-psychology professionals like my family. I value being able to communicate psychological concepts to lay people and it's a large part of my practice. I'm confident that I have built up this skill over the professional doctorate.

Session Six – 09.09.2020

All eighteen participants were present on the call this morning as I introduced today's theme of gratitude. After explaining basic safety precautions, I followed with the main mindfulness practice for this session, gratitude. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

Personally, I enjoy practicing gratitude and I have studied it since my undergraduate degree. I even completed my dissertation on the effects of gratitude and since then have valued it as a wellbeing practice. It's simple to teach and easy to follow. However, I do think that a practitioner has to tread carefully with gratitude practices because it can sound like a psychological bypass. What I mean by that is that it could be seen as a 'think yourself into happiness' practice which could be a dangerous message to some people. For example, from research and practice with people with trauma or ruminating thoughts, it is not always possible

to change the construct of negative thoughts. And trying to control, avoid or eliminate negative emotions can be invalidating and harmful. Therefore, I can see the value in having a professional evidence-based person-centred approach when working with people to increase their health and wellbeing no matter how 'safe' it appears for non-professionals to share across social media.

Session Seven – 16.09.2020

All eighteen participants were present on this morning's call as I introduced the theme of today's practice, The Observer vs The Thinking Mind. I reminded the participants of basic precautionary information as I introduced the main mindfulness practice which derived from Acceptance and Commitment Therapy (ACT). I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

I trained in ACT fully because of this practice. It has been beneficial to both me as a person and as a trainee health psychologist. This practice was well received by the participants as I had two colleagues who worked in the same office as me give positive feedback on this practice. I continue to practice ACT principles in my personal life and professionally and it has been the therapeutic practice that I was searching for whilst delivering the Wellbeing Wednesdays. I love how applicable it is to health behaviour change and I only wish I had known about it sooner, because there is so much to learn from practice.

Session Eight – 23.09.2020

All eighteen participants showed up on today's call as I introduced today's theme of the power of the imagination. I explained the basic safety precautions which then lead to the main mindfulness practice. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

Visualisation skills are important with mindfulness practice because they can help a person to focus. Commonly used in sport and exercise psychology with athletes to focus their attention on their goals, visualisation can be used in everyday practice to help reduce stress and improve performance. I felt like the visualisation could have been less complex, as I started to become

confused at my own script, but I wanted to keep their brains engaged in the activity. Perhaps next time I would provide a more simplistic visualisation.

Session Nine – 30.09.2020

All eighteen participants were present on the call today as I introduced the main practice of How to Re-write a Bad Day after going through the safety precautions. The main mindfulness practice aimed to provide an activity for the participants to directly apply to work stress. I ended by reminding the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

I like the idea of recognising and understanding the positive, neutral and negative experiences during the day and I see this now as being in line with ACT practice. In ACT there are no good or bad behaviours, thoughts or emotions, they are just experiencing within context. I can recognise this now, but at the time I did not know that it was part of the ACT approach.

Session Ten – 07.10.2020

All participants were present on today's final call as I introduced the theme of the session and went through basic safety precautions. The theme of today's session was a self-compassion practice which I had practiced previously myself. I ended by thanking the participants for their engagement in the Wellbeing Wednesday intervention and to return the post-measures in the next week. I reminded the participants that I would be available to speak with for 30 minutes after the session if anyone wanted to speak in private about their experiences.

The first time that I experienced a self-compassion practice was through a meditation app. I felt that it would be a great way to end the ten-week intervention because of the benefits of promoting self-compassion. I then attended the BPS approved ACT training just after the Wellbeing Wednesday intervention had ended and the instructor delivered a self-compassion mindfulness activity that I found to be incredibly beneficial. The participants reported that this was a warming way to end the sessions and that some of them felt a lot of positive emotion and even shed some tears. This is why I like self-compassion exercises and why I left it to the last session.

Appendix C4. Individual mean scores for both measures at baseline, five-weeks and ten-weeks.

		MAAS Pre		MAAS Mid		MAAS Post		BRS Pre		BRS Mid		BRS Post	
Age	Gender	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
61	F	3.2	(1.03)	3.2	(1.03)	3.40	(.91)	3.83	(.98)	3.83	(.98)	3.83	(.98)
45	F	4.4	(1.50)	4.2	(1.47)	3.93	(1.39)	4.33	(.52)	4.33	(.52)	2.67	(1.03)
41	F	1.6	(1.30)	2.2	(1.08)	2.47	(.83)	1.67	(.52)	3.67	(.82)	3.67	(.82)
35	M	3.6	(1.72)	3.6	(1.72)	4.47	(1.19)	2.33	(.82)	2.50	(.84)	4.33	(.52)
39	M	3.3	(1.29)	3.3	(1.20)	3.33	(1.29)	2.33	(.52)	2.33	(.52)	2.33	(.52)
49	F	3.2	(.80)	3.2	(.80)	3.20	(.77)	3.00	(1.10)	3.00	(1.10)	3.00	(1.10)
55	M	2.6	(1.05)	2.4	(1.12)	2.80	(.86)	3.67	(.82)	3.50	(.84)	3.50	(.84)
64	F	3.6	(1.45)	1.8	(1.01)	2.93	(.46)	2.33	(.82)	3.33	(1.03)	3.33	(1.03)
30	F	3.6	(.83)	3.6	(.83)	3.60	(.83)	3.17	(.98)	3.17	(.98)	3.17	(.98)
41	M	3.6	(.83)	1.5	(.99)	3.20	(.77)	3.17	(.98)	1.83	(.41)	3.67	(.52)
46	F	2.6	(1.35)	2.2	(.86)	2.67	(.62)	4.50	(.55)	2.00	(.00)	4.00	(.00)
41	M	2.4	(1.25)	2.8	(1.21)	3.27	(.96)	4.50	(.55)	4.17	(.41)	4.17	(.41)
38	F	2.8	(1.21)	3.2	(.80)	4.40	(.74)	4.17	(.41)	3.50	(. 55)	3.67	(1.37)
31	F	2.7	(1.16)	3.4	(.52)	3.73	(.88)	2.67	(1.51)	3.83	(.41)	3.50	(1.22)
32	M	2.6	(1.11)	3.2	(.77)	3.80	(.94)	2.67	(1.51)	3.83	(.75)	4.67	(.52)
46	F	4.0	(.53)	3.5	(.74)	5.40	(.91)	3.00	(1.55)	4.33	(.52)	4.33	(.52)
53	M	1.6	(.62)	2.4	(.74)	3.87	(.92)	2.83	(1.33)	4.00	(.00)	4.00	(.00)
49	M	3.0	(1.16)	2.0	(.76)	4.20	(.94)	3.17	(.98)	3.33	(1.03)	3.17	(1.47)

Appendix C5. Participant satisfaction evaluation form.

Evaluation form

Please tell me about your experience of Wellbeing Wednesdays using the form below.

1 = Strongly disagree, 2= slightly disagree, 3= neither agree/disagree, 4 = slightly agree, 5 = Strongly agree

9. I enjoyed Wellbeing Wednesdays

   1 2 3 4 5

10. I learned about ways to improve resilience to work stress

    1 2 3 4 5

11. I am happy with the content provided

    1 2 3 4 5

12. I am happy with the delivery of the sessions

    1 2 3 4 5

13. I feel like I could implement mindfulness practices covered in Wellbeing Wednesdays to increase resilience to work stress

    1 2 3 4 5

14. If yes, please explain what you have learned…

    ……..

15. If there was anything you would change about the sessions what would it be?

    …….

16. Do you have any further feedback?

    …….

Thank you

Appendix C6. Reflective commentary on learning outcomes of the group BCI.

My thoughts on health psychology in practice

My second reflective learning outcome during this piece of work is the assessment of health psychology behaviour change practice in the real world. It could be seen as controversial, but I feel that health psychology lacks a therapeutic element. What I mean by this is that behaviour change from a health psychology perspective is sometimes too theoretical for my liking with not enough instruction, especially for correct use of language. Language plays a big part of positively influencing someone's behaviour and I feel the importance of this is not emphasised for health psychology practice, for example, use of dialectic framing. It's worth saying that I don't have many criticisms for health psychology as an academic subject, but I do feel a gap between theory and real-world practice. Sometimes, I don't know what it is that I'm meant to do with all of the information I have learned over the years. If we in the discipline of health psychology choose only to provide health advice and guidance to influence behaviours, then we're missing out on opportunities for deeper levels of communication with participants. I believe that this is where efficient and impactful behaviour change happens especially in something as complex as health.

What frustrates me about health psychology practice is the uncertainty of whether or not the theory will be successful at changing behaviour in real life situations. Health behaviour change could be a matter of life or death. In the real world, practitioner psychologists don't have the capacity to able to explore theory when health behaviour change needs to be a success. I came across this paper by Campbell et al. (2019) by chance and I feel that the first paragraph reflected my feelings towards academia in general *"One of our clinical colleagues once told us, "There are PhD problems, and there are important problems. You should work on important problems… In our opinion, it is time for researchers to put more emphasis on leveraging that knowledge to improve patient care."* In this example, the author is referring to the study of myocardial contraction and how it is an over researched subject area now with less novel value. I would also like to highlight that I realise that as a discipline health psychology is attempting to *leverage that knowledge to improve patient care*, as Campbell et al. suggests; however, I feel the lack of structured therapeutic instruction for working with (caring for) patients as opposed to writing about patients and their health is what's missing.

In the context of the current intervention, Wellbeing Wednesdays, I also wanted the intervention to impact work stress because of the compassion and empathy I felt towards my colleagues. There are limits to all health behaviour change intervention and we can never fully rule out all of the contributing factors for illness, disease, death and suicide. However, therapeutic approaches from disciplines such as counselling and clinical psychology offer a wider range of evidence-based practical guidance used daily by practitioners with real-world populations. These include CBT, Dialectal Behavioural Therapy, Eye-Movement Desensitising and Reprogramming, Somatic Experiencing and ACT. Despite the limits of therapeutic approaches, millions of people have accessed psychological services with positive results. What's also telling is that practitioners who use these therapeutic approaches continue to thrive in business where competitive results are everything.

Therefore, a therapeutic approach to behaviour change has far greater real-world application in my view and I feel that health psychology is missing out. After the intervention was complete, I took further training in ACT. So, I did not fully understand the application of a therapeutic approach for health behaviour change whilst planning and delivering the Wellbeing Wednesdays. However, I became aware of its application in the write up stages and so included ACT theory into my summary. I find that ACT out of all the therapeutic approaches fits with my practice in health psychology and the participants I want to work with; for example, adults with health conditions who are looking for help with changing their behaviours to achieve their health and wellness goals. I feel like there is scope for health psychology to improve upon the ACT model, it being the most suitable approach from my research and experience and because it is a behavioural model highly relative to health. Perhaps in the future the discipline of health psychology would benefit greatly from its own instructional behaviour change therapeutic approach.

Appendix D: Psychological Intervention – Single Case Study

Appendix D1. Risk Assessments PHQ-9 by Kroenke, Spitzer and Williams (2001), the GAD-7 by Spitzer, Kroenke, Williams and Löwe (2006), the PAR-Q by The British Columbia Ministry of Health (1970), and a standard consultation questionnaire to gather participant information - some details omitted to protect confidentiality.

Patient Health Questionnaire (PHQ-9)

Patient Name: _____ **Date:** _____

	Not at all	Several days	More than half the days	Nearly every day
1. Over the *last 2 weeks*, how often have you been bothered by any of the following problems?				
a. Little interest or pleasure in doing things	☐	☐	☐	☐
b. Feeling down, depressed, or hopeless	☐	☐	☐	☐
c. Trouble falling/staying asleep, sleeping too much	☐	☐	☐	☐
d. Feeling tired or having little energy	☐	☐	☐	☐
e. Poor appetite or overeating	☐	☐	☐	☐
f. Feeling bad about yourself or that you are a failure or have let yourself or your family down	☐	☐	☐	☐
g. Trouble concentrating on things, such as reading the newspaper or watching television.	☐	☐	☐	☐
h. Moving or speaking so slowly that other people could have noticed. Or the opposite; being so fidgety or restless that you have been moving around a lot more than usual.	☐	☐	☐	☐
i. Thoughts that you would be better off dead or of hurting yourself in some way.	☐	☐	☐	☐
2. If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all ☐	Somewhat difficult ☐	Very difficult ☐	Extremely difficult ☐

PHQ-9* Questionnaire for Depression Scoring and Interpretation Guide

For physician use only

Scoring:
Count the number (#) of boxes checked in a column. Multiply that number by the value indicated below, then add the subtotal to produce a total score. The possible range is 0-27. Use the table below to interpret the PHQ-9 score.

Not at all	(#) _____	x 0 = _____
Several days	(#) _____	x 1 = _____
More than half the days	(#) _____	x 2 = _____
Nearly every day	(#) _____	x 3 = _____

Total score: _____

Interpreting PHQ-9 Scores

Minimal depression	0-4
Mild depression	5-9
Moderate depression	10-14
Moderately severe depression	15-19
Severe depression	20-27

Actions Based on PH9 Score

Score	Action
< 4	The score suggests the patient may not need depression treatment
> 5 - 14	Physician uses clinical judgment about treatment, based on patient's duration of symptoms and functional impairment
> 15	Warrants treatment for depression, using antidepressant, psychotherapy and/or a combination of treatment.

* PHQ-9 is described in more detail at the McArthur Institute on Depression & Primary Care website www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9/

GAD-7 Anxiety

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid, as if something awful might happen	0	1	2	3

Column totals _____ + _____ + _____ + _____ =

Total score _____

If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Source: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD-PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues. For research information, contact Dr. Spitzer at[ris8@columbia.edu]. PRIME-MD® is a trademark of Pfizer Inc. Copyright© 1999 Pfizer Inc. All rights reserved. Reproduced with permission

Scoring GAD-7 Anxiety Severity

This is calculated by assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of “not at all,” “several days,” “more than half the days,” and “nearly every day.”
GAD-7 total score for the seven items ranges from 0 to 21.

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

PHYSCIAL ACTIVITY READINESS QUESTIONNAIRE

You have asked to complete this form because in some Mindbody Coaching sessions there may be physical movements involved, such as Yoga.

This information will be stored on an encrypted database for 7 years and will be destroyed after this date. You have the right to withdraw this information at any time.

Your Personal Details:

Name:
Address:
Email:
DoB:

Emergency Contact Details

Name:
Address:
Email:

Your Health Goals

1. What health goals would you like to achieve in the next 3 months?

I would like to become fitter in myself both mentally and physically

I would like to lose at least 2 stone in weight
I would like to improve my physical fitness
I would like to improve my concentration and mental clarity

2. Name 3 things you could do in order to improve your health?

Eat less - especially my weakness for chocolate and desert if there is one on offer.
Do more exercise

3. What are your main reasons for starting exercise?

General conditioning	✔	Aerobic fitness	✔
Weight/fat loss	✔	Flexibility	✔
Stress management	✔	Appearance	✔
Muscular strength	✔	Improve self-esteem	✔
		Other	

PHYSCIAL ACTIVITY READINESS QUESTIONNAIRE

4.How would you describe your general health and fitness?

My health in general is fairly good
My fitness I would describe as poor

5. Have you ever done any structured exercise?

Yes ✔ No

If 'Yes' what did you do?

When younger I was a Highland Dancer for 15 to 18 years (competitively)
I then became a fully qualified Dance Teacher and Adjudicator
I was a regular at a gym doing weights, running on treadmill and other machines for building strength
I went to Circuit Training Sessions with Lorna for a period of time

6. What type of exercise do you enjoy the most? What type of exercise do you dislike the most?

Dancing is my favourite thing to do to keep fit.
I like using the weight machines and cross trainer, exercise bike

I don't like running much. Will do it on a treadmill but I get bored with it.

Physical
Activity Readiness Questionnaire (PAR Q)

1. What would you say are the main barriers preventing you from exercising?

Lack of facilities Injury/illness	✔
Lack of knowledge	
No motivation	✔
No time	✔

2. On a scale of 1-10 (with 1 being poor and 10 being excellent) how would you assess the quality of your eating habits?

6

PHYSCIAL ACTIVITY READINESS QUESTIONNAIRE

3. Do you follow any particular diet or eating patterns?
Yes No ✔

4. Do you drink alcohol?
Yes ✔ No

5. Do you smoke?
Yes No ✔

6. Have you had a major illness or injury in the last 5 years If 'Yes' please give details:
Yes No ✔

7. Are you receiving treatment for any diagnosed medical condition? If 'Yes' please give details:
Yes ✔ No

I was diagnosed with depression at least 20 years ago and have had medication for that off and on since then. I also have a condition called

8. Are you taking any prescription medication? If 'Yes' please give details
Yes ✔ No

Citalopram for depression - Betahistine and Prochloperazine for my Menieres Disease

9. Please indicate if you ever experience any of the following symptoms. Do you:
Ever get unusually short of breath with very light exertion?
Yes No ✔

Ever have pain, pressure, heaviness or tightness in the chest area?
Yes No ✔

Regularly have unexplained pain in the abdomen, shoulders or arm?
Yes No ✔

PHYSCIAL ACTIVITY READINESS QUESTIONNAIRE

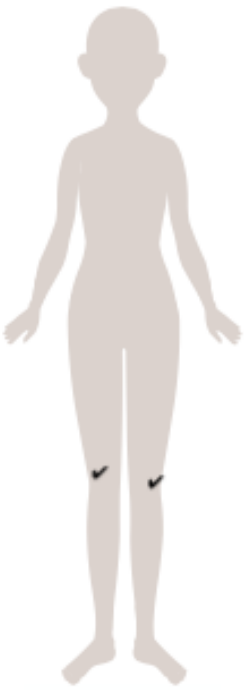
10. Please indicate if you ever experience any of the following symptoms. Do you:
Ever have severe dizzy spells or episodes of fainting?
Yes No ✔

Regularly get lower leg pain during walking that is relieved by rest?
Yes No ✔

Ever experience palpitations or irregular heartbeats?
Yes No ✔

Are you currently pregnant or have you given birth in the last 6 months?
Yes No ✔

11. Please indicate on the figures below any aches, pains or problem areas. Please give details of any areas indicated:



ALEX ROBSON

PHYSCIAL ACTIVITY READINESS QUESTIONNAIRE

12. Areany of these injuries aggravated by exercise?
Yes ✔ No

13. Are you currently receiving treatment for any structural problem?
Yes No ✔

14. Please indicate any other health problems you suffer from which you have not already mentioned.
Yes ✔ No

I had major spinal surgery 10 - 12 years ago -

I can confirm that I have answered all questions honestly and that the information given is correct.

Signature:

Print name: Date:

Note: This PAR Q becomes invalid should your condition change.

1. What are you seeking help with?

Sam is married with 3 older daughters who are gradually leaving home. Her eldest daughter is getting married in August and she would like help with losing some weight before the wedding. She reports to being "a big cry baby" and said that she is quite an emotional person. She is stressed with work and finds it difficult to motivate herself to eat well and exercise.

2. What is going on in your life right now?

Sam is working from home at the family business with her husband and the impact of COVID-19 is impacting her mental health. Her youngest daughter is studying for a PGCE and will be complete in a few weeks' time and is finally moving out. It is the last daughter to move out of the family home and she is feeling stress about the transition. She naps a lot and eats a lot of chocolate through the working day. Her youngest daughter and husband bring Sam unhealthy food to cheer her up during the day to which she never turns down.

3. What behaviour change methods have you tried in the past?

Sam was a highland dancer in her youth, and she is fixated on ideas of extreme exercise behaviours, which she can no longer do because of her knee injuries. She also has tried giving up chocolate entirely, but her cravings have been too strong.

4. What are you expecting from my service?

She would like to know how to get the motivation to exercise and eat well and manage her weight. She is also expecting emotional support and guidance.

5. Have you accessed psychological services in the past?

Sam has received CBT and bereavement counselling when her mother died, and her first daughter was born. She said it helped a great deal and this is why she is wanting to access psychological services again for a different issue, weight management.

6. Is your GP aware of your current health status?

Yes, Sam's GP has been treating her for depression since the above life events and is on medication. He is aware of her knee issues, and she has spoken to them about weight management, but she would prefer to work with someone on a one-to-one basis.

Appendix D2. Alex Robson Mindbody Coaching Terms and Conditions, Liverpool John Moores University BCI consent and informed consent script.

Terms and Conditions

Terms and Conditions of Service provided by Alex Robson Mindbody Coaching

Contents:

1. Professional standards of practice

1.1 Your psychologist, Alex Robson, is supervised according to the standards of education and training of the Health and Care Professions Council (HCPC) as a **Trainee Health Psychologist** and must comply with a range of standards of conduct, performance and ethics in order to fulfil a Professional Doctorate in Health Psychology with Liverpool John Moores University. For more information, please see link:

https://www.ljmu.ac.uk/study/courses/postgraduates/health-psychology-dpsych

https://www.hcpc-uk.org/

1.2 Your psychologist holds graduate basis for chartered membership with the British Psychological Society (BPS) https://www.bps.org.uk/join-us/membership/graduate-

membership and practices their code of ethics https://www.bps.org.uk/news-and-policy/bps-code-ethics-and-conduct that has four primary ethical principles:

- Respect
- Competence
- Responsibility
- Integrity

1.3 Your psychologist is also a member of the Royal Society for Public Health (RSPH) https://www.rsph.org.uk/ and adheres to their code of conduct. You can read more about the codes of conduct by using this link: https://www.rsph.org.uk/membership/code-of-conduct.html

2. Psychologist-client relationship

2.1 You are solely responsible for creating and implementing your own physical, mental and emotional well-being, decisions, choices, actions and results arising out of or resulting from the coaching relationship and your coaching calls and interactions. As such, you agree that the I am not and will not be liable or responsible for any actions or inaction, or for any direct or indirect result of any services provided by Alex Robson Mindbody Coaching. You understand that coaching does not substitute for therapy or medical care if needed, and does not prevent, cure, or treat any mental disorder or medical disease.

2.2 You acknowledge that psychological intervention does not involve the diagnosis or treatment of mental disorders as defined by the American Psychiatric Association and that psychological intervention is not to be used as a substitute for counselling, psychotherapy, psychoanalysis, mental health care, substance abuse treatment, or other professional advice by legal, medical or other qualified professionals and that it is your exclusive responsibility to seek such independent professional guidance as needed. If you are currently under the care of a mental health professional, it is recommended that you promptly inform the mental health care provider of the nature and extent of the coaching relationship agreed upon by you and your coaching psychologist.

3. Confidentiality

3.1 Your psychologist respects confidentiality and will not disclose information to a third-party unless legally bound to do so. Examples of this would be in the case of child protection or unlawful acts such as terrorism.

3.2 Your psychologist will keep all personal information securely in line with guidance from the UK Information Commissioner's Office (ICO).

3.3 The European Union has adopted the General Data Protection Regulation (GDPR), which aims to strengthen and unify data protection for all individuals within the EU. It aims to protect your fundamental right to privacy and the protection of your personal data in process, storage and collection. Alex Robson Mindbody Coaching is GDPR compliant. For more information on how I protect your data, please see our privacy notice.

4. Finance

These terms and conditions explain how I work, the charges for the services I offer and cancellation or disengagement fees when appointments are not conducted.

4.1 There is a minimum of six sessions for private psychological intervention.

4.2 There is a minimum term for 2 hours for the corporate psychological intervention, delivery can be negotiated to suit the business needs.

4.3 Corporate psychological intervention

Payment for each corporate psychological intervention should be made in full GBP and in advance of the first session by bank transfer to:

Alex Robson Mindbody Coaching

Tide business account number: 25881172

Sort code: 23-69-72.

Please use your company name and date of contact as the reference, so that the payment can be easily identified. This is non-negotiable and the sessions will not begin until full payment has been received.

Alternatively, you can make payment via PayPal checkout on the website or via a PayPal account to:

alex@mindbodycoaching.org.uk

or

paypal.me/alexmindbodycoaching

PayPal Reference Display on your billing statement: ALEXROB MBC

PayPal Merchant ID: Q6KDCUWXFR5B8

4.4 Private psychology intervention

Payment for each private psychology intervention, there are two payment options available, up front in full or a flexible payment plan.

Up front in full payments should be made in advance of the first session by bank transfer to:

Alex Robson Mindbody Coaching

Tide Business account number: 25881172

Sort code: 23-69-72.

Please use your surname and date of contact as the reference, so that the payment can be easily identified.

Alternatively, you can make payment via PayPal checkout on the website or via a PayPal account to:

alex@mindbodycoaching.org.uk

or

paypal.me/alexmindbodycoaching

or scan the QR code

PayPal Reference Display on your billing statement: ALEXROB MBC

PayPal Merchant ID: Q6KDCUWXFR5B8

4.5 If you have chosen a flexible payment plan for your private psychological intervention, the first payment is due before the initial coaching session and thereon after in monthly instalments to be set on the same date of your preference.

4.6. If any instalment payment should default, you will have seven days to rectify the situation. Any scheduled session(s) will be postponed until payment is received within the 7 days, all discounts and bonuses will be forfeited, and full payment will apply. If you should default on any instalment payment, the result may be cancellation of the psychological intervention and the cancellation policy will apply. Any credit card decline will result in penalty from our payment processing company in cases of payment default and may results in additional fees being applied.

4.7 By making the first payment you agreeing to the full schedule as explained on your payment plan which may vary in the length of the term.

Eligibility to cancel the agreement and payments is limited to 7 business days.
This refund is only available if services have not commenced.

Requests to terminate the contracts outside of this are limited to my discretion.

4.8 All notice of cancellation must be in writing and delivered by email to alex@mindbodycoaching.org.uk. Cancellation notice will be deemed on the date in which the cancellation is received.

Please Note: No refunds, credits or transfers are available for non-attendance where you have not been in touch with your psychologist 48 hours before the session is due to commence.

4.9 If you have a flexible payment plan for the private psychological intervention, I may on rare occasions agree to freeze your payment due to extenuating circumstances – this is a case-by-case basis and offered out of my discretion.

4.10 If at any time you or your psychologist believes the sessions and agreements are no longer serving your needs, I may initiate a discussion to rectify the situation, prior to cancelling the package or sessions.

5. Expectations

5.1 Fees set within the specific packages on offer fall into two categories, private psychological intervention and corporate psychological intervention.

Within your private sessions, the following services can be expected, but are not limited to:

- review of pre-session questionnaires and risk assessment
- licensed administration of psychometrics, formulation, scoring, analysis and interpretation.
- review of related social/ educational/ developmental/ medical history.
- consultation helping the client set impactful actions for the next appointment.
- body based mindfulness activities, including yoga. Note, yoga activities can be adapted to suit individuals in the group and do not require any equipment.
- activities within a BPS approved Acceptance and Commitment Therapeutic approach.
- email contact summarising key points and actions set within the session.

5.2 Within your corporate group coaching sessions, the following services can be expected, but are not limited to the following:

- risk assessment
- licensed administration of psychometrics, formulation, scoring, analysis and interpretation
- body based mindfulness activities, including yoga. Note, yoga activities can be adapted to suit individuals in the group and do not require any equipment
- practical activities within a BPS approved Acceptance and Commitment Therapeutic approach
- email contact summarising key points and actions set within the session.

5.3 All private psychological intervention are scheduled in advance by direct agreement between you and your psychologist, Alex Robson. If for any reason you cannot attend a scheduled session you are fully responsible for informing me and arranging an appointment at least 48 hours in advance, otherwise the session will be deemed forfeit. You are responsible for rescheduling via phone or contact (and receive reply) via email.

5.4 All material relating to the Alex Robson Mindbody Coaching services are subject to copyright and other intellectual property rights. All materials may not be recorded, used or reproduced without the written permission of the owner.

6. Email and Telephone Policy

4.1 Your psychologist will aim to respond to your email within 48 hours within standard UK business hours Monday-Friday. If you are an international client, communication hours are to be negotiated separately. However, there will be no communication between the hours of 5pm and 9am GMT on a weekday.

4.2 Alex Robson Mindbody Coaching does not offer crisis support or out of hours emergency contact. If you find yourself in crisis, please call the relevant emergency services within your country or, if you have one, your dedicated mental health crisis team.

4.3 It is important to be aware that communications of a sensitive nature and especially decision-making will not be encouraged or engaged in by your coaching psychologist via email. In my experience these types of conversations are best communicated, understood and processed over video call during your scheduled appointment time.

7. Prior to your initial appointment

Prior to your first appointment we may send you a questionnaire to complete to help us more fully understand the background to your current concerns. This is a detailed document about your situation and aims of the coaching sessions and we ask that it is completed and returned by email prior to your first appointment.

8. Anti-Discrimination Policy

Your psychologist values people for their differences and will promote self-worth and dignity around any differences that a person may feel have affected them in the past. These may be around their sexual preference or orientation, mental health status, political or religious belief, age, gender or ethnicity.

9. Health and Safety

Your psychologist will take the upmost care and due diligence when working with clients via online platforms for video calling.

10. Complaints

We hope you will never have to complain about the service provided by Alex Robson Mindbody Coaching, but if you do have a concern please put it in writing to either myself at your earliest convenience or to my university supervisor, Dr Mark Forshaw via email,

m.j.forshaw@ljmu.ac.uk. Alternatively, you can make a complaint via the British Psychological Society (BPS) website detailed in the beginning of this document.

Consent

If you have questions about any of the content of this document, please contact me and I can provide clarification.

Please sign here to confirm that you have read, understood and accept the terms and conditions.

Signature

Print name Date

Thank you for reading and completing this form.

Please return the signed document to: alex@mindbodycoaching.org.uk

LIVERPOOL JOHN MOORES UNIVERSITY

Single case study of the use of Acceptance and Commitment Therapy for weight management.

Alexandra Robson, School of Natural Sciences and Psychology

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights. ☐
3. I understand that any personal information collected during the study will be anonymised and remain confidential. ☐
4. I agree to take part in the above study as part of the behaviour change intervention competency for the professional doctorate in health psychology. ☐

Name of Participant Date Signature

Name of Researcher Date Signature

Informed consent

- The name “acceptance and commitment therapy” reflects a key message, accept what is out of your control and commit to action to improve your life.
- It’s a very active form of coaching. It’s not just talking about your problems and feelings. Our aim is to work together as a team, to help you be the sort of person you want to be and build the sort of life you want to live.
- Part of this approach involves learning skills to handle difficult thoughts and feelings more effectively, so they have less impact and influence over you. When we introduce these skills, I’ll ask you to practice them between sessions. You don’t have to do that, but it’s like learning to play an instrument or drive a car, the more you practice the better you get.
- ACT also involves clarifying your values, finding out what matters to you, what you want to stand for in life, what strengths and qualities you want to develop, how you want to treat yourself and others. And it also involves taking action to solve your problems, face your challenges, and do things that make life better.
- I will ask you at times to try new things that may pull you out of your comfort zone, like learning new skills to handle difficult thoughts and feelings, but you never have to do them. You are always free to say no to anything I suggest.

Press Pause

- Can I have permission to “press pause” from time to time?

If I see you doing something that looks like it might be really useful, in terms of dealing with your problems and improving your life, I can just slow the session down and get you to really notice what you are doing?

- For example, I may ask you to pause or slow down, take a couple of breaths, and notice what you’re thinking or feeling or saying or doing. That way, you’ll be able to see more clearly what you’re doing, and we can look at ways you can use it outside of this room. Is that okay?
- And can I also press pause if I see you doing something that looks like it may be contributing to your problems or making them worse, so we can address it?
- And of course, this goes both ways—you can also press pause on me, any time you like.

Appendix D3. Sam's completed case formulation recommended from the BPS approved ACT Practioner's Toolkit course SDS Seminars (2020).

What does the client want from therapy/coaching? What does he/she describe as the main problem(s)?

- Lose weight before daughter's wedding in August 2021.
- Help with comfort eating.
- Help with motivation to exercise.
- Help her find more time for herself for relaxation.
- Confidence and self-esteem.

Are there any external barriers (as opposed to psychological barriers) to a rich and full life - e.g., legal, social, medical, financial, occupational problems that will require active problem solving and/or skills training?

- Depression resistance ideas of strict dieting and exercising.
- Home life responsibilities – lack of time in the day.
- Cold weather and muddy walkways.
- Other people's treats in the house.
- Working from home more access to treats in cupboard.

UNWORKABLE ACTION

What is the client doing that makes his life worse, or keeps her stuck, or worsens his problems, or inhibits her growth, or prevents healthy solutions, or worsens health, or damages relationships, etc?

- Rumination and negative self-talk.
- Fusion with what weight loss would entail – restrictive dieting, harsh exercise. "I just need to be like before – I've done this before."

What people, places, events, activities, situations and challenges is the client avoiding or escaping (e.g., withdrawing from, quitting, procrastinating, or staying away from)?

- Avoiding exercise activities
- Avoiding walking outdoors
- Avoiding looking into healthy eating plan
- Procrastinating with implementing previous hard and restrictive diet and exercise regimens.
- Quitting the decision every day to 'eat healthily'

FUSION: (Include examples of specific thoughts, as well as of processes such as worrying, etc.)
PAST & FUTURE: *(rumination, worrying, fantasizing, blaming, predicting the worst, reliving old hurts, idealizing the past or the future, flashbacks, 'if only …', why did it happen? etc.)*

- Rumination "I used to dance, and I could eat anything I wanted to, but now I can't, and my knees are knackered because of all the wear and tear."

SELF-DESCRIPTION: *(self-judgments, self-limiting ideas about 'who I am' or 'what I can and can't do')*

- "I can't exercise like I used to because of my knee issues, and I can't stop eating chocolate once I start and because I've got so much to do in the day, I lose track of what I eat. "

REASONS: *(reasons the client gives for why she can't, won't or shouldn't change, or why their life can't be improved)*

- "I just get so tired, and work gets on top of me and by the time I get round to doing something for me it's too late in the day and all I want to do is go to bed."

RULES: *(about how I, others, life should be: look for key words such as: 'should', 'have to', 'must', 'ought', 'right', 'wrong', 'always', 'never', 'can't because', 'won't until', 'shouldn't unless' etc)*

- "I can't stop eating chocolate once I start."
- "I can't exercise like I did before because my knees are knackered."

JUDGMENTS: *(mostly these will be negative, but sometimes positive; may be about anyone or anything: other people, oneself, one's job, one's body, one's thoughts and feelings, the past, the future, or even life itself)*

- "I just feel old and useless."
- "I just need time for me."

OTHER: (*any other unhelpful cognitions: beliefs, ideas, attitudes, assumptions, etc. Include anything the client says that upsets, annoys, confuses or scares you, or makes you feel stuck.)*

EXPERIENTIAL AVOIDANCE: (Private experiences the client is trying to avoid, get rid of, or is unwilling to have)
THOUGHTS/IMAGES/MEMORIES:

- Harsh regimen of exercise.
- Strict dieting where she wouldn't be allowed treats.

FEELINGS/ SENSATIONS/URGES:

- Feeling sad and hopeless.
- Feeling like I've given up.
- Feeling tired.
- Feeling tense and unable to relax.
- Feeling old.

VALUES & COMMITTED ACTION
IMPORTANT LIFE DOMAINS: (*What domains of life seem most important to this client – e.g., work, study, health, parenting, intimate relationship, friends, family, spirituality, community, environment)?*
Friends and family.

- Family
- Work

VALUES: (*What values seem important within those domains?)*
Being there for others, being kind respectful and honest.

- Being there for family and being reliable.

GOALS & ACTIONS: (*What values-congruent goals and activities does the client: a) already have; and b) want to pursue?)*

- Walking for 20 minutes on lunch break every other day (3 times per week.)
- Loosing 1 lb per week before daughter's wedding so that she can feel good and look good in the wedding photos.
- Looking at MyFitness Pal app and keeping track of calories eaten during the day to 'save up' 3500 by the end of the week to loose 1lb per week.
- Practice mindfulness to help with value consistent actions.
- Speak with family to help with healthy eating.
- Plan 1 treat per day and eat it mindfully and enjoy it.
- Upkeep mindfulness practice to regulate psychological flexibility towards weight-management.

NEED FOR SKILLS-TRAINING: ***(****What important skills does the client lack or fail to use e.g., problem solving, goal setting, self-soothing, assertiveness, communication, conflict resolution, time management, relaxation, empathy?)*

- Task focused attention to shift away from past ruminations and focus on value consistent action.
- Health literacy on healthy nutrition and exercise for weight loss that is gentle and steady and not harsh and restrictive.
- Self-compassion and relaxation skills to promote self-care activities and regulate wellbeing.
- Time management skills to plan out day and overcome external barriers that get in the ways of value consistent action.
- Grounding and centring skills to regulate emotions and promote interoception when triggered by a situation.

RESOURCES: *(What strengths, skills and personal resources does the client already have, that could be utilized? What external resources could potentially be accessed?)*

- Has previously enjoyed exercise so is aware of the benefits.
- Likes to walk and listen to audiobooks.
- Family support.

Appendix D4. Psychometric measures used The Weight Acceptance Questionnaire (AAQ-W; Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019), The Food Acceptance Questionnaire (FAAQ; Juarascio, Forman, Timko, Butryn, & Goodwin, 2011), The Satisfaction with Life Scale (SWL; Diener, Emmons, Larsen & Griffin, 1985) and the Waist circumference measurement NHS instructions by Seamons (2017) *NHS Health Check Training.*

Acceptance and Action Questionnaire for Weight Related Difficulties

If you're someone who has been struggling with an eating disorder, or you otherwise find yourself regularly upset over your relationship with food, the Acceptance and Action Questionnaire for Weight Related Difficulties is presented here as a tool for your use (AAQ-W; Manwaring, Hilbert, Walden, Bishop, & Johnson, 2018; Hayes, 2019).

This measure can be used to track how much psychological flexibility you have with your thoughts and feelings about food and eating. As with all measures, try not to become obsessed with getting the "perfect" score. Use this scale to track how you are doing with applying your new ACT skills to the self-criticism that arises you when you eat. As you open up, accept yourself, and commit to doing what you value, you'll come to a place of loving acceptance for yourself.

Below you will find a list of statements. Please rate the truth of each statement as it applies to you.

Use the following scale to make your choice.

1 2 3 4 5 6 7

Never True Always True

1. It's OK to feel fat.
2. I am not in control of what I eat.
3. When I evaluate my weight or my appearance lately, I am able to recognise that this is just a reaction not an objective fact.
4. I need to feel better about how I look in order to live the life I want to.
5. Other people make It hard for me to accept myself.
6. If I'm overweight, I can't live the life I want to.

7. If I feel unattractive, there is no point in trying to be intimate.
8. If I gain weight, that means I have failed.
9. I don’t have what it takes to be healthy for life.
10. My eating urges control me.
11. I need to get rid of my eating urges to eat better.
12. I am a stable person.
13. If I eat something bad, the whole day is a waste.
14. I should be ashamed of my body.
15. I need to avoid social situations where people might judge me.
16. I will always be overweight.

Scoring

Add up your responses to each question. Reverse score these items first before you add them to your total: 1, 3, and 12. Reversing a score means if you answered 1, you should score 7. 2 becomes 6, 3 becomes 5, and vice versa.

References

Manwaring, J., Hilbert, A., Walden, K., Bishop, E. R., & Johnson, C. (2018). Validation of the acceptance and action questionnaire for weight-related difficulties in an eating disorder population. Journal of Contextual Behavioral Science, 7, 1-7

Food Acceptance Questionnaire

If you're someone who has been struggling with an eating disorder, or you otherwise find yourself regularly upset over your relationship with food, the Food Acceptance Questionnaire is presented here as a tool for your use (FAAQ; Juarascio, Forman, Timko, Butryn, & Goodwin, 2011).

This measure can be used to track how much psychological flexibility you have with your thoughts and feelings about food and eating. As with all measures, try not to become obsessed with getting the "perfect" score. Use this scale to track how you are doing with applying your new ACT skills to the self-criticism that arises you when you eat. As you open up, accept yourself, and commit to doing what you value, you'll come to a place of loving acceptance for yourself.

Below you will find a list of statements. Please rate the truth of each statement as it applies to you.

Use the following scale to make your choice.

1 2 3 4 5 6 7

Never True Always True

17. I continue to eat a healthy diet, even when I have the desire to overeat or make poor eating choices.
18. It's OK to experience cravings and urges to overeat, because I don't have to listen to them.
19. It's not necessary for me to control my food urges in order to control my eating.
20. I need to concentrate on getting rid of my urges to eat unhealthily.
21. I don't have to overeat, even when I feel like I want to overeat.
22. Controlling my urges to eat unhealthily is just as important as controlling my eating.
23. My thoughts and feelings about food must change before I can make changes in my eating.
24. Despite my cravings for unhealthy foods, I continue to eat healthily.

25. Before I can make any important dietary changes, I have to get some control over my food urges.
26. Even if I have the desire to eat something unhealthy, I can still eat healthily.

Scoring

Add up your responses to each question to get a total score.

References

Juarascio, A., Forman, E., Timko, C. A., Butryn, M., & Goodwin, C. (2011). The development and validation of the food craving acceptance and action questionnaire (FAAQ). *Eating behaviors*, *12*(3), 182-187.

The Satisfaction with Life Scale (SWL; Diener, Emmons, Larsen & Griffin, 1985).

Instructions: Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7 - Strongly agree

6 - Agree

5 - Slightly agree

4 - Neither agree nor disagree

3 - Slightly disagree

2 - Disagree

1 - Strongly disagree

In most ways my life is close to my ideal.

The conditions of my life are excellent.

I am satisfied with my life.

So far, I have gotten the important things I want in life.

If I could live my life over, I would change almost nothing.

Scoring:

Though scoring should be kept continuous (sum up scores on each item), here are some cut-offs to be used as benchmarks.

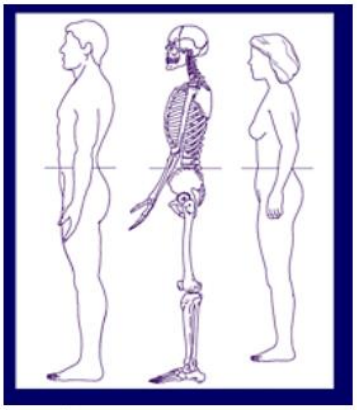
31 – 35	extremely satisfied
26 – 30	satisfied
21 – 25	slightly satisfied
20	Neutral
15 – 19	slightly dissatisfied
10 – 14	dissatisfied
5 – 9	extremely dissatisfied

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71-75.

Waist circumference measurement NHS instructions by Seamons (2017) ***NHS Health Check Training.***

Waist Measurement

- For individuals with a BMI below 35
- Measure from the side
- The tape measure should be snug but not indent the skin



	Waist circumference		
	Low	Medium	High
BMI	Men: < 94cm Women: < 80cm	Men: 94-102cm Women: 80 - 88cm	Men: > 102cm Women: > 88cm
Healthy Weight (18.5 – 24.9)	No increased risk	No increased risk	Increased risk
Overweight (25-29.9)	No increased risk	Increased risk	High risk
Obesity 1 (30 – 34.9)	Increased risk	High risk	Very High risk

Appendix D5. Weekly session plans detailing activities delivered. Activities that refer to a script are included below session plans.

Mindbody Coaching Session Plan – Session 1 of 6

Aims	**Outcomes**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Case conceptualisation/formulation and defusion. ▪ SMART target value-based goal.	▪ Intro to ACT and weight loss ▪ Risk Review ▪ Measure ▪ Case conceptualisation ▪ Functional Context ▪ Mindfulness activity ▪ Homework	▪ 2 hours with 10-minute break if needed	▪ Informed consent ▪ Conversation prompts ▪ Hexaflex ▪ Weight-management measure ▪ Case Conceptualisation ▪ Self-compassion mindfulness script

Introduction: 10 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Background** As we're going through, I want you to be open to new ways of thinking. I want to start out by saying that we are not here to be fixed, especially by someone else. Although we are likened to machinery, humans do not break. That is especially true with the mind and the sense of self.	▪ Informed consent ▪ Conversation prompts ▪ Hexaflex

ACT is a behavioural model. It helps you to apply new ways of thinking directly to your life experiences. It is based on Rational Frame Theory used as a therapeutic tool. Because it can be directly applied, it is functional and contextual. It is likened to a contextual CBT, and it is process driven. We learn by addition; it is much harder to erase a behaviour than to modify and adapt. ACT is a tool to help you adapt and adjust your behaviours in context. **Psychological flexibility** Aware, Open, and Active It's important to know that we have the power to choose our behaviour and reactions to social situations. ACT helps to broaden our psychological repertoire so that we can be more dynamic in our social interactions. We will cover this more in depth later in the session.	

Risk Assessment Review – 15 minutes

Activity	**Resources**
• Review information on PAR-Q. Check for any areas left blank and talk through issues and potential contraindications and adaptations to the movement-based activities and exercise advice and guidance. • Review information on the PHQ-9 and the GAD-7 to check its correct and talk through any safety procedures that may be put in place, e.g., contact with GP to notify of the work we're doing in session using the template. (If needed)	▪ PAR-Q (pre completed and sent by the participant prior to this session). ▪ PHQ-9 (pre completed and sent by the participant prior to this session). ▪ GAD-7 (pre completed and sent by the participant prior to this session). ▪ Risk template (if needed).

Measure – 20 minutes

Activity	Resources
Take measure Weight in Kg and Waist Circumference is in PAR-Q and will only be measured again on the final session.	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire ▪ Satisfaction with Life Questionnaire

Grounding – 5 minutes

Activity	Resources
ABC centring/grounding activity. Awareness – simply noticing what you can see and feel Balance – shift weight from side to side, see if there is balance in the body from left to right, front to back. Core relax – tense and relax the centre line of your body, your jaw, abdomen etc. Breath deep and arrive in this moment.	

Case Conceptualisation – 1 hour

Activity	Resources
You may have multiple concerns, so let's focus on the one that's the most important right now and the one you would like help with the most. They may be interconnected as you will see as we go long the sessions. ▪ What will change in your life if these 'symptoms' go away? In ACT we focus on workable behaviour rather than symptoms. The metric of success is one of expansion rather than elimination. We learn to behave mindfully and in line with values **Determine if the problem is a result of psychological inflexibility:** Acceptance ▪ When x pops up, how do you usually respond to it? What happens both inside, and to the way you act/behave around others? Fusion ▪ Do you notice yourself having rules like "I must get rid of this x"? Self-as-context ▪ Does your x define you? Being present ▪ When depression is present do you notice being pulled to things that happened or that might happen?	▪ Case conceptualisation sheet ▪ Conversation prompts

Values

- What are the things you miss doing the most ever since you started feeling like this?

Committed actions

- Do you find yourself spending a lot of time trying to fight your weight issues?

Target experience

- "What is the thought, feeling or sensation you struggle with the most?"
- Try to nail it down to one key experience E.g., Anxiety, depression, self-doubt, panic, obsession

Timeline

- "How long have you struggled with this experience?"
- Get a sense of how old the struggle is

Control Strategies

- What have you done to try and get rid of...?"
- Make a comprehensive list of strategies that
- have been used to avoid X
- Avoid using "Good" or "Bad" as descriptors of the strategies

Outcomes

- Short-term
- Long-term
- "Is X (target inner experience) getting easier or harder to deal with?
- Are any of the strategies you're using negatively affecting your life?
- How long can you maintain this fight against X?

Putting it all together ▪ Using the assessment strategies and the key case conceptualization questions we have talked about you should be able to start seeing all the processes we have in the Hexaflex model ▪ However, this is sometimes difficult to do on-the-go as we are holding quite a lot of information at the same time	▪ Hexaflex

Mindfulness Activity – 5 minutes

Activity	Resources
Self-compassion mindfulness activity	▪ Self-compassion mindfulness script.

Behavioural Commitment & Homework – 30 minutes

Activity	Resources
Do you have any questions or anything you would like me to go over? **Homework – SMART** Specific Highlight one process of change (even though you might be targeting multiple ones) Concrete (observable by others) Adequate to the client's skill level Sufficiently challenging Linked to values	

To be completed by the following session in 2 weeks. Keep a notepad beside you to take note of any thoughts/feelings that come up and we'll discuss in the next session.	

Mindbody Coaching Session Plan – Session 2 of 6

Aims	**Outcomes**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Case conceptualisation and contact with present moment and introduction to values. ▪ SMART target and value-based goals.	▪ Measure ▪ Review homework ▪ Triflex ▪ Intro to Values ▪ More case conceptualisation for workable and unworkable behaviours. ▪ Mindfulness exercise ▪ Homework	▪ 2 hours with 10-minute break if needed	▪ Forty Common Values Worksheet ▪ Choice point Worksheet ▪ Triflex Diagram ▪ Conversation prompts ▪ Weight-management measures ▪ Dropping Anchor Script

Introduction: 5 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Background** As we're going through, I want you to be open to new ways of thinking. I want to start out by saying that we are not here to be fixed, especially by someone else. Although we are likened to machinery, humans do not break. We learn by addition; it is much harder to erase a behaviour than to modify and adapt. ACT is a tool to help you adapt and adjust your behaviours in context.	▪ Conversation prompts

Psychological flexibility Aware, Open, and Active It's important to know that we have the power to choose our behaviour and reactions to situations.	

Measure – 20 minutes

Activity	Resources
Take measure	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire ▪ Satisfaction with Life Questionnaire

Review homework – 15 minutes

Activity	Resources
Review behavioural commitment and talk about what worked well and what didn't. What challenges did you face and what did you notice.	

Mindful movement – 10 minutes

Activity	Resources
Mindful gentle movements to get the blood flowing, stretch tight muscles and increase interoception and provide a little relaxation and grounding. 1. Posture – sitting on the edge of the chair spine away from the backrest, feet firmly on floor.	

2. Breathing – focus belly breath 2-3 rounds. 3. Anjali mudra neck roll 3 rounds and hold for 10s at centre. 4. Interlace fingers and push out in front hold for 10s. 5. Wrist rolls 2-3 rounds alternating direction. 6. Side stretches arms up and overhead hold for 10s each side. 7. Link the fingers elbows out wide take the hands behind the head and stretch one elbow up towards the sky lengthening the side body. Hold for 10 s and repeat on opposite side. 8. Standing take a side straddle wider than hip distance apart, toeas point forward. Tuck the pelvis under keeping spinal alignment. On and inhale stretch the arms out wide to make a start shape. Keeping the knees soft, draw strength up though the insoles and the inner thigh muscles and core. Stretch out fingertips and when you find you balance you can pick a focal point, or you can close your eyes and find a quiet moment. This is you taking up space, strong and tall. Embody the sensations as you feel a strength and connection to the earth and the space around you. 9. Float the arms around and give yourself a hug taking a mindful moment here. 10. When you're ready release the arms and sit back on the chair.	

Triflex – 5 mins

Activity	**Resources**
Briefly look at the Triflex model and start to expand on 'doing what matters'. This is a simplified version of the Hexaflex	▪ Triflex ▪ Choice Point

Values – 30 mins

Activity	Resources
I want to briefly introduce values at this point because I think it will be handy in working towards the goals you have already set yourself. The choices we make regarding how we want to react to a situation are closely linked with our values. We behave according to what we believe is a good way of living, and what's important to us. Things like authenticity to ourselves and others. Fitness to maintain or improve or look after my physical and mental health Fun and humour to seek, create, and engage in fun-filled activities and enjoy life Spending quality time with the family Those are the things that drive behaviour and what we should ideally be working towards. Specific to weight management, being out of alignment with core values means our behaviours can get out of control. When we feel sad, we eat comforting food to feel better, but it makes us feel worse afterwards. The inner critic shows up *"Why can't I be more disciplined?", "I just need to glue my mouth shut."* The thing that immediately helps, the chocolate in the cupboard. And so on… When we feel good about ourselves and feel confident about our direction and our values, we feel in control and it's easier to make decisions that take us towards it.	▪ Review Forty Common Values ▪ Conversation prompts

Let's spend a few minutes now going through the 40 common values worksheet and seeing what immediately jumps out. Think about what truly makes you happy and what gives you a sense of achievement. **Compass metaphor** **I want to mention one final thing on why values are important...** "Values are like a compass. A compass gives you direction and keeps you on track when you're traveling. And our values do the same for the journey of life. We use them to choose the direction in which we want to move and to keep us on track as we go. So, when you act on a value, it's like heading west. No matter how far west you travel, you never get there, there's always further to go. But goals are like the things you try to achieve on your journey, they're like the sights you want to see or the mountains you want to climb while you keep on traveling west." *from ACT Made Simple by Harris, 2009.*	

Case formulation– 20 minutes

Activity	**Resources**
Review current workable and unworkable behaviours with regard to weight management.	▪ Case formulation

Mindfulness Activity – 3 minutes

Activity	**Resources**
Mindfulness activity – dropping anchor. Cultivating contact with the present moment and awareness of the body.	▪ Dropping Anchor Script

Behavioural Commitment & Homework – 30 minutes

Activity	Resources
Do you have any questions or anything you would like me to go over? **Homework – SMART** Specific Highlight one process of change (even though you might be targeting multiple ones) Concrete (observable by others) Adequate to the client's skill level Sufficiently challenging Linked to values To be completed by the following session in 2 weeks. Keep a notepad beside you to take note of any thoughts/feelings that come up and we'll discuss in the next session.	

Mindbody Coaching Session Plan – Session 3 of 6

Aims	**Outcomes**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Explore fusion vs defusion and introduce self-as context. ▪ SMART target and value-based goals.	▪ Measure ▪ Review homework ▪ Mindful movement ▪ More case conceptualisation with the ACT Matrix exercise ▪ Passengers on a bus activity ▪ A word on guilt. ▪ Mindfulness exercise leaves on a stream ▪ Homework	▪ 2 hours with 10-minute break if needed	▪ Conversation prompts ▪ Weight-management measures ▪ Leaves on a stream street ▪ ACT matrix and case conceptualisation ▪ Passengers on a bus activity

Introduction: 5 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Psychological flexibility** Aware, Open, and Active It's important to know that we have the power to choose our behaviour and response to situations.	▪ Conversation prompts

Measure – 20 minutes

Activity	Resources
Take measures.	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire ▪ Satisfaction with Life Questionnaire

Review homework – 15 minutes

Activity	Resources
Review behavioural commitment	

Mindful movement – 10 minutes

Activity	Resources
Mindful gentle movements to get the blood flowing, stretch tight muscles and increase interoception and provide a little relaxation and grounding. 11. Posture – sitting on the edge of the chair spine away from the backrest, feet firmly on floor. 12. Breathing – focus belly breath 2-3 rounds. 13. Anjali mudra neck roll 3 rounds and hold for 10s at centre. 14. Interlace fingers and push out in front hold for 10s. 15. Wrist rolls 2-3 rounds alternating direction. 16. Side stretches arms up and overhead hold for 10s each side. 17. Link the fingers elbows out wide take the hands behind the head and stretch one elbow up towards the sky lengthening the side body. Hold for 10 s and repeat on opposite side. 18. Standing take a side straddle wider than hip distance apart, toeas point forward. Tuck the pelvis under keeping spinal alignment. On and inhale stretch the arms out wide to make a star shape. Keeping the knees soft, draw strength up though the insoles and the inner thigh muscles and core. Stretch out fingertips and when you find you balance you can pick a focal point, or you can	

close your eyes and find a quiet moment. This is you taking up space, strong and tall. Embody the sensations as you feel a strength and connection to the earth and the space around you. 19. Float the arms around and give yourself a hug taking a mindful moment here. 20. When you're ready release the arms and sit back on the chair.	

Case formulation– 20 minutes

Activity	**Resources**
Review the identifying workable and unworkable behaviours. ACT Matrix – clarify your values, why is it important to you.	▪ Case formulation ▪ ACT Matrix

Passengers on a bus – 30 mins

Activity	**Resources**
Adapted from Hayes, Stossel and Wilson, 1999. Emotions are important messengers of information. Some emotions are supposed to feel uncomfortable because they're supposed to motivate us to want to do something such as move away from a threat. Unfortunately, in our world there are more perceived threats. Emotions passengers often knock us off our healthy habit rout by making us reach for the chocolate or the wine. This is normal human functioning. We are primed to be natural problem solvers, which can motivate us to want to get rid of our feelings. So, the emotions aren't the issue, it's the solutions that you choose to try and get rid of the emotion is the issue. We all do things to avoid feeling bad. So, in sitting with our emotions instead of choosing to avoid them is the key. Accepting the message from the messenger but you're not letting it overtake your rout. ▪ So, let's meet your passengers on your bus that get in the way of your health behaviours ▪ imagine you're a bus driver and your passengers represent your thought, feelings and sensations.	▪ Conversation prompts

▪ Some of the passengers are friendly and nice but some are bossy and annoying. ▪ These passengers often like to tell us what to do. ▪ Imagine you're about to give a presentation at work and your anxious passengers says, "Oh no maybe you shouldn't give this talk, you might forget your words". ▪ Sometimes it feels like these passengers take over the driving of the bus. When we think about going to the gym, our passenger says, "you don't have time for that". ▪ And sometimes you end up doing what the passenger says, "yeah, thanks for that, I have so much to do." ▪ So, to be a good bus driver and stick to our healthy behaviours, we need 2 skills. ▪ 1, the direction we're driving and 2, the ability to deal with passengers. ▪ So, last we covered what values are important for you to have a meaningful life and the kind of person you want to be. ▪ Our passengers can knock us off our rout by a number of ways ▪ 1 obstacle – I won't have enough time ▪ 2 judgements – they tell us all the ways we're not up to the task ▪ 3. Comparisons – they have it easier ▪ 4 predictions – projections, failure or other negative outcomes ▪ This is all normal behaviour because our brain has developed on the principle, better the devil you do know because whatever bad experiences you have right now are better than the unknown. It doesn't like us to do anything new. ▪ The first thing that comes to mind is – well why can't I just kick the passengers off? Of course, that would work but have you ever found a way to permanently not be angry or sad? ▪ Emotions are part of the human condition; we can't kick them off. We can temporarily avoid them by going to the land of wine and chocolate and they shut up, but this doesn't last long, and the bus detoured from where I wanted to go. ▪ Could you ignore the passengers? What happens in the real world when a passenger wants to get off the bus and the driver ignores her? There would be hell on eventually and the passenger would get louder and more aggressive. ▪ This is because of the thought suppression effect or the rebound effect. ▪ Maybe we can negotiate with passengers? "you should have some cake", "yeah I can't I'm trying to eat healthy", "you can have this one and then be healthy again tomorrow." The passenger is always offering a much better option which makes it easier for them to win. ▪ And whilst you're debating with your passengers, all your attention has been distracted from sticking to your rout. ▪ Try lifting your arm and telling yourself not to at the same time. You don't have to win with your passengers to stick to your rout.	

▪ Think of it this way, the bus driver doesn't get on the bus and say, okay we're going to go down ropery land and take a left at the roundabout and then follow the road towards Benson street, is everyone okay with that? They just follow their rout. ▪ So, do you deal with passengers? Imagine if the passenger said "hi, we're really close to my house, could you just take a right then a left and drop me off at my house, the one with the blue door?" ▪ Even the kindest bus driver will respond with "sorry I have a rout to follow". ▪ This is the type of relationship we want to have with our passengers, we want to acknowledge what they have to say but don't let them divert us from our rout. ▪ Remember that they are not trying to be mean, they just don't know that what you're doing is healthy for you. ▪ Thank your passengers with genuine gratitude and precede along your rout.	

Mindfulness Activity – 5 minutes

Activity	**Resources**
Mindfulness activity – leaves on a stream	▪ Leaves on a stream script

Behavioural Commitment & Homework – 30 minutes

Activity	**Resources**
Do you have any questions or anything you would like me to go over? **Homework – SMART** Specific Highlight one process of change (even though you might be targeting multiple ones) Concrete (observable by others) Adequate to the client's skill level Sufficiently challenging	

Linked to values To be completed by the following session in 2 weeks. Keep a notepad beside you to take note of any thoughts/feelings that come up and we'll discuss in the next session.	

Mindbody Coaching Session Plan – Session 4 of 6

Aims	**Objectives**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Promote defusion, self as contact and present moment awareness ▪ SMART target and value-based goals.	▪ Measure ▪ Review homework ▪ Mindful movement ▪ Control, eliminate or avoid ▪ Mindfulness ▪ Homework	▪ 2 hours with 10-minute break if needed	▪ Conversation prompts ▪ Weight Management Measures ▪ Self-compassion script

Introduction: 5 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Psychological flexibility** Aware, Open, and Active It's important to know that we have the power to choose our behaviour in response to situations.	▪ Conversation prompts

Measure – 20 minutes

Activity	**Resources**
Take measures	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire ▪ Satisfaction with Life Questionnaire

Review homework – 20 minutes

Activity	Resources
Review behavioural commitment	▪ Behavioural commitment

Holding it Lightly Mindfulness Activity– 10 minutes

Activity	Resources
Holding it Lightly mindfulness script.	▪ Holding it Lightly script.

Fusion vs defusion – 20 minutes

Activity	Resources
Fusion vs defusion and exploring times where you try to control, eliminate or avoid a situation with your chosen behaviours.	▪ Fusion vs defusion worksheet

Self As Context Mindfulness Activity – 10 minutes

Activity	Resources
The Observer script.	▪ The observer script

A word on guilt– 10 minutes

Activity	Resources
Adapted from Why Healthy Habits Suck by Dayne Lee-Baggley (2019) Guilt is an emotion that comes up a lot and it is one of your passengers on the bus who will always want to motivate you to go off rout from your healthy habit. Way back in cavemen times all the parents abandoned the children to do something for themselves. The survival of the tribe depended on it. Guilt shows up to make sure that they do what is best for the tribe and not something selfish. It had to motivate them to not take more than their share in a time when it was just about simple survival. Guilt is supposed to feel terrible. It's the emotion that motivates you to do something against your own wellbeing in service of your family or tribe. In our modern world, selfishness actually helps our tribe. If we don't take time to take care of ourselves, we are not able to be there for others. This translates to being a better member of the family. We try to find ways to make everyone feel better before we act but no. You have to be string in serving your family. It comes from being willing to experience discomfort in service of your values.	

The 90% rule – 5 minutes

Activity	Resources
Difficulties with counting calories? Explore learned helplessness. Success makes us want to try again and failure makes us not want to try at all. 90% rule – add a series of 90% goals to get you towards your overall goal.	

Maybe only record breakfast or only on a Monday. Your passengers might have a lot to say about this 90% goal – "you can't achieve the real goal by doing less" etc. just say "thank you very much, passengers", and carry on.	

Behavioural Commitment & Homework – 30 minutes

Activity	**Resources**
Do you have any questions or anything you would like me to go over? **Homework – SMART** Specific Highlight one process of change (even though you might be targeting multiple ones) Concrete (observable by others) Adequate to the client's skill level Sufficiently challenging Linked to values To be completed by the following session in 2 weeks. Keep a notepad beside you to take note of any thoughts/feelings that come up and we'll discuss in the next session.	

Mindbody Coaching Session Plan – Session 5 of 6

Aims	**Objectives**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Promote value consistent action and maintaining goals. ▪ SMART target and value-based goals.	▪ Measure ▪ Review homework ▪ ABC centring exercise ▪ Clarifying values ▪ Homework	▪ 2 hours with 10-minute break if needed	▪ Conversation prompts ▪ Weight management measures ▪ Neurosensory mindfulness script

Introduction: 5 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Psychological flexibility** Aware, Open, and Active It's important to know that we have the power to choose our behaviour and response to situations.	▪ Conversation prompts

Measure – 20 minutes

Activity	**Resources**
Take measures	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire ▪ Satisfaction with Life Questionnaire

Review homework – 20 minutes

Activity	Resources
Review behavioural commitment	

Grounding – 5 minutes

Activity	Resources
ABC centring/grounding activity. Awareness – simply noticing what you can see and feel Balance – shift weight from side to side, see if there is balance in the body from left to right, front to back. Core relax – tense and relax the centre line of your body, your jaw, abdomen etc. Breath deep and arrive in this moment.	

Clarifying Values Activity – 20 mins

Activity	Resources
Clarifying Values and Making Life Changes – Adapted from Russ Harris 2009 www.actmadesimple.com Please take as long as you need to read through and carefully consider the important questions that follow. Then complete the written section that follows. (Note: this exercise is from a book on 'confidence', but feel free to change the key word. For example, if you are searching for 'happiness' or 'self-esteem', then substitute the term 'unlimited happiness' or 'unlimited self-esteem' for 'unlimited confidence'). In a world where you had unlimited confidence:	

• How would you behave differently? • How would you walk and talk differently? • How would you play, work and perform differently? • How would you treat others differently: your friends, relatives, partner, parents, children and work colleagues? • How would you treat yourself differently? • How would you treat your body? • How would you talk to yourself? • How would your character change? • What sort of things would you start doing? • What would you stop doing? • What goals would you set and work towards? • What difference would your new-found confidence make in your closest relationships, and how would you behave differently around those people? • What difference would your new-found confidence help you to make in the world? Now please write your answers below, in the spaces provided. And if there's lots of overlap between your answer – good! That's to be expected; it points you to core values. The Life Change List As I develop genuine confidence . . . • Here are some ways I will act differently:	

• Here are some ways I will treat others differently: • Here are some ways I will treat myself differently: • Here are some personal qualities and character strengths I will develop and demonstrate to others: • Here are some ways I will behave differently in close relationships with friends and family: • Here are some ways I will behave differently in relationships involving work, education, sport or leisure: • Here are some important things I will 'stand for': • Here are some activities I will start or do more of: • Here are some goals I will work towards: • Here are some actions I will take to improve my life:	

Mindfulness Activity – 10 minutes

Activity	**Resources**
Neurosensory activity using the five senses. This will promote contact with the present moment after clarifying values in the activity we've just covered.	▪ Neurosensory mindfulness script.

Behavioural Commitment & Homework – 30 minutes

Activity	**Resources**
Do you have any questions or anything you would like me to go over?	

Homework – SMART Specific Highlight one process of change (even though you might be targeting multiple ones) Concrete (observable by others) Adequate to the client's skill level Sufficiently challenging Linked to values To be completed by the following session in 2 weeks. Keep a notepad beside you to take note of any thoughts/feelings that come up and we'll discuss in the next session.	

Mindbody Coaching Session Plan – Session 6 of 6

Aims	**Objectives**	**Duration**	**Materials**
▪ To help the participant improve psychological flexibility. ▪ Recap on progress and learning outcomes over the sessions. ▪ Promote value consistent action. ▪ SMART target and value-based goals.	▪ Measure ▪ Review homework ▪ ABC centring exercise ▪ Unwelcome party guest ▪ Leaves on a stream mindfulness activity ▪ Recap on the 90% rule ▪ Self-compassion Mindfulness ▪ Debrief and close	▪ 2 hours with 10-minute break if needed	▪ Conversation prompts ▪ Measurements ▪ Leaves on a stream ▪ Self-compassion script ▪ Hexaflex

Introduction: 5 minutes

Activity	**Resources**
2-hour long session and we can take a break if needed. If we get cut off, give me a call. **Psychological flexibility** Aware, Open, and Active It's important to know that we have the power to choose our behaviour and response to situations.	▪ Conversation prompts

Measure – 20 minutes

Activity	**Resources**
Take measures	▪ Acceptance and Action for Weight Related Difficulties ▪ Food Acceptance Questionnaire

	▪ Satisfaction with Life Questionnaire ▪ Waist circumference and Weight in Kg.

Review homework – 20 minutes

Activity	Resources
Review behavioural commitment	

Grounding – 5 minutes

Activity	Resources
ABC centring/grounding activity. Awareness – simply noticing what you can see and feel Balance – shift weight from side to side, see if there is balance in the body from left to right, front to back. Core relax – tense and relax the centre line of your body, your jaw, abdomen etc. Breath deep and arrive in this moment.	

Unwelcome party guest metaphor – 20 minutes

Activity	Resources
Adapted from Why Healthy Habits Suck by Dayna Lee-Baggley (2019) - Imagine you want to throw a party and you've invited all your favourite people. - As your guests are there enjoying the party you carefully planned for, and you're also having a really good time. - Suddenly there's another knock at the door and it's Brian. Brian is your next-door neighbour and happens to be one of the most annoying people you know. He's rude, aggressive, mean, he	

moans a lot and does not keep up personal hygiene. He's the last person you want to be near and be at your party. - Before you know it, he goes straight inside without even saying hello and starts to cause mayhem. - He's upsetting guests with his rudeness, and you're mortified and upset. - You tell him to leave and once he's gone you start to feel relieved. - After a while you hear the doorbell ring again and it's Brian and before you can stop him, he races back into the party. - So, you get him and throw him out again and to make sure he doesn't come back, you stand by the door so he can't get back in and you feel good about this. - The trouble is that whilst your friends are enjoying your party, you're stuck waiting at the door. - You hear everyone else having a good time and you don't know what to do. You can't stand the thought of Brian getting back into the party, but you don't want to miss out on it. - You decide that this party is pretty important to you, so you decide to go back to the party and accept that if Brian comes back in then so be it. - Sure, enough in a few moments, Brian lets himself back in again and is being his usual annoying self. - However, what's different now is that you notice Brian is still there and you are actually enjoying the party. Sure, it would be great if he went home, but at least you're not stuck at the front door missing the party. - Second, you notice that when you're not trying to get rid of him all the time, he calms down a bit. He's still a pain and still smells but he's not so rowdy. In the example above, Brian is like our pain and our unwanted thoughts emotions. Suffering is found with trying to control, avoid or eliminate Brain. Peace is found within acceptance of unpleasant experiences and still choosing to behave in line with what we value.	

Mindfulness Activity – 5 minutes

Activity	Resources
Mindfulness activity – leaves on a stream	▪ Leaves on a stream script

Remembering the 90% rule for setting goals – 10 minutes

Activity	Resources
▪ Recap discussion about 90% rule and how if you're not 90% sure you can set it then adjust it and break it down into smaller goals so as not to disappoint and promote learned helplessness.	

Mindfulness Activity – 5 minutes

Activity	Resources
Mindfulness activity – Self-compassion	▪ Self-compassion script

Close and Debrief– 45 minutes

Activity	Resources
Q&A ▪ This final part of the session is a chance for you to share your experiences over the past 3 months and time to revisit any activities you liked, or think would be beneficial. ▪ How was it? ▪ What was the most important lesson you can take away? ▪ How was the structure? ▪ What was your least favourite activity and why? ▪ What was your favourite activity and why? ▪ What practices will you continue? ▪ How are the handouts?	▪ Hexaflex

▪ Would you make any changes? ▪ What was the thing you struggled to understand the most? ▪ Would you recommend ACT to someone else? **Debrief** ▪ You have taken part in six ACT sessions to help you with your weight management issues. We covered all six points on the Hexaflex because in the case formulation stages you mentioned issues related to all of those aspects regarding your weight management issues. Remember to regularly review the resources covered in session, particularly the Hexaflex because it will give you an indication of how you're doing as you progress beyond our sessions. You can work on any point you like because they are all intertwined with one another. In the first two sessions we covered case formulation which helped me to understand what types of activities would be best for your specific needs. We also introduced mindfulness and cultivating awareness of the present moment and we briefly explored values. In the next two sessions we covered openness by exploring defusion vs fusion, seeing the self as context and unworkable behaviours vs workable behaviours. We then started to touch on realistic goal setting with self-compassion and why health behaviours are difficult and the role our emotions play. In the final two sessions we covered value consistent action and focusing on your compass and direction of what means the most to you in your life and how to take that beyond these sessions. ▪ You have progressed in so many ways and you have engaged fully in each activity, no matter how taxing or challenging at the time. ▪ I thank you for taking part in this journey with me and it's been an absolute pleasure to work with you. I wish you good health and all the very best with your value-based action. ▪ If you would like more sessions in the future to work on new challenges and health issues, just give me a call and we can rearrange a session.	

Mindfulness activity scripts. Adapted from Harris' ACT Made Simple: An Easy-To-Read Primer on Acceptance and Commitment Therapy (2009).

Dropping Anchor.

1. Sitting or lying down, just see if you can push your feet into the surface beneath you. Push them down. Feel the ground beneath you.
2. Now sit forward in your chair and straighten your back. Feel the chair beneath you; notice your back supporting you.
3. Now slowly press your fingertips together, and as you do that, gently move your elbows and your shoulders.
4. Feel your arms moving, all the way from your fingers to shoulder blades.
5. Take a moment to acknowledge there's a lot of **pain** here that you're struggling with ... you didn't ask for it ... but here it is ... and it's challenging and it's difficult and you want it to go away, and yet it's not going ... Silently acknowledge to yourself what type of pain it is ... For example, say to yourself "Here's sadness" or "Here's anxiety" or "Here's a painful memory".
6. Now notice that as well as this **pain**, there's also a body around that pain – a body that you can move and control.
7. Straighten your back again, and notice your whole body now – your hands, feet, arms, legs – gently move them, and feel them moving ... Have a good stretch ... Notice your muscles stretching ... Press your feet down and feel the floor.
8. Now also look around the room – up down, and side to side - and notice five things that you can see.
9. And also notice one thing you can smell – coming from your clothes or the room around you.
10. So, notice, there's something very **painful** here that you're struggling with, and at the same time see if you can also notice your body in the chair ... and gently move that body, have a stretch... that's it, take control of your arms and legs.
11. You can gently release the hands and take some time to notice now how you feel.

Self-compassion

1. Take a moment to centre yourself and notice what is going on around you. Notice the smells and the sensation of gravity weighing your body to the earth. Linger in that moment for a few seconds.
2. Bring to mind a situation where you felt quite self-critical of your interaction. Notice what you've just said to yourself. Really pay attention to your inner speech in this instance.
3. What words do you actually use when you're being self-critical? Are there key phrases that come up over and over again? What is the tone of your voice – harsh, cold, angry? Does the voice remind you of any one in your past who was critical of you?
4. Notice where do you feel this voice coming from and place your hand there. For example, if you feel it coming from your heart, just place your hand on your chest. If you feel it coming from your head, just place your hand on your head.
5. Now bring your attention to the place your hand is connecting with your body, that is the home of your inner critic.
6. See if you can notice the properties of your hand in connection with your body. Can you notice the temperature of your hand or how it feels pressed against your skin?
7. As you notice this gently start moving your hand in a circular motion as if you were comforting a friend or a child. Notice how that feels.
8. With the gentleness you have just showed yourself, go back to those critical words and notice where they are coming from. What is their function?
9. Whilst continuing soothing yourself with your hand turn towards your critical voice as you would to someone you would help. Maybe you can say something like "I know you're concerned about it. I know this can make us feel unsafe, but you are causing me unnecessary pain right now. Could you let my inner compassionate self say a few words now?
10. I know you want to do your best. I know you are working very hard at it. I know you care. I know…I want to tell you that you are doing a great job of reminding me why I care. I want to thank you for keeping this alive inside me. I want to let you know you are always welcomed in my life, as a friend".
11. Notice your hand again as you slowly stop moving it and take it away. Notice where you are again with all the sounds, smells and body sensations. And open your eyes.
12. Take a moment to centre yourself and notice what is going on around you. Notice the smells and the sensation of gravity weighing your body to the earth. Linger in that moment for a few seconds.
13. Bring to mind a situation where you felt quite self-critical of your interaction. Notice what you've just said to yourself. Really pay attention to your inner speech in this instance
14. What words do you actually use when you're being self-critical? Are there key phrases that come up over and over again? What is the tone of your voice – harsh, cold, angry? Does the voice remind you of any one in your past who was critical of you?

15. Notice where do you feel this voice coming from and place your hand there. For example, if you feel it coming from your heart, just place your hand on your chest. If you feel it coming from your head, just place your hand on your head.
16. Now bring your attention to the place your hand is connecting with your body, that is the home of your inner critic.
17. See if you can notice the properties of your hand in connection with your body. Can you notice the temperature of your hand or how it feels pressed against your skin?
18. As you notice this gently start moving your hand in a circular motion as if you were comforting a friend or a child. Notice how that feels.
19. With the gentleness you have just showed yourself, go back to those critical words and notice where they are coming from. What is their function?
20. Whilst continuing soothing yourself with your hand turn towards your critical voice as you would to someone you would help. Maybe you can say something like "I know you're concerned about it. I know this can make us feel unsafe, but you are causing me unnecessary pain right now. Could you let my inner compassionate self say a few words now?
21. I know you want to do your best. I know you are working very hard at it. I know you care. I know…I want to tell you that you are doing a great job of reminding me why I care. I want to thank you for keeping this alive inside me. I want to let you know you are always welcomed in my life, as a friend".
22. Notice your hand again as you slowly stop moving it and take it away. Notice where you are again with all the sounds, smells and body sensations. And open your eyes.

The Observer

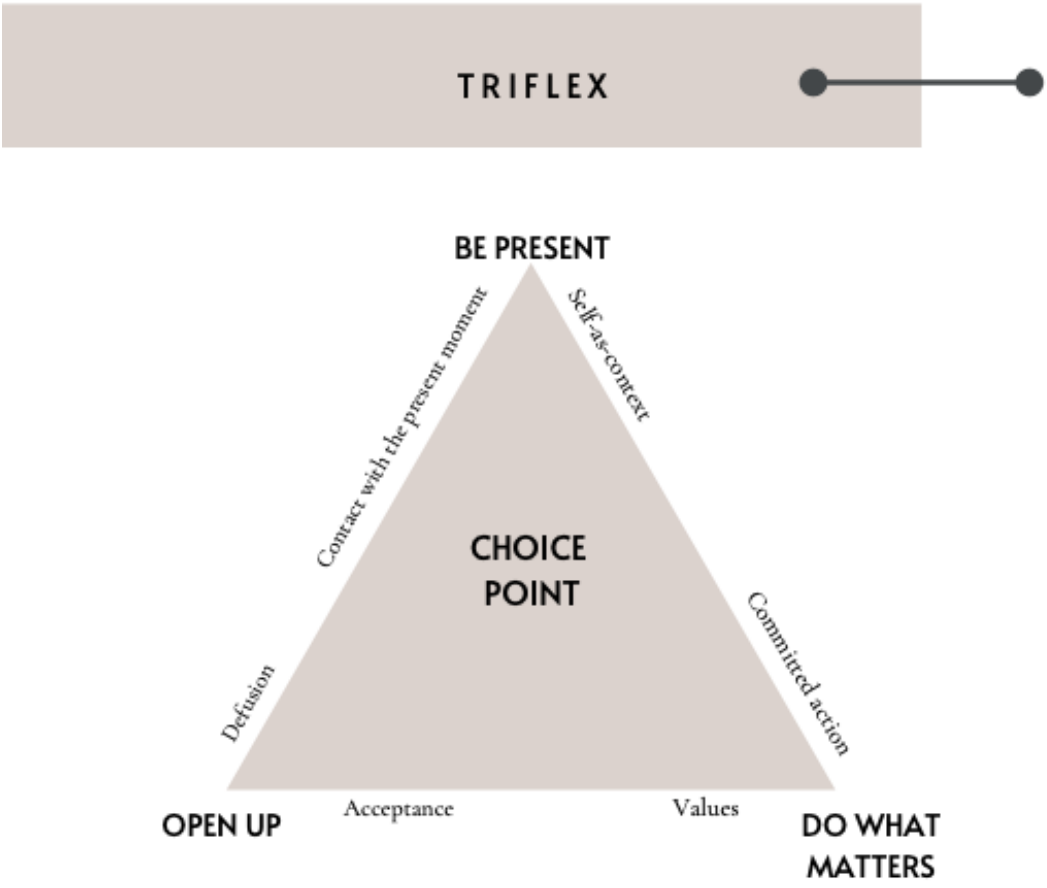
1. Pressing the feet into the surface beneath you and feeling the weight of your body as it rests in your chair or bed.
2. Taking some time now to arrive in this moment by paying full attention to you as a body.
3. You are not separate from your body; you are your body.
4. So, just notice how it feels to sense yourself as your entire body and explore the feeling of being.
5. Bring your attention to your internal sensations.
6. Notice your temperature (10 seconds pause)
7. Now notice the breath
8. Be aware you're noticing (10 seconds pause)
9. As you notice your breath, be aware you're noticing.
10. There's the breath and there's a part of you noticing your breath
11. Notice what you're thinking ...
12. Be aware you're noticing ...
13. Bring your awareness now to the environment outside of you as a whole body.
14. Paying attention to the space around you in the wider sense of whatever is in the room you're in but also the space between your fingers
15. And the space between your toes.
16. Get a sense of what is outside of you and the space just outside of your skin.
17. Notice the thoughts that arise ...
18. Be aware you're noticing ....
19. As you notice what your mind is telling you, be aware that you're noticing.
20. There's the thought in your mind and there's a part of you noticing your thoughts.
21. So, there's a part of you that notices everything
22. Thoughts and emotions change all the time, coming and going – but the part of you that notices is always there
23. Life is like a stage show … and on that stage are all your thoughts and feelings and everything you can see, hear, touch, taste and smell … and there's a part of you that can step back and watch the show.
24. These experiences, sensations, memories and urges are a part of you; but they're nowhere near the whole of you; there's so much more to you.
25. So, within all the changing circumstances in life, the part of you that notices is always there.
26. Pressing the feet into the surface beneath you, take some organic gentle movements or stretches as we end this practice for today.

Neurosensory Exercise

1. Sitting in a comfortable position bring your awareness to the room that you're in.
2. Move the head as you search as if it was the first time you were looking at the room
3. Notice the body and see if you can be aware of the body whilst at the same time looking around the room.
4. Now listen to the sounds and see if you can be aware of the sounds as you feel the body.
5. Pay attention to the sights and the sounds.
6. Now focus on the sensations of the body as you notice five objects you can see around you. Notice their colour, their textures, their shape.
7. No bring your awareness to four things you can feel. This can be the space between your fingers and toes, your clothes or jewellery, the chair you're sitting on.
8. Now bring your awareness to three sounds you can hear. This could be traffic outside, the hum of electricity.
9. Now bring your awareness to two things you can smell; this could be your shampoo or clothing.
10. Finally bring your awareness to one thing you can taste and if you can't taste anything simply evoke the memory of a food or drink, like coffee or an orange.
11. Pressing the feet into the floor, bring your attention back to the present moment to end this activity.

Worksheets given to the participant to work through in session.

Triflex adapted from Stossel et al. (2012) *Brief Interventions for Radical Change.*



Opening Up

Are you able to separate, unhook and detach from thoughts and feelings?

Are you able to open up and make space for thoughts and feelings and allow them to freely come and go?

Being Present

Are you about to fully engage in the here and now experience?

Are you aware of your own thoughts and feelings? Are you able to empathise? Are you able to take a different perspective on the self and the self-story?

Doing What Matters

Are you able to be clear and connect with core values?

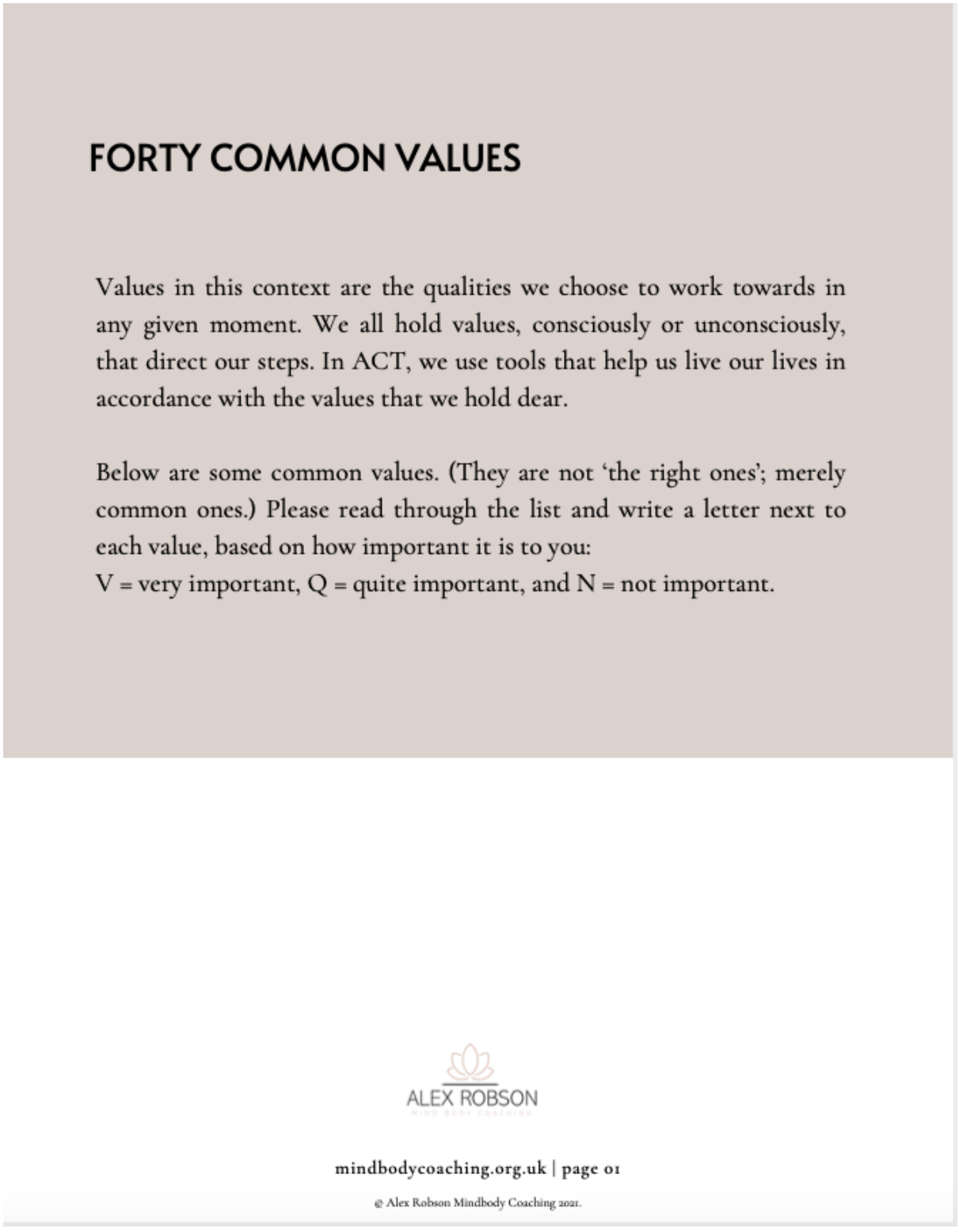
Are you able to take and maintain value guided action?

Are you able to set goals? Sufficient skills to achieve goals?

Adapted from the Psychological Flexibility Assessment in 'Breif Interventions for Radical Change' by Strosahl et al. 2012.

mindbodycoaching.org.uk | page 01

Forty Common Values adapted from Harris (2010) *The Confidence Gap: From Fear to Freedom.*



FORTY COMMON VALUES

Values in this context are the qualities we choose to work towards in any given moment. We all hold values, consciously or unconsciously, that direct our steps. In ACT, we use tools that help us live our lives in accordance with the values that we hold dear.

Below are some common values. (They are not 'the right ones'; merely common ones.) Please read through the list and write a letter next to each value, based on how important it is to you:
V = very important, Q = quite important, and N = not important.

ALEX ROBSON
MIND BODY COACHING

mindbodycoaching.org.uk | page 01

FORTY COMMON VALUES

1. Acceptance/self-acceptance: to be accepting of myself, others, life, etc.

2. Adventure: to be adventurous; to actively explore novel or stimulating experiences

3. Assertiveness: to respectfully stand up for my rights and request what I want

4. Authenticity: to be authentic, genuine, and real; to be true to myself

5. Caring/self-care: to be caring toward myself, others, the environment, etc.

6. Compassion/self-compassion: to act kindly toward myself and others in pain

7. Connection: to engage fully in whatever I'm doing and be fully present with others

8. Contribution and generosity: to contribute, give, help, assist, or share

9. Cooperation: to be cooperative and collaborative with others

10. Courage: to be courageous or brave; to persist in the face of fear, threat, or difficulty

Adapted from The Confidence Gap: From Fear to Freedom, by Russ Harris, published by Penguin Group (Australia), 2010.

FORTY COMMON VALUES

11. Creativity: to be creative or innovative

12. Curiosity: to be curious, open-minded, and interested; to explore and discover

13. Encouragement: to encourage and reward behavior that I value in myself or others

14. Excitement: to seek, create, and engage in activities that are exciting or stimulating

15. Fairness and justice: to be fair and just to myself or others

16. Fitness: to maintain or improve or look after my physical and mental health

17. Flexibility: to adjust and adapt readily to changing circumstances

18. Freedom and independence: to choose how I live and help others do likewise

19. Friendliness: to be friendly, companionable, or agreeable toward others

20. Forgiveness/self-forgiveness: to be forgiving toward myself or others

Adapted from The Confidence Gap: From Fear to Freedom, by Russ Harris, published by Penguin Group (Australia), 2010.

FORTY COMMON VALUES

21.Fun and humour: to be fun loving; to seek, create, and engage in fun-filled activities

22. Gratitude: to be grateful for and appreciative of myself, others, and life

23. Honesty: to be honest, truthful, and sincere with myself and others

24. Industry: to be industrious, hardworking, and dedicated

25. Intimacy: to open up, reveal, and share myself, emotionally or physically

26. Kindness: to be kind, considerate, nurturing, or caring toward myself or others

27. Love: to act lovingly or affectionately toward myself or others

28. Mindfulness: to be open to, engaged in and curious about the present moment

29. Order: to be orderly and organized

30. Persistence and commitment: to continue resolutely, despite problems or difficulties.

Adapted from The Confidence Gap: From Fear to Freedom, by Russ Harris, published by Penguin Group (Australia), 2010.

FORTY COMMON VALUES

31. Respect/self-respect: to treat myself and others with care and consideration

32. Responsibility: to be responsible and accountable for my actions

33. Safety and protection: to secure, protect, or ensure my own safety or that of others

34. Sensuality and pleasure: to create or enjoy pleasurable and sensual experiences

35. Sexuality: to explore or express my sexuality

36. Skilfulness: to continually practice and improve my skills and apply myself fully

37. Supportiveness: to be supportive, helpful and available to myself or others

38. Trust: to be trustworthy; to be loyal, faithful, sincere, and reliable

39. Other:

40. Other:

Adapted from The Confidence Gap: From Fear to Freedom, by Russ Harris, published by Penguin Group (Australia), 2010.

The Choice Point adapted from Harris (2013) *The Weight Escape.*

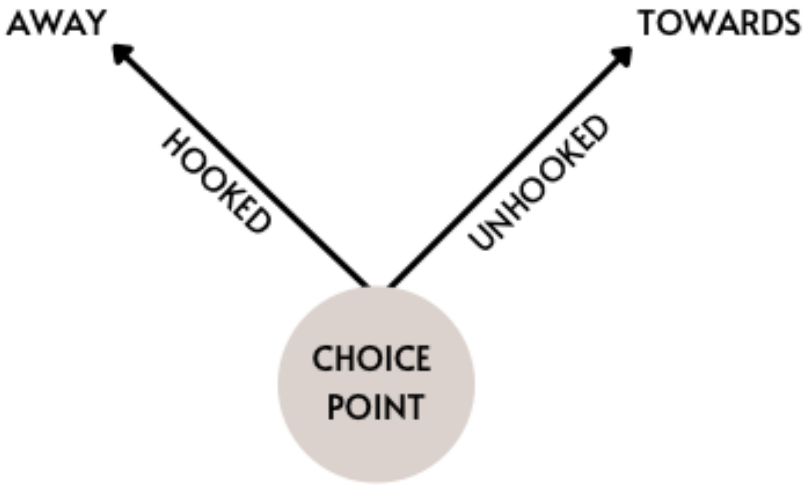
CHOICE POINT

Every day we make choices. Some of those choices are *towards* the way we want to live and some are *away* from the person we want to be. However, as we go about our day, all sorts of challenging situations, thoughts and feelings arise and it's not easy to make choices that move us towards our ideal way of living. When we get *hooked* onto thoughts and feelings, we can do things that move us away from who we want to be.

From the work you have done so far in this workbook, you now have two choices:

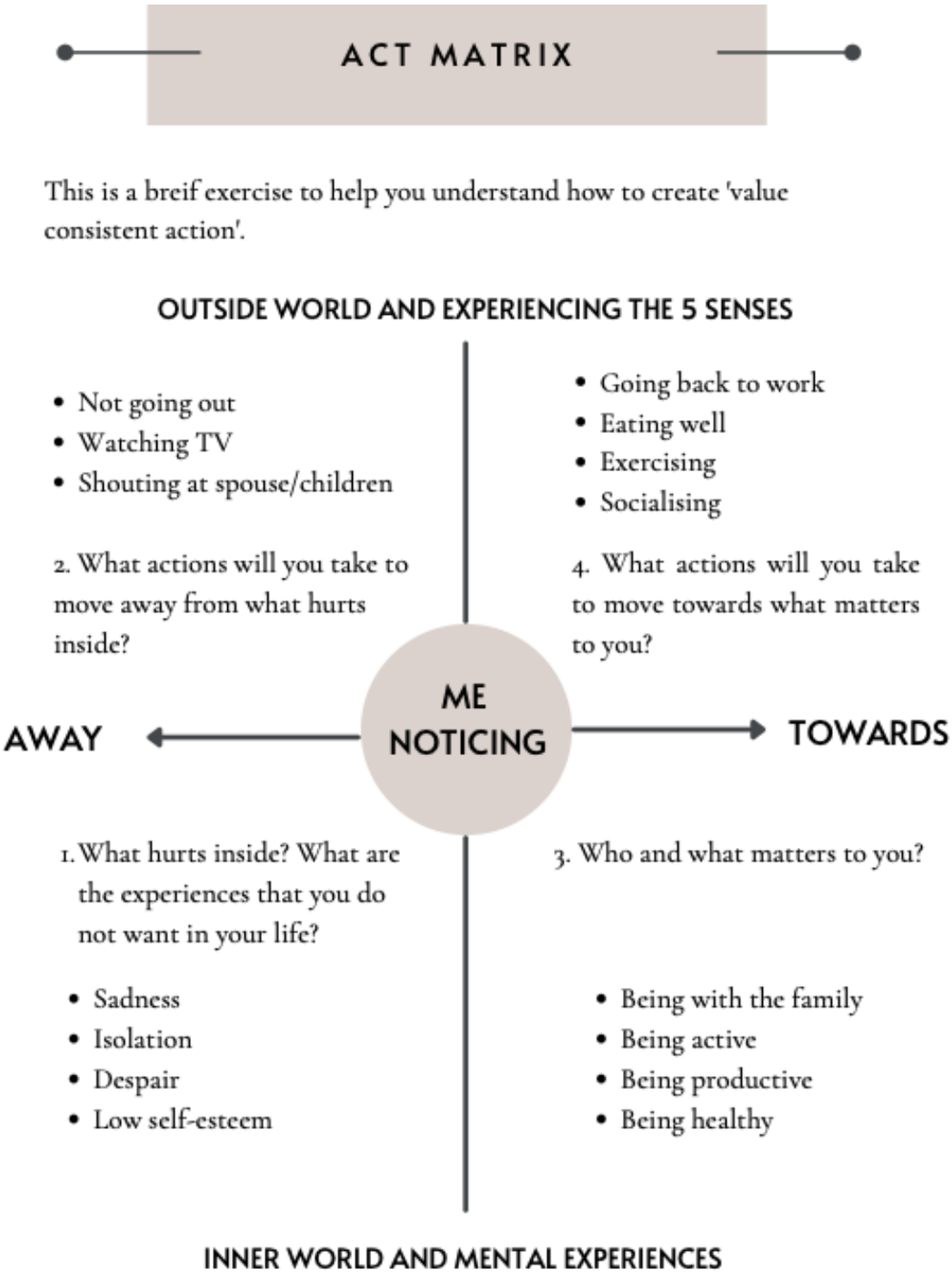
1. Continue what you are doing even though you know it's ineffective, based on your experience.
2. Try something new.

Note - Take some time to go back through the first few sections of the workbook if at this point you still feel you need to gain more clarity on your main issue.

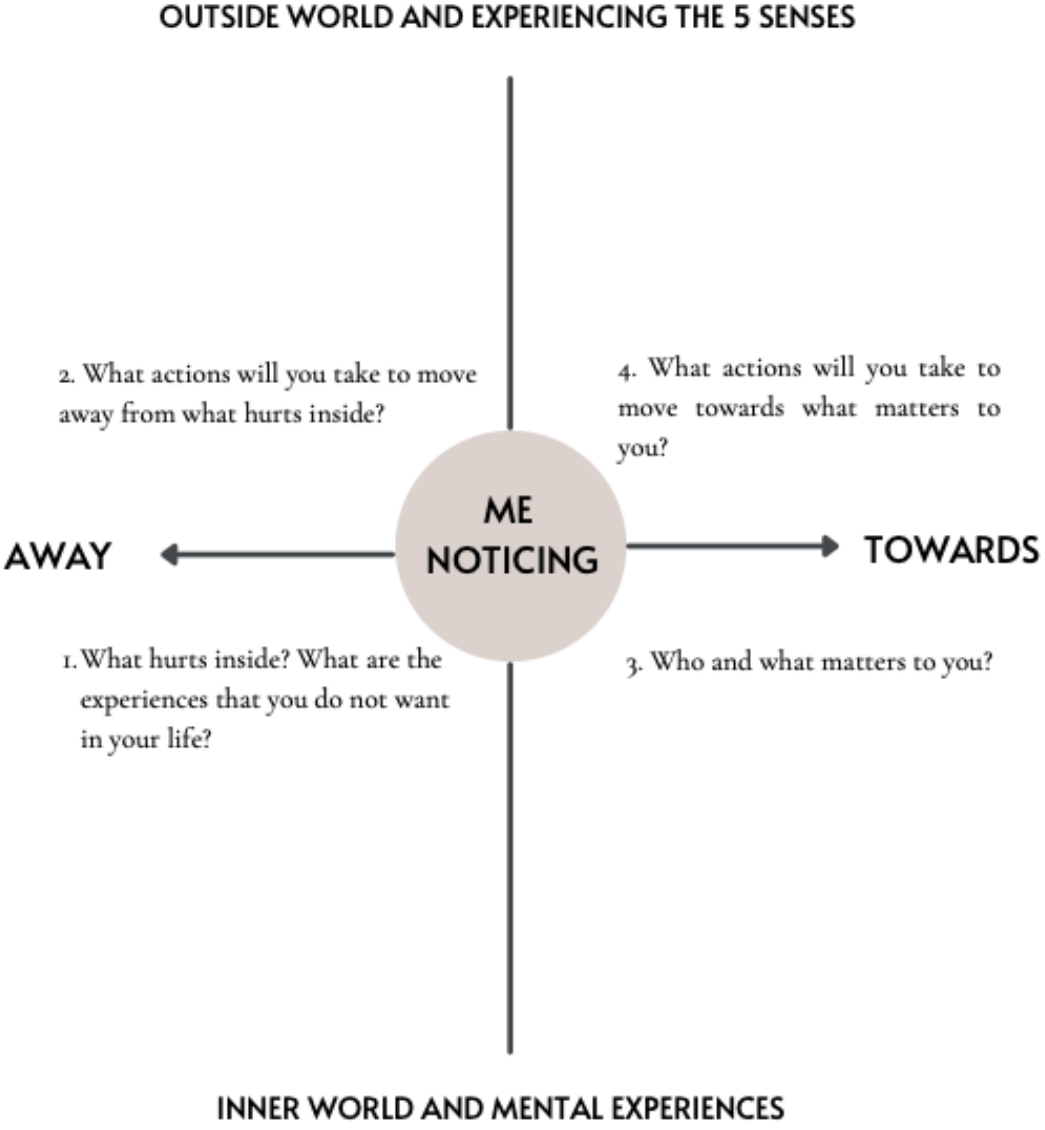


Adapted from Russ Harris 2010.

The ACT Matrix adapted from Polk, Hambright and Webster's original model of Polk and Shoendorff's The ACT Matrix (2014), *A New Approach to Building Psychological Flexibility Across Settings and Populations.*



ACT MATRIX



Adapted from Polk, Hambright & Webster's orginal model and Polk & Schoendorff's The ACT Matrix: A New Approach to Building Psychological Flexibility Across Settings and Populations, 2014.

Appendix D6. Client testimonial. *Personal details have been omitted for confidentiality.*

TESTIMONIAL FOR ALEX ROBSON

MIND BODY COACHING

Dear Alex

I wanted to thank you so much for the knowledge, expertise and patience that you displayed when I needed to seek help with some problems that I was experiencing.

I learned so much from you during these sessions and the benefits will be of enormous help to me going forward in my everyday life.

You introduced me to some very soothing mindfulness practices that can only be described as almost sending me floating off to sleep, at some points I felt like I was back in the Gulf in Dubai, floating in the lovely warm sea. These left me with a sense of wellbeing and in a much more relaxed state than when we started the sessions a few months ago and for all of this I would like to say 'Thank you' so much for all your help and I will continue to take heed of what we have discussed and keep those '**Passengers on the Bus**' in check from now on.

I would have no hesitation in recommending you to Friends, Family, Colleagues or indeed anyone in the Business World that I become aware of needing such services, you truly are amazing in this role and will I know, help so many people in the years ahead.

Best regards

Appendix E: Research – Quantitative Study

Appendix E1: Study recruitment e-mail and poster sent to gatekeepers and opportunity sampling contacts and posted on social media platforms.

LIVERPOOL JOHN MOORES UNIVERSITY

VOLUNTEERS NEEDED FOR *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

Image from: https://www.health.harvard.edu/heart-health/what-your-heart-rate-is-telling-you

We are looking for volunteers, aged 18+ to take part in an online study by watching Mind your Heart webinar. We are looking to recruit adults in the UK living with managed heart disease. Your symptoms must be under control by medication with no onset of new or worsening symptoms associated with heart disease in the past 6 months. You would be invited to participate in an online study for 3 study sessions, pre-screening, prequestionnaire and webinar and post questionnaires two-weeks later. Pre-screening should take around about 5 minutes, prequestionnaires and webinar should take 90 minutes and the post questionnaires should take around 30 minutes. You may be randomly allocated to a control group B where you will only answer pre and post questionnaires. Participants in the intervention group A will be asked to share their experiences and feedback any improvements of the intervention with the researcher on an audio recorded Microsoft Teams call.

If you are interested and would like more information, please contact Alex Robson on *a.robson@2018.ljmu.ac.uk* or use the link to the participant information. There is no obligation to take part. You will be entered into a prize draw to win a £25 Amazon gift voucher for competing the 3 research sessions and if you agree to take part in the follow-up Teams call, you will be entered into an additional prize draw to win a £25 Amazon gift voucher.

Thank you!

Research Ethics Committee Reference Number: 21/PSY/040

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121

Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

Subject: Participant recruitment email

Circular email for use for recruitment of volunteers for study ref: *21/PSY/040.* This project contributes to the University's role in conducting research, and teaching research methods. You are under no obligation to reply to this email, however if you choose to, participation in this study is voluntary and you may withdraw at any time.

Dear

We are looking for volunteers, aged 18+ to take part in a brief online psychological intervention for those with heart disease to improve health. Volunteers must pass eligibility criteria outlined in the pre-screening checklist below.

Taking part in the study involves answering an online pre-screening questionnaire, being randomly allocated into intervention group A or control group B.

The intervention group A will gain access to 5 online prequestionnaires and the Mind your Heart webinar via a link sent to the participant's email address which will take approximately 90 minutes to complete. A further email will contain a link to complete 6 post questionnaires online two weeks later which will take 30 minutes.

The control group B will gain access to the 5 online prequestionnaires via a link sent to the participant's email address and then will be asked to complete same 5 postquestionnaires two-weeks later online with a separate link sent via email. This will take roughly 1 hour in total. They will be sent the Mind your Heart webinar via email to watch outside of the study after post questionnaires have been taken.

The intervention group A will be invited to share their experiences of the intervention on a 30–60-minute Microsoft Teams call with the researcher which will be audio recorded and transcribed. Participants can have their camera switched off during this call and can skip any questions they do not want to answer. The participant's face will not be recorded even if they do have the camera switched on during the Teams call. Quotations of this conversation will be used under a pseudonym in the final report. To do this you would use the online booking tool which will appear on screen after answering the postquestionnaires. The audio recording will be destroyed after 5 years from the date it is collected.

Further information is provided in the participant information sheet that is available from clicking on this link.

If you are interested in participating, please click the link provided above. There is no obligation to take part. For your participation in sessions 1, 2 and 3 of the study you will be entered into a prize draw of a £25 Amazon gift voucher. If you take part in session 4, the follow-up telephone call, you will be entered into a second prize draw of a £25 Amazon gift voucher. It is possible to win both prizes. The winner(s) will be notified by email after the data is collected.

Thank you!

Principal Investigator: *Alexandra Robson*
LJMU professional doctorate student
LJMU Email address: *a.robson@2018.ljmu.ac.uk*
LJMU School/Faculty: School of *Psychology, Faculty of Health*
LJMU Central telephone number: 0151 231 2121

Study title: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

Research Ethics Committee Reference Number: 21/PSY/040

Appendices

Appendix A. Eligibility checklist pre-screen – using guidance from the American Association for Cardiac and Pulmonary Rehabilitation risk assessment (2012).

To take part in the study you must tick **ALL 3** statements in the column on the left side, and you must **NOT** be able to tick **ANY** statements in the right-hand column.

Eligible to take part in the study 	**Not eligible for the study** 
You can tick **ALL** three statements:	If you tick one or more of these statements:
1. I am an adult over the age of 18 years old living in the UK.	• I am under the age of 18. • I do not live in the UK.
2. I have had a single heart attack more than 6 months ago with no repeat event.	• I have had a heart attack in the last 6 months.
3. I have received angioplasty procedure where the blocked arteries around the heart were opened up and fitted with a wire mesh (stent). **- OR -** Had open heart surgery (coronary artery bypass surgery) where the blood flow is redirected around the blocked arteries.	• I have had more than one heart attack. • I have had a cardiac arrest (where my heart stopped, I was unconscious, and I was resuscitated). • I have had a heart transplant.
IF YOU TICK ALL 3 of the above you may or may not have one or more of the following criteria.	• I have been diagnosed with valve disorders or a rare heart disease.
1. Stable angina (chest pain and breathlessness) diagnosed more than 6 months ago where it is predictable and easily controlled by rest or two doses of glycerol trinitrate (GTN) spray medication.	• I have stage 4 heart failure where my activity is severely limited due to breathlessness and fatigue even at rest. • I have a new diagnosis of unstable angina (chest pain and breathlessness) within the past 6 months that is not predictable.
2. Arrythmias (irregular heartbeat) diagnosed more than 6 months ago where it is under control from medication, a pacemaker, or an implantable defibrillator.	• I have a new diagnosis of arrythmia (irregular heartbeat), and I have had an episode within the past 6 months. • I have a new diagnosis of high blood pressure that is regularly more than 140/90.
3. Stable high blood pressure diagnosed more than 6 months ago where it is within a constant healthy range of 120/80 – 140/90. It is under control by medication.	• I have a new diagnosis of type 1 or type 2 diabetes and my blood sugar is regularly outside of the of 4-8.5 mmol/l and I have had a hypoglycaemic/hyperglycaemic episode in the past 6 months.
4. Stable type 1 or type 2 diabetes diagnosed more than 6 months ago where blood sugar is within a constant healthy range of 4-8.5 mmol/l. It is under control by medication or diet.	• I have a new viral infection within the past 2 weeks of the study such as the common cold or flu and including COVID-19 and variants.

Appendix B. Table describing study sessions and timings involved in the research project.

Session 1	**Session 2**	**Session 3**	**Session 4 GROUP A ONLY**
1. Read the study information consent to pre-screening. 2. Check your eligibility with a pre-screening questionnaire. 3. Read and sign the consent form if you are happy to continue and you are eligible to join the study. 4. You will be randomly assigned to either **group A** or **group B** and will be asked to input your email address. 5. You will then receive an email with the study information, a copy of your signed consent and a link to the study and any supplementary materials.	6. Clicking on the link sent to your email address, find a quiet space where you will not be disturbed and complete the 5 questionnaires on screen using your Smartphone or computer device. You can skip any questions you do not want to answer. **GROUP A:** 8. (i). Once you have completed the questionnaires on screen, the two-hour Mind your Heart webinar will be available to watch. (ii). After you have watched the webinar, you can close the programme and refer to any supplementary materials sent in the first email containing the study link and participant information and a copied of the signed consent. **GROUP B:** 8. (i). Once you have completed the questionnaires on screen, you can close the programme.	9. You will be sent an email in 14 days after completing session 2 with a link to session 3 of the study. 10. Clicking on the link, you will be directed to the same 5 questionnaires completed in session 2. **Group A** will be asked an additional short questionnaire on your SMART goal you set yourself at the end of the webinar. **GROUP A:** 11. Once complete, you will be directed to an online booking system where you can choose to take part in an optional session 4 of the study which is a follow-up 30–60-minute Microsoft Teams call with the researcher to share your experiences of the study and to provide feedback on improvements. You can either book a timeslot for the optional session 4 or close the programme to end the study at this stage. **GROUP B:** 11. Once complete, you will be emailed a link to the Mind your Heart webinar and any supplementary materials for you to watch in your own time. 12. You will be emailed a debrief form outlining the purpose of the study and support services available. 13. **<u>Both groups A and B</u>** will also be entered into the first prize draw of a £25 Amazon voucher to be announced after data collection.	14. If you booked a time slot for the follow-up Teams call to share your experiences of the study with the researcher, you have consented to be part of the optional session 4. 15. You will be called within your allotted time slot. 17a. If there is no answer on the first attempt, you will be sent a text to rearrange a time and date. If you do not answer after the second attempt, you will not be contacted again. 17b. If you take part in the 30–60-minute Teams call, it will be recorded and transcribed to be used in the final report under a fake name to protect confidentiality. You have the option to turn off your camera so that only your voice is recorded. 18. You will then be sent a debrief form via email outlining the purpose of the study and support services available. 19. **<u>If you agreed to take part in the phone call,</u>** you will also be entered into a second prize draw of a £25 Amazon gift voucher to be announced after data collection.
Total time = 5 minutes	Total time = 30-90 minutes	Total time = 30 minutes	Total time = 30-60 minutes

Appendix E2: Participant consent form and information sheet.

PARTICIPANT CONSENT FORM Adults with Heart Disease

Study title: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

Research Ethics Committee Reference Number: 21/PSY/040

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

If you are happy to participate, please complete and sign the consent form below

		Please initial
5.	I confirm that I have read the information sheet (dated 29/10/2021 version 1) for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
6.	I understand what taking part in the study involves answering a pre-screening questionnaire, 6 prequestionnaires and 6 post questionnaires online. After I answer the pre-screening questionnaire to make sure it is safe for me to take part, I will be randomly allocated into either a control or intervention group. If I am in the intervention group, I will gain access to the prequestionnaires and the Mind your Heart online webinar which will take approximately 90 minutes to complete. I will then be asked to complete the post questionnaires online two weeks later. I can skip any questions I do not want to answer. If I am in the control group, I will complete the pre and post measures online without watching the Mind your Heart webinar. However, I will be sent the Mind your Heart webinar to watch outside of the study after post questionnaires have been taken. If I am in the intervention group, I will be invited to share my experiences of the study on a 30–60-minute Microsoft Teams call with the researcher by which my voice will be recorded and transcribed. I have the option to turn off my camera so that the researcher cannot see my face and I can skip any question that I do not want to answer and can end the interview at any point. Quotations of this conversation will be used under a pseudonym in the final report.	

7.	I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions I can withdraw from the study at any time, without giving a reason and without penalty or my legal rights being affected.		
8.	I have been advised about potential risks associated with taking part in this study and have taken these into consideration before consenting to participate.		
9.	To the best of my knowledge, I do not meet any of the exclusion criteria outlined in the information sheet for this research or the pre-screening questionnaires. If this changes at a later date during study participation, I agree to notify the researchers immediately.		
10.	I understand that if I am in the experimental group and I agree to the follow up Microsoft Teams call to share my experiences of the study with the researcher, that it involves taking audio recordings of me and I am happy to proceed. I understand that my face will not be recorded even if I do have my camera switched on during the Microsoft Teams call.		
11.	I agree that audio recordings can be taken of me during the Microsoft Teams call. (Participants are free at any time to decline to be audio recorded whilst continuing to participate in the study)	YES	NO
12.	I understand who access to personal data will have provided, how the data will be stored and what will happen to the data at the end of the project.		
13.	I understand that my information may be subject to review by responsible individuals from Liverpool John Moores University for monitoring and audit purposes.		
14.	I agree for my contact details to be stored for the purpose of contacting me during the study and I understand that agreeing to be contacted does not oblige me to participate.	YES	NO
15.	I understand that personal data will be retained beyond the duration of the study and will be destroyed 5 years after the study has ended.		
16.	I understand that personal data will remain confidential and that all efforts will be made to ensure I cannot be identified in reports or any further outputs.		
17.	I understand that parts of our conversation will be used verbatim in future publications or presentations and that all efforts will be made to ensure I cannot be identified in reports or any further outputs		
18.	I understand that even though all efforts will be made to ensure I cannot be identified, I may be indirectly identifiable when the study findings are disseminated.		
19.	I understand the potential risks of being identifiable in reports and any future outputs when the findings of the study are disseminated		
20.	I understand that there may be instances where information is revealed which means that the investigators will be obliged to break confidentiality, and this has been explained in more detail in the information sheet.		
21.	I agree to take part in this study		

Data Protection. Any personal information we collect and use to conduct this study will be processed in accordance with data protection law as explained in the Participant Information Sheet and the Privacy Notice for Research Participants.

Name of Participant Date Signature

For participants unable to sign their name, mark the box instead of signing ☐

I have witnessed the accurate reading of the consent form with the potential participant and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely

Name of Investigator Date Signature

PARTICIPANT INFORMATION SHEET Adults with Heart Disease

Research Ethics Committee Reference Number: 21/PSY/040

Title of Study: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

You are being invited to take part in a research study. You do not have to take part if you do not want to. Please read this information, which will help you decide.

1. What is the purpose of the study?

The aims of this study are to compare whether a one-off psychological intervention will positively change the way 50 people perceive their heart disease, to change health behaviours and improve psychological flexibility two weeks after the intervention against a control group.

The purpose of randomly allocating adults with heart disease to either the intervention group or control group is to compare two groups to scientifically assess whether the Mind your Heart intervention is effective in improving health behaviours.

If you are in the intervention group, you will be presented with premeasures, the Mind your Heart webinar and the post measures all online.

If you are randomly allocated into the control group, you will be presented with pre and post online questionnaires only without the Mind your Heart webinar in between measures.

The psychological intervention is a 50-minute online webinar called Mind your Heart covering basic topics on living with heart disease and keeping the heart healthy, Acceptance and Commitment Therapy activities and further non-medical support. Both project supervisors, Dr Tara Kidd and Dr Mark Forshaw, have reviewed the intervention for quality assurance through frequent and regular supervision meetings and written feedback. They are both HCPC Registered Health Psychologists with many years' experiences. During the webinar, you will be asked to set yourself a SMART goal of a health behaviour you'd like to achieve in two-weeks. You will be asked about this at post-measures.

In addition, a sample of 10 participants that took part in the Mind your Heart intervention group will be invited to share their experiences and feedback on a 30–60-minute Microsoft Teams call which will be audio recorded. This aims to help improve the intervention for future use with heart disease patients.

2. Why have I been invited to participate?

You have been invited because you are an adult in the UK who is living with managed and stable heart disease. This means that your symptoms are under control by medication and there is no onset of new or worsening symptoms associated with heart disease for more than six-months prior to the study.

You may also have received surgery for your heart disease such as a having a stent fitted by angioplasty or a coronary artery bypass graft. Your surgery must have been more than six-months prior to the study and followed usual procedure without complications that increased the length of recovery and the risk of death.

Exclusion criteria – please see checklist below.

To take part in the study you must tick **ALL 3** statements in the column on the left side, and you must **NOT** be able to tick **ANY** statements in the right-hand column.

Eligible to take part in the study 	**Not eligible for the study** 
You can tick **ALL** three statements:	If you tick one or more of these statements:
1. I am an adult over the age of 18 years old living in the UK.	• I am under the age of 18. • I do not live in the UK.
2. I have had a single heart attack more than 6 months ago with no repeat event.	• I have had a heart attack in the last 6 months.
3. I have received angioplasty procedure where the blocked arteries around the heart were opened up and fitted with a wire mesh (stent). **- OR -** Had open heart surgery (coronary artery bypass surgery) where the blood flow is redirected around the blocked arteries.	• I have had more than one heart attack. • I have had a cardiac arrest (where my heart stopped, I was unconscious, and I was resuscitated). • I have had a heart transplant.
IF YOU TICK ALL 3 of the above you may or may not have one or more of the following criteria.	• I have been diagnosed with valve disorders or a rare heart disease.
1. Stable angina (chest pain and breathlessness) diagnosed more than 6 months ago where it is predictable and easily controlled by rest or two doses of glycerol trinitrate (GTN) spray medication.	• I have stage 4 heart failure where my activity is severely limited due to breathlessness and fatigue even at rest.
2. Arrythmias (irregular heartbeat) diagnosed more than 6 months ago where it is under control from medication, a pacemaker, or an implantable defibrillator.	• I have a new diagnosis of unstable angina (chest pain and breathlessness) within the past 6 months that is not predictable.
3. Stable high blood pressure diagnosed more than 6 months ago where it is within a constant healthy range of 120/80 – 140/90. It is under control by medication.	• I have a new diagnosis of arrythmia (irregular heartbeat), and I have had an episode within the past 6 months. • I have a new diagnosis of high blood pressure that is regularly more than 140/90.
4. Stable type 1 or type 2 diabetes diagnosed more than 6 months ago where blood sugar is within a constant healthy range of 4-8.5 mmol/l. It is under control by medication or diet.	• I have a new diagnosis of type 1 or type 2 diabetes and my blood sugar is regularly outside of the of 4-8.5 mmol/l and I have had a hypoglycaemic/hyperglycaemic episode in the past 6 months. • I have a new viral infection within the past 2 weeks of the study such as the common cold or flu and including COVID-19 and variants.

3. Do I have to take part?

No. You can ask questions about the research before deciding whether to take part. If you do not want to take part that is OK. We will ask you to sign a consent form to take part in the pre-screening to find out if you are eligible to join the study and we will send you a copy to your email address for you to keep.
If you are eligible to take part in the study, we will ask you to sign an additional consent form to take part in the full study for which a copy will be emailed to you by the email address you provide.

You can stop being part of the study at any time or skip any question you do not want to answer, without giving a reason, but we will keep information about you that we already have. You may withdraw from the study by contacting me or by pressing the 'Exit' button and closing the browser or by notifying the researcher during the Teams call.

4. What will happen to me if I take part?

Taking part in the study involves answering an online pre-screening questionnaire, 6 prequestionnaires including a demographic questionnaire watching a 50-minute webinar and answering the same questionnaires including an additional post questionnaire online two weeks later.

Prequestionnaires:

1. Demographic questionnaire including a question on health value
2. The Brief Illness Perception Questionnaire (Broadbent et al., 1986)
3. The Illness Identity Questionnaire (Oris et al., 2016)
4. The Acceptance and Action Questionnaire (Bond et al., 2011)
5. The International Physical Activity Questionnaire (Maddison et al., 2007)
6. The Short Food Frequency Questionnaire (Shaw et al., 2007)

Postquestionnaires:

7. The Brief Illness Perception Questionnaire (Broadbent et al., 1986)
8. The Illness Identity Questionnaire (Oris et al., 2016)
9. The Acceptance and Action Questionnaire (Bond et al., 2011)
10. The Short Food Frequency Questionnaire (Shaw et al., 2007)
11. The International Physical Activity Questionnaire (Maddison et al., 2007)
12. SMART goal and feedback of Mind your Heart webinar questionnaire (for intervention group A only).

After you answer the pre-screening questionnaire to make sure it is safe for you to take part, you will be randomly allocated into either intervention group A or control group B.

If you are in the intervention group A, you will gain access to the prequestionnaires and the Mind your Heart online webinar via a link sent to your email address which will take approximately 90 minutes to complete. You will then be emailed again and be asked to complete the post questionnaires online two weeks later which will take 30 minutes.

If you are in the control group B, you will complete the pre and post measures online and it will take roughly 1 hour. You will be sent the Mind your Heart webinar via email to watch outside of the study after post questionnaires have been taken.

If you are in the intervention group A, you will be invited to share your experiences of the study on a 30– 60-minute Microsoft Teams call with the researcher which will be audio recorded and transcribed. You can turn off my camera during the call and even if you have the camera switched on, your face will not be recorded. You can skip any question you do not want to answer.

For more information of the step-by-step process, please see Table 1 below.

The intervention will take place online on a platform called Qualtrics and should take approximately 90- 150 minutes to complete over a two-week period. You will be offered regular breaks as necessary. You do **not** need an account to access Qualtrics, but you do need to provide your email address to receive the links to the study. You can also ask to pause or stop the intervention at any time. Please remember, you have the right to decline to answer any questions you do not want to.

The follow up interview will take place with a sample of 10 participants and should take approximately 30-60 minutes to complete. You do **not** need an account to access Microsoft Teams, you can join the call from any mobile or computer device connected to the internet. You will be offered regular breaks as necessary. You can also ask to pause or stop the Teams call at any time. Please remember, you have the right to decline to answer any questions you do not want to. Not all participants will be asked to take part in the follow-up interview, you will only be invited to take part in this stage if you were in the intervention group A.

The questionnaires include questions that will ask you about your demographic status, your heart condition and your wellbeing which might be considered sensitive.

Table 1. Detailed step by step process of the study.

Session 1	**Session 2**	**Session 3**	**Session 4 GROUP A ONLY**
1. Read the study information consent to pre-screening. 2. Check your eligibility with a pre-screening questionnaire. 3. Read and sign the consent form if you are happy to continue and you are eligible to join the study. 4. You will be randomly assigned to either **group A** or **group B** and will be asked to input your email address. 5. You will then receive an email with the study information, a copy of your signed consent and a link to the study and any supplementary materials.	6. Clicking on the link sent to your email address, find a quiet space where you will not be disturbed and complete the 5 questionnaires on screen using your Smartphone or computer device. You can skip any questions you do not want to answer. **GROUP A:** 8. (i). Once you have completed the questionnaires on screen, the two-hour Mind your Heart webinar will be available to watch. (ii). After you have watched the webinar, you can close the programme and refer to any supplementary materials sent in the first email containing the study link and participant information and a copied of the signed consent. **GROUP B:**	16. You will be sent an email in 14 days after completing session 2 with a link to session 3 of the study. 17. Clicking on the link, you will be directed to the same 5 questionnaires completed in session 2. **Group A** will be asked an additional short questionnaire on your SMART goal you set yourself at the end of the webinar. **GROUP A:** 18. Once complete, you will be directed to an online booking system where you can choose to take part in an optional session 4 of the study which is a follow-up 30–60-minute Microsoft Teams call with the researcher to share your experiences of the study and to provide feedback on improvements. You can either book a timeslot for the optional session 4 or close the programme to end the study at this stage. **GROUP B:** 11. Once complete, you will be emailed a link to the Mind your Heart webinar and any supplementary materials for you to watch in your own time.	21. If you booked a time slot for the follow-up Teams call to share your experiences of the study with the researcher, you have consented to be part of the optional session 4. 22. You will be called within your allotted time slot. 17a. If there is no answer on the first attempt, you will be sent a text to rearrange a time and date. If you do not answer after the second attempt, you will not be contacted again. 17b. If you take part in the 30–60-minute Teams call, it will be recorded and transcribed to be used in the final report under a fake name to protect confidentiality. You have the option to turn off your camera so that only your voice is recorded. 20. You will then be sent a debrief form via email outlining the purpose of the study and support services available.

	8. (i). Once you have completed the questionnaires on screen, you can close the programme.	19. You will be emailed a debrief form outlining the purpose of the study and support services available. 20. **Both groups A and B** will also be entered into the first prize draw of a £25 Amazon voucher to be announced after data collection.	21. **If you agreed to take part in the phone call,** you will also be entered into a second prize draw of a £25 Amazon gift voucher to be announced after data collection.
Total time = 5 minutes	Total time = 30-90 minutes	Total time = 30 minutes	Total time = 30-60 minutes

5. Will I be audio recorded and how will the recorded media be used?

You will only be asked to be audio recorded if you were allocated to the experimental group A and agreed to take part in the follow up Microsoft Teams call after watching the Mind your Heart online webinar.

You are free to decline to be audio recorded. You should be comfortable with the audio recording process, and you are free to stop the recording at any time whilst continuing to participate in the study.

The audio recording is essential to your participation in the follow up Teams call, but you should be comfortable with the audio recording process. You are free to stop the audio recording on the follow up telephone call at any time and therefore withdraw your participation.

With your consent, audio recordings taken of you on the Teams call may be used as transcribed quotations in the final report and any further outputs. Please notify the investigator if you require any restrictions on the use or availability of recordings at the time or in the future.

The audio recordings of your activities made during this study will be used only for analysis. No other use will be made of them without your written permission.

6. Are there any potential risks in taking part?

Participating in the research is not anticipated to cause you any disadvantages or discomfort. The potential physical and/or psychological harm or distress will be the same as any experienced in everyday life

Questions included in this study require participants to reflect in their wellbeing. If you feel worried or in low mood, we would like to point out that there are several sources of advice or help which are free and readily available to you and which may provide useful. Specifically, these include:

The Samaritans
Open 24 hours a day 365 days a year. Call for free on 116123 or visit their website below:
https://www.samaritans.org/how-we-can-help/if-youre-having-difficult-time/

Mind
Open 9-5pm Monday-Friday. Call for free on 0300 123 3393 or visit their website below:
https://www.mind.org.uk/

British Heart Foundation
Open 9-5 Monday to Friday. Call for free on 0300 330 3311 or visit their website below:
https://www.bhf.org.uk/

NHS Mental Health Services
For more information or services in your area, visit their website below:
https://www.nhs.uk/mental-health/nhs-voluntary-charity-services/nhs-services/

If participation in this study has negative effects on you; please seek help and advice from support services such as:

The Samaritans
Open 24 hours a day 365 days a year. Call for free on 116123 or visit their website below:
https://www.samaritans.org/how-we-can-help/if-youre-having-difficult-time/

Mind
Open 9-5pm Monday-Friday. Call for free on 0300 123 3393 or visit their website below:
https://www.mind.org.uk/

Risks of harm may be apparent as a consequence of you being identifiable in reports and any further outputs. The risks might include data breach from online criminal hacking. These risks will be mitigated by storing all personal data on LJMU's secure drive with advanced security and password protection. Please do not participate if these risks are unacceptable to you.

The procedures involved in this study may be emotionally stressful – this may manifest as memories of your heart attack. You should not participate if you do not wish to be emotionally stressed.

Possible side effects include emotional stress. If you experience these or any other side effects, please stop the intervention immediately and inform the investigator if you experience these or any other side effects.

7. Are there any benefits in taking part?

The benefits of taking part are increased sense of wellbeing and new health behaviours such as diet, exercise changes.

The potential or hoped for benefits of the study for the wider society are that people living with heart disease can receive psychological intervention to improve health and reduce risk of having a secondary cardiac event.

8. Payments, reimbursements of expenses or any other benefit or incentive for taking part

For taking part in the intervention and completing both pre and post questionnaires in both the control and experimental groups, you will be entered into a prize draw to win a £25 Amazon gift voucher.

If you are in the experimental group, for agreeing to take part in the follow-up telephone call, you will also be entered into a second prize draw to win an additional £25 Amazon gift voucher.

Winners will be contacted via email.

Unfortunately, we cannot reimburse any expenses you may incurred.

9. What will happen to information/data provided?

The information you provide as part of the study is the **study data**. Any study data from which you can be identified (e.g., from identifiers such as your name, date of birth, audio recording etc.), is known as **personal data.** Your participation in this study will not involve the collection/use of personal data by the investigator. Your participation in this study will involve the collection/use of personal data. The study data collected/used will include more sensitive categories of personal data (special category personal data) such as your race; ethnic origin; socioeconomic status; religion and health.

We will need to use information from you. This information will include your name and contact details.

We will keep all information about you safe and secure. People who do not need to know who you are will not be able to see your name and contact details and the data.

Once we have finished the study, we will keep some of the data for 6 months so we can check the results.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

The IP address will not be recorded, and we will not attempt to capture the IP address or any other information that is not voluntarily provided.

Data may be stored on backups or server logs beyond the timeframe of this study.

The online provider may collect personal data (e.g., via the IP address, backups of study data). This makes them a data controller with respect to personal data and, as such, will determine how personal data is used. Please see their privacy notice here https://www.qualtrics.com/privacy-statement/

Although every reasonable effort has been taken, confidentiality during actual internet communication procedures cannot be guaranteed.

Email is an unsafe form of communication for private responses. This is because email can be easily hacked. Therefore, you should only take part in the study if you are prepared for your responses to be made public, even though the research write-up will not link any responses to individuals.

Personal data will be returned indirectly to the investigator; therefore, whilst the data is not in the investigator's possession, the investigator will be unable to control access to your personal data. It is possible that if someone other than the investigator viewed the personal data, that you could be disadvantaged in some way. You should not participate if this risk is not acceptable to you.

Before your personal data is transferred to secure storage there is the possibility that the investigator could lose control of authorised access. We will take steps to mitigate the risk of your personal data being viewed by someone outside of the study team by [investigators to provide details]. You should not participate if this risk is not acceptable to you.

Your personal data may be accessible to individuals who are in a position of authority or influence over you. If you think that you could be disadvantaged in some way you should not participate if this risk is not acceptable to you.

We will write our reports in a way that no-one can work out that you took part in the study.

Please note that confidentiality may not be guaranteed; for example, due to the limited size of the participant sample, the position of the participant or information included in reports, participants might be indirectly identifiable in transcripts and reports. The investigator will work with the participant in an attempt to minimise and manage the potential for indirect identification of participants.

The Investigator will keep confidential anything they learn or observe related to illegal activity unless related to the abuse of children or vulnerable adults, money laundering or acts of terrorism. In certain exceptional circumstances where you or others may be at significant risk of harm, the investigator may need to report this to an appropriate authority. This would usually be discussed with you first. Examples of those exceptional circumstances when confidential information may have to be disclosed are:

- The investigator believes you are at serious risk of harm, either from yourself or others
- The investigator suspects a child may be at risk of harm
- You pose a serious risk of harm to, or threaten or abuse others
- As a statutory requirement e.g., reporting certain infectious diseases
- Under a court order requiring the University to divulge information
- We are passed information relating to an act of terrorism

10. Whom do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please contact *Alex Robson* or *Dr Mark Forshaw* and we will do our best to answer your query. You should expect a reply within 10 working days. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at Liverpool John Moores University who will seek to resolve the matter as soon as possible:
Chair, Liverpool John Moores University Research Ethics Committee; Email: FullReviewUREC@ljmu.ac.uk; Tel: 0151 231 2121; Research Innovation Services, Liverpool John Moores University, Exchange Station, Liverpool L2 2QP

11. Data Protection

Liverpool John Moores University is the data controller with respect to your personal data. Information about your rights with respect to your personal data is available from:

- https://www.ljmu.ac.uk/legal/privacy-and-cookies/external-stakeholders-privacy-policy/research-participants-privacy-notice

12. Contact details

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

Please note that you may only participate in this survey if you are 18 years of age or over.
☐ I certify that I am 18 years of age or over
If you have read the information above and agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please tick the box below to start.
☐ Yes, I agree to take part

Appendix E3: Gatekeeper information and consent form sent to cardiac rehabilitation instructors that run phase four community groups across the UK.

GATEKEEPER INFORMATION SHEET

My name is *Alex Robson,* and I am a professional doctorate student in the School of Psychology at Liverpool John Moores University. I am the principal investigator of the study:

Title of Project: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

Research Ethics Committee Reference Number: 21/PSY/040

1. **What is the reason for this information email?**
   You have been identified as a gatekeeper to individuals whom we would like to invite to participate in a research study (A gatekeeper is any person or institution that acts as an intermediary between an investigator and potential participants (e.g., school authorities, sports club, treatment service providers, a coach, instructor etc.)

2. **What is the study?**
   The aims of this study are to compare whether a one-off psychological intervention will positively change the way 50 people perceive their heart disease, to change health behaviours and improve psychological flexibility two weeks after the intervention against a control group. The psychological intervention is a 50 minutes online webinar called Mind your Heart covering basic topics on living with heart disease and keeping the heart healthy, Acceptance and Commitment Therapy activities and further non-medical support. During the webinar, the participant will be asked to set yourself a SMART goal of a health behaviour they'd like to achieve in two-weeks. They will be asked about this at post-measures.

   The purpose of randomly allocating adults with heart disease to either the intervention group or control group is to compare two groups to scientifically assess whether the Mind your Heart intervention is effective in improving health behaviours.

   If they are in the intervention group, they will be presented with premeasures, the Mind your Heart webinar and the post measures all online.

   If they are randomly allocated into the control group, they will be presented with pre and post online questionnaires only without the Mind your Heart webinar in between measures.

   In addition, a sample of 10 participants that took part in the Mind your Heart intervention will be invited to share their experiences and feedback on a 30–60-minute Microsoft Teams call which will be audio recorded. This aims to help improve the intervention for future use with heart disease patients.

   This study is organised by Liverpool John Moores University.

3. **Who are the participants?**
   We are looking to recruit adults in the UK living with managed stable heart disease. Their symptoms must be under control by medication with no onset of new or worsening symptoms associated with heart disease for 6 months prior to the study. Please see below for eligibility criteria.

To take part in the study you must tick **ALL 3** statements in the column on the left side, and you must **NOT** be able to tick **ANY** statements in the right-hand column.

Eligible to take part in the study 	**Not eligible for the study** 
You can tick **ALL** three statements:	If you tick one or more of these statements:
4. I am an adult over the age of 18 years old living in the UK.	• I am under the age of 18. • I do not live in the UK. • I have had a heart attack in the last 6 months. • I have had more than one heart attack. • I have had a cardiac arrest (where my heart stopped, I was unconscious, and I was resuscitated). • I have had a heart transplant. • I have been diagnosed with valve disorders or a rare heart disease. • I have stage 4 heart failure where my activity is severely limited due to breathlessness and fatigue even at rest. • I have a new diagnosis of unstable angina (chest pain and breathlessness) within the past 6 months that is not predictable. • I have a new diagnosis of arrythmia (irregular heartbeat), and I have had an episode within the past 6 months. • I have a new diagnosis of high blood pressure that is regularly more than 140/90. • I have a new diagnosis of type 1 or type 2 diabetes and my blood sugar is regularly outside of the of 4-8.5 mmol/l and I have had a hypoglycaemic/hyperglycaemic episode in the past 6 months. • I have a new viral infection within the past 2 weeks of the study such as the common cold or flu and including COVID-19 and variants.
5. I have had a single heart attack more than 6 months ago with no repeat event.	
6. I have received angioplasty procedure where the blocked arteries around the heart were opened up and fitted with a wire mesh (stent). **- OR -** Had open heart surgery (coronary artery bypass surgery) where the blood flow is redirected around the blocked arteries.	
IF YOU TICK ALL 3 of the above you may or may not have one or more of the following criteria.	
5. Stable angina (chest pain and breathlessness) diagnosed more than 6 months ago where it is predictable and easily controlled by rest or two doses of glycerol trinitrate (GTN) spray medication.	
6. Arrythmias (irregular heartbeat) diagnosed more than 6 months ago where it is under control from medication, a pacemaker, or an implantable defibrillator.	
7. Stable high blood pressure diagnosed more than 6 months ago where it is within a constant healthy range of 120/80 – 140/90. It is under control by medication.	
8. Stable type 1 or type 2 diabetes diagnosed more than 6 months ago where blood sugar is within a constant healthy range of 4-8.5 mmol/l. It is under control by medication or diet.	

4. What is involved for the participants?

Taking part in the study involves answering an online pre-screening questionnaire, 6 prequestionnaires watching a 50-minute webinar and answering the same questionnaires including an additional post questionnaire online two weeks later.

Prequestionnaires:

1. Demographic questionnaire including
2. The Brief Illness Perception Questionnaire (Broadbent et al., 1986)
3. The Illness Identity Questionnaire (Oris et al., 2016)
4. The International Physical Activity Questionnaire (Maddison et al., 2007)
5. The Acceptance and Action Questionnaire (Bond et al., 2011)
6. The Short Food Frequency Questionnaire (Shaw et al., 2007)

Postquestionnaires:

7. The Brief Illness Perception Questionnaire (Broadbent et al., 1986)
8. The Illness Identity Questionnaire (Oris et al., 2016)
9. The Acceptance and Action Questionnaire (Bond et al., 2011)
10. The Short Food Frequency Questionnaire (Shaw et al., 2007)
11. The International Physical Activity Questionnaire (Maddison et al., 2007)
12. SMART goal and feedback of Mind your Heart webinar questionnaire (for intervention group A only).

After the participant answers the pre-screening questionnaire to make sure it is safe to take part, they will be randomly allocated into either intervention group A or control group B.

If they are in the intervention group A, they will gain access to the prequestionnaires and the 50-minute Mind your Heart online webinar via a link sent to their email address which will take approximately 90 minutes to complete. They will then be emailed again and be asked to complete the post questionnaires online two weeks later which will take 30 minutes.

If they are in the control group B, they will complete the pre and post measures online and it will take roughly 1 hour. They will be sent the Mind your Heart webinar via email to watch outside of the study after post questionnaires have been taken.

If the participants are in the intervention group A, they will be invited to share their experiences of the study on a 30–60-minute Microsoft Teams call with the researcher which will be audio recorded and transcribed. They can turn off my camera during the call and even if they have the camera switched on, their face will not be video recorded. Quotations of this conversation will be used under a pseudonym in the final report.

For more information of the step-by-step process, please see Table 1 below.

The intervention will take place online on a programme called Qualtrics and should take approximately 90 – 150 minutes to complete over a two-week period. The participants do **not** need an account to access Qualtrics, but they do need to provide their email address to receive the links to the study. Participants will be offered regular breaks as necessary. They can also ask to pause or stop the intervention at any time. They have the right to decline to answer any questions they do not want to.

The follow up interview will take place with a sample of 10 participants and should take approximately 30-60 minutes to complete. Participants do **not** need an account to access Microsoft Teams, they can join from

any mobile or computer device connected to the internet. They will be offered regular breaks as necessary. They can also ask to pause or stop the Teams call at any time. They have the right to decline to answer any questions you do not want to. Not all participants will be asked to take part in the follow- up interview, they will only be invited to take part in this stage if you were in the intervention group A.

Session 1	**Session 2**	**Session 3**	**Session 4 GROUP A ONLY**
1. Read the study information consent to pre-screening. 2. Check your eligibility with a pre-screening questionnaire. 3. Read and sign the consent form if you are happy to continue and you are eligible to join the study. 4. You will be randomly assigned to either **group A** or **group B** and will be asked to input your email address. 5. You will then receive an email with the study information, a copy of your signed consent and a link to the study and any supplementary materials.	6. Clicking on the link sent to your email address, find a quiet space where you will not be disturbed and complete the 5 questionnaires on screen using your Smartphone or computer device. You can skip any questions you do not want to answer. **GROUP A:** 8. (i). Once you have completed the questionnaires on screen, the two-hour Mind your Heart webinar will be available to watch. (ii). After you have watched the webinar, you can close the programme and refer to any supplementary materials sent in the first email containing the study link and participant information and a copied of the signed consent. **GROUP B:** 8. (i). Once you have completed the questionnaires on screen, you can close the programme.	23. You will be sent an email in 14 days after completing session 2 with a link to session 3 of the study. 24. Clicking on the link, you will be directed to the same 5 questionnaires completed in session 2. **Group A** will be asked an additional short questionnaire on your SMART goal you set yourself at the end of the webinar. **GROUP A:** 25. Once complete, you will be directed to an online booking system where you can choose to take part in an optional session 4 of the study which is a follow-up 30–60-minute Microsoft Teams call with the researcher to share your experiences of the study and to provide feedback on improvements. You can either book a timeslot for the optional session 4 or close the programme to end the study at this stage. **GROUP B:** 11. Once complete, you will be emailed a link to the Mind your Heart webinar and any supplementary materials for you to watch in your own time. 26. You will be emailed a debrief form outlining the purpose of the study and support services available. 27. **<u>Both groups A and B</u>** will also be entered into the first prize draw of a £25 Amazon voucher to be announced after data collection.	28. If you booked a time slot for the follow-up Teams call to share your experiences of the study with the researcher, you have consented to be part of the optional session 4. 29. You will be called within your allotted time slot. 17a. If there is no answer on the first attempt, you will be sent a text to rearrange a time and date. If you do not answer after the second attempt, you will not be contacted again. 17b. If you take part in the 30–60-minute Teams call, it will be recorded and transcribed to be used in the final report under a fake name to protect confidentiality. You have the option to turn off your camera so that only your voice is recorded. 22. You will then be sent a debrief form via email outlining the purpose of the study and support services available. 23. **<u>If you agreed to take part in the phone call,</u>** you will also be entered into a second prize draw of a £25 Amazon gift voucher to be announced after data collection.
Total time = 5 minutes	Total time = 30-90 minutes	Total time = 30 minutes	Total time = 30-60 minutes

5. **What are we asking you to do?**
    - Review the study procedures associated with safeguarding the participants and the investigator[s] (If you recommend amendments to the study procedures, the investigator will obtain LJMU Research Ethics Committee approval for the amendments before the study commences).
    - Review the study protocol to help ensure the research will fit in with the activities of the organisation (If you recommend amendments to the study protocol, the investigator will obtain LJMU Research Ethics Committee approval for the amendments before the study commences)
    - Identify individuals who fit the inclusion criteria detailed above who might be interested in participating.
    - On behalf of the investigator, make the initial contact with the potential participants using the contact details to which you have legitimate access and send the participant recruitment email AND participant information sheet which are attached to this gatekeeper information email.
    - On behalf of the investigator, make the initial contact with the potential participants by handing the participant recruitment covering letter and participant information sheet which are attached to this gatekeeper information email.
    - On behalf of the investigator, make the initial contact with the potential participants using the private social media site to which you have legitimate access and post the participant recruitment advert that is attached to this gatekeeper information email.
    - Display the poster, which is attached to this gatekeeper information sheet.

6. **If you are willing and able to assist in the study what happens next?**
   Please return the completed gatekeeper consent form and make arrangements with the investigator.

7. **Will the name of my organisation taking part in the study be kept confidential?**
   Your confidentiality is being safeguarded during and after the study by data protection protocols. We will keep the name of the organisation confidential and there will be no way of identifying the name of your organisation from the data and final report.

8. **Whom do I contact if I have a concern about the study or I wish to complain?**
   If you have a concern about any aspect of this study, please contact and we will do our best to answer your query. You should expect a reply within 10 working days. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at Liverpool John Moores University who will seek to resolve the matter as soon as possible:
   Chair, Liverpool John Moores University Research Ethics Committee; Email: FullReviewUREC@ljmu.ac.uk; Tel: 0151 231 2121; Research Innovation Services, Liverpool John Moores University, Exchange Station, Liverpool L2 2QP

9. **Contact details**
   Should you have any comments or questions regarding this research, please contact the investigators:

Research Ethics Committee Reference Number: 21/PSY/040

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

GATEKEEPER CONSENT FORM

Research Ethics Committee Reference Number: 21/PSY/040

:

Study title: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

Please initial the boxes below where you agree with the corresponding statement.

		Please initial
	I confirm that I have read the information sheet dated 29/10/2021 (version 1) for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I have the authority to act as a gatekeeper between the investigator[s] and participants.	
3.	I am satisfied with the study procedures associated with safeguarding participants and investigator[s]	
4.	I am satisfied for the research to proceed as described	
5.	I agree to identify potential participants as requested	
6.	I agree to display the study information to potential participants as requested	
7.	I agree to email and speak to potential participants in person on behalf of the investigator as requested: - I will mention and display the study information and poster during cardiac rehabilitation sessions for potential participants to sign up to if they choose. - I will circulate the study information via email to participants who may be interested in taking part.	
8.	I agree to comply with UK data protection legislation	

Name of Gatekeeper: Date: Signature:

Name of Investigator: Date: Signature:
Alex Robson

Appendix E4: Pre-screening for the online study

Pre-screening questions

I have read the information sheet provided and I am happy to participate in pre-screening to see if I am eligible to join the study. I understand that by completing and returning this questionnaire I am consenting to check my eligibility for the study only and for my data to be used as described in the information sheet provided. I understand that If I am eligible, I will be asked to complete a separate consent form before joining the full study

I am over the age of 18 YES/NO

If NO, not eligible for the study.

Adapted American Association of Cardiovascular and Pulmonary Rehabilitation risk stratification.

To take part in the study you must tick **ALL 3** statements in the column on the left side, and you must **NOT** be able to tick **ANY** statements in the right-hand column.

Eligible to take part in the study 	**Not eligible for the study** 
You can tick **ALL** three statements:	If you tick one or more of these statements:
7. I am an adult over the age of 18 years old living in the UK.	• I am under the age of 18. • I do not live in the UK. • I have had a heart attack in the last 6 months. • I have had more than one heart attack. • I have had a cardiac arrest (where my heart stopped, I was unconscious, and I was resuscitated). • I have had a heart transplant. • I have been diagnosed with valve disorders or a rare heart disease. • I have stage 4 heart failure where my activity is severely limited due to breathlessness and fatigue even at rest. • I have a new diagnosis of unstable angina (chest pain and breathlessness) within the past 6 months that is not predictable. • I have a new diagnosis of arrythmia (irregular heartbeat), and I have had an episode within the past 6 months.
8. I have had a single heart attack more than 6 months ago with no repeat event.	
9. I have received angioplasty procedure where the blocked arteries around the heart were opened up and fitted with a wire mesh (stent). - **OR** - Had open heart surgery (coronary artery bypass surgery) where the blood flow is redirected around the blocked arteries.	
IF YOU TICK ALL 3 of the above you may or may not have one or more of the following criteria.	
9. Stable angina (chest pain and breathlessness) diagnosed more than 6 months ago where it is predictable and easily controlled by rest or two doses of glycerol trinitrate (GTN) spray medication.	
10. Arrythmias (irregular heartbeat) diagnosed more than 6 months ago where it is under control from medication, a pacemaker, or an implantable defibrillator.	
11. Stable high blood pressure diagnosed more than 6 months ago where it is within a constant healthy range of 120/80 – 140/90. It is under control by medication.	

12. Stable type 1 or type 2 diabetes diagnosed more than 6 months ago where blood sugar is within a constant healthy range of 4-8.5 mmol/l. It is under control by medication or diet.	• I have a new diagnosis of high blood pressure that is regularly more than 140/90. • I have a new diagnosis of type 1 or type 2 diabetes and my blood sugar is regularly outside of the of 4-8.5 mmol/l and I have had a hypoglycaemic/hyperglycaemic episode in the past 6 months. • I have a new viral infection within the past 2 weeks of the study such as the common cold or flu and including COVID-19 and variants.

I can tick all 3 statements in the top left column and none from the right column. I can tick one or more statements from the right column

If "I can tick one or more statements from the right column" is selected, not eligible for the study.

Appendix E5: All measures used pre and post intervention.

Pre and post questionnaires Demographic Questionnaire

1. What is your age?
2. Please select your gender
3. Please select your ethnicity
4. Please select your highest level of qualification
5. Please select your occupation category
6. Please select your marital status
7. Do you have diabetes
8. Do you have a diagnosed mental health condition?

The Brief Illness Perceptions Questionnaire - (Broadbent et al., 2006)

The Brief Illness Perception Questionnaire

For the following questions, please circle the number that best corresponds to your views:

How much does your illness affect your life?										
0 no affect at all	1	2	3	4	5	6	7	8	9	10 severely affects my life
How long do you think your illness will continue?										
0 a very short time	1	2	3	4	5	6	7	8	9	10 forever
How much control do you feel you have over your illness?										
0 absolutely no control	1	2	3	4	5	6	7	8	9	10 extreme amount of control
How much do you think your treatment can help your illness?										
0 not at all	1	2	3	4	5	6	7	8	9	10 extremely helpful
How much do you experience symptoms from your illness?										
0 no symptoms at all	1	2	3	4	5	6	7	8	9	10 many severe symptoms
How concerned are you about your illness?										
0 not at all concerned	1	2	3	4	5	6	7	8	9	10 extremely concerned
How well do you feel you understand your illness?										
0 don't understand at all	1	2	3	4	5	6	7	8	9	10 understand very clearly
How much does your illness affect you emotionally? (e.g. does it make you angry, scared, upset or depressed?										
0 not at all affected emotionally	1	2	3	4	5	6	7	8	9	10 extremely affected emotionally
Please list in rank-order the three most important factors that you believe caused <u>your illness</u>. *The most important causes for me:-*										
1. _____										
2. _____										
3. _____										

Illness Identity Questionnaire – (Oris et al., 2010) Rate each item using the scale below

1. **= strongly disagree**
2. **= disagree**
3. **= neither agree nor disagree**
4. **= agree**
5. **Strongly agree**

Engulfment items

16. My condition completely consumes me.
15. My condition influences all my thoughts and feelings.
17. It seems as if everything I do is influenced by my condition.
13. My condition has a strong impact on how I see myself.
12. My condition dominates my life.
19. My condition limits me in many things that are important to me.

14. I am preoccupied with my condition.
18. My condition prevents me from doing what I would really like to do.

Rejection items

5. I just avoid thinking about my condition.
2. I'd rather not think of my condition.
1. I refuse to see my condition as part of myself.
4. I hate being talked to about my condition.
3. I never talk to others about my condition.

Acceptance items

9. I am able to place my condition in my life.
8. I accept being a person with condition.
11. I have learned to accept the limitations imposed by my condition.
7. My condition is part of who I am.
6. My condition simply belongs to me as a person.
10. I have a clear picture or understanding of my condition.

Enrichment items

22. Because of my condition, I have become a stronger person.
23. Because of my condition, I realize what is really important in life.
26. Because of my condition, I have learned to work through problems and not just give up.
20. Because of my condition, I have grown as a person.
27. Because of my condition, I have learned to enjoy the moment more.
24. Because of my condition, I have learned a lot about myself.
21. Because of my condition, I know what I want out of life.
25. My condition has brought me closer to my friends and family.

The Acceptance and Action Questionnaire - (Bond et al., 2011).

The Acceptance and Action Questionnaire (AAQ-2)

This is perhaps the most commonly used measure of psychological flexibility that you can find. It has been cited over 2000 times in scientific publications, and we generally know what it's scores mean. My colleagues and I developed the original AAQ (Hayes et al., 2004) as well as the updated version presented below (Bond et al., 2011). You can use it weekly or biweekly to track how you are doing with applying psychological flexibility skills in your daily life.

Don't worry about trying to get to a "perfect" score. Use this number as a way to keep track of changes in your life over time. As you apply what you learned in *A Liberated Mind*, your psychological flexibility will improve.

AAQ-2

Below you will find a list of statements. Please rate how true each statement is for you by selecting a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1.	My painful experiences and memories make it difficult for me to live a life that I would value.	1 2 3 4 5 6 7
2.	I'm afraid of my feelings.	1 2 3 4 5 6 7
3.	I worry about not being able to control my worries and feelings.	1 2 3 4 5 6 7
4.	My painful memories prevent me from having a fulfilling life.	1 2 3 4 5 6 7
5.	Emotions cause problems in my life.	1 2 3 4 5 6 7
6.	It seems like most people are handling their lives better than I am.	1 2 3 4 5 6 7
7.	Worries get in the way of my success.	1 2 3 4 5 6 7

Short Food Frequency Questionnaire - (Shaw et al., 2021).

Short Food Frequency Questionnaire

Adolescents aged 11-18 years

In this section we would like to know about some of the foods you eat and how often you eat them. Please tick one box in each row.

Think about the foods you have eaten in the past **TWO WEEKS**

Over the past month how many times have you eaten…	Never	Once a Month	Once every two weeks	1-2 Times per Week	3-6 Times per Week	Once a day	More than once a day
Apples and Pears not canned [Including raw, baked, stewed, dried]							
Other fruit (Not canned, not citrus, not apples and pears, and not bananas) e.g. grapes, plums, berries, mango, pineapple							
Nuts and Seeds e.g. cashew nuts, coconut, salted peanuts, nut butters, tahini, pumpkin seeds							
Crisps and savoury snacks (Include all potato based snacks and grain based snacks e.g. pretzels, popcorn (not sweet), tortilla chips)							
Salad and other raw vegetables (Including all types of raw vegetables. Purchased or homemade) e.g. side salad, coleslaw, guacamole							
Beans, lentils and chickpeas (Not baked beans) (Include dishes based on lentils, dried beans and pulses) e.g. kidney beans, black beans, hummus, chickpea curry, bean stew							
Tomatoes (fresh, not cooked, not tinned)							
Leafy green vegetables (Include cooked and canned) e.g. spinach, kale, broccoli, cabbage, Brussels sprouts							
Baked beans (Include canned baked beans in sauce. Including baked beans with additions e.g. sausages)							

Other vegetable dishes (Cooked vegetable dishes usually forming a main meal) (Vegetable curries, casseroles and stews, vegetable pies, vegetable lasagne, vegetable stir-fry)							
Meat pies and pastries (Including sausage rolls, pasties, meat samosas)							
Burgers and kebabs (Purchased or takeaway burgers or kebabs)							
Breaded or battered chicken/ turkey products (Including fried chicken, nuggets, chicken kievs, chicken burgers)							
Chips (Include any types of purchased or takeaway chips e.g. frozen, oven, microwave, purchased from takeaway or restaurant)							
All types of white bread (Including French stick, white pitta bread, English muffins, plain bagels, white tortillas, white rolls)							
All types of 100% Wholemeal bread (Not granary) (Including wholemeal pitta bread, wholemeal bagels, wholemeal tortillas, wholemeal rolls)							
Whole "Blue-top" Milk (Whole cow's milk. Do not include any other types of milk)							
Sugar (Added by you to cereals, tea and coffee, and desserts) (Include sugar, golden syrup and maple syrup)							
Tap water (Not including water drank with squash)							
Fizzy drinks and Energy drinks (Not diet or low calorie)							
Added salt to my meals (Adding table salt, sea salt to food before you eat it)							

Post questionnaire only

SMART goal assessment self-report questionnaire

1. Did you complete the SMART goal you set yourself at the end of the webinar two weeks ago?

2. If not, why did you not complete it?

3. If you didn't achieve your SMART goal, were there any other changes you made to your health behaviours?

4. If so, what were they?

5. Please rate your experience in taking part in this study out of 10, 1 being not at all satisfied and 10 being extremely satisfied.

1 2 3 4 5 6 7 8 9 10

Appendix E6: Screenshots layout and content of the proposed Two-hour Mind your Heart brief online psychological intervention webinar to be viewed by participants in the intervention group.

Instructions recap:

- Webinar will play automatically and will take approximately two-hours.
- Use the navigation keys on screen or on your keyboard to:
  - continue to the next slide
  - go back to a previous slide
  - repeat the audio description on the slide
  - pause the webinar

Previous slide | Pause/resume audio | Replay audio | Next slide

- To stop the webinar, please use the red box marked with a cross on the upper right hand of the screen.
- If you close the webinar and would like to resume, you can reuse the link in your email.
- Remember you can pause or stop the webinar at any point if you feel uncomfortable.
- If you have any issues or queries about the webinar please email the lead researcher, Alex Robson.

LIVERPOOL JOHN MOORES UNIVERSITY

Researcher: Alex Robson
Email: a.robson@2018.ljmu.ac.uk
Supervisors: Dr Mark Forshaw and Dr Tara Kidd

SECTION A
An introduction to heart disease

SECTION B
Keeping your heart healthy

SECTION C
Learning to live with your condition

SECTION D
Actions and further support

British Heart Foundation

Section A
Introduction to heart disease

Basic anatomy of the human heart

The human heart works like a pump sending blood around your body to keep you alive.

It's a muscle, about the size of your fist, in the middle of your chest tilted slightly to the left.

The upper chambers are called the **left atrium** and the **right atrium** (or the atria).

The lower chambers are called the **left ventricle** and the **right ventricle**.

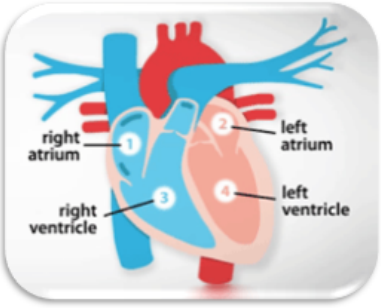
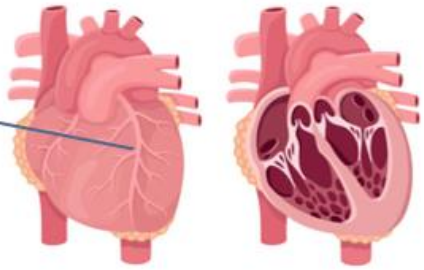


Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

The heart can only use the oxygen carried in the blood on he **outer walls** of the heart. This is supplied by **coronary arteries.**

It **cannot** use the oxygen and blood from inside its chambers.



Terminology

Coronary Heart Disease: sometimes known as *heart disease.* This is an umbrella term used to describe all of the different things that can go wrong with the heart resulting in it not working as well as it should.

Heart Failure: is the *diagnosis* of the level of impact of the heart not working as it should because of *heart disease*. There are levels of heart failure which depicts the impact on overall health and ability to move around without getting out of breath or feeling tired.

Cardiovascular Disease:
This is a term used to describe all the things that can go wrong with the heart *and* the blood vessels that carry blood around the body.

Blood clot blockages can occur in the blood vessels in the brain, this is known as **stroke.**

Stroke

Thrombosis

When a blood clot occurs in the rest of the body, this is known as **thrombosis.** They mostly occur in the pelvis and legs – this sometimes known as **Deep Vein Thrombosis** or DVT.

Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

Circulatory system:
This includes all body parts that carry blood away from and towards the heart. The *circulatory system* is made up of the *heart* and *blood vessels*.

Blood vessel:
This is the name used to describe the different types of tubes that carry our blood around the body.

Circulatory system

Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

The main blood vessels are known as:

Arteries = thick tubes that carry blood from the heart towards main parts of the body.

Coronary arteries = smaller tubes that surround the heart walls that supply it with oxygen and nutrients so it can beat.

Veins = thinner tubes that carry blood from the body to the heart.

Blood vessel cross-section showing fatty blockages

Blood vessel from the side showing fatty blockages

Image British Heart Foundation video (2015). https://www.youtube.com/watch?v=y6OJceOAVY0

Terminology

Heart attack:
A heart attack is sometimes known as a **cardiac event** where the heart does not receive the vital oxygen from a blockage its blood supply resulting in:

- chest pain
- shortness of breath or difficulty breathing
- dizziness or feeling faint
- excess sweating
- Nausea
- a squeezing sensation, pain or a heaviness in jaw, neck chest, arms and back
- and overwhelming feelings of anxiety.

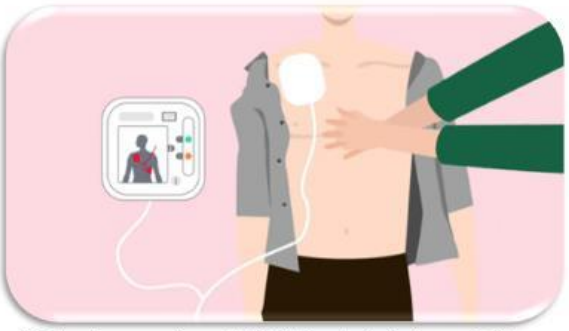
In this event you should call 999 immediately.

Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

Terminology

Cardiac arrest:
This is when the heart suddenly cannot pump blood around the body which results in **loss of breathing** and **consciousness** (to suddenly faint, collapse and to "black out"). This is a very severe event where someone would have follow this protocol:

1. Call 999 immediately
2. Call for help to find a person nearby trained in First Aid Cardiopulmonary Resuscitation (CPR).



CPR chest compression and defibrillator device in the event of a cardiac arrest.

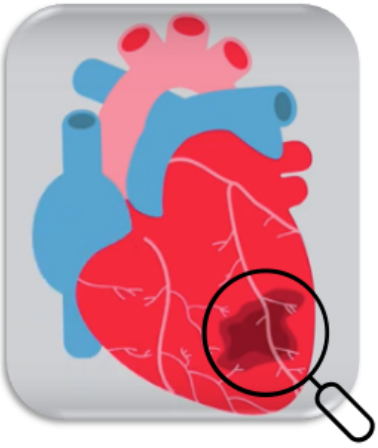
Image from British Heart Foundation (2018). https://www.youtube.com/watch?v=7IMiXJH_bw4

More on coronary artery disease

Over time, fatty substances can build up inside the arteries around your heart muscle.

Eventually your arteries may become so narrow that they can't get enough oxygen rich blood to the heart.

If a fatty deposit breaks off, it can cause a blood clot to form. This clot can block your arteries around the heart and completely cut off the blood supply. This is known as a **heart attack**.



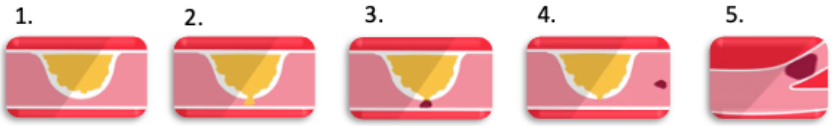


Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

Section B

Heart health advice and guidance

How can I keep my heart healthy?

Behaviours:

- Eat a healthy balanced diet and with less salt
- Be physically active and reduce your time spent sitting or lying down
- Being smoke free

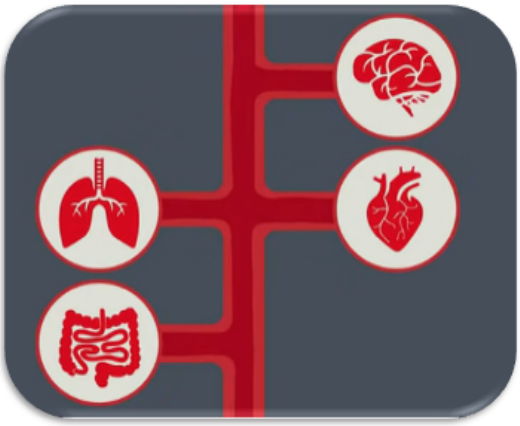
Self-assessment:

- Keep within a healthy weight range
- Alcohol use management
- Blood pressure checks
- Cholesterol checks
- Blood sugar checks (if you have diabetes)

British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works

The importance of Lowering Dietary Salt

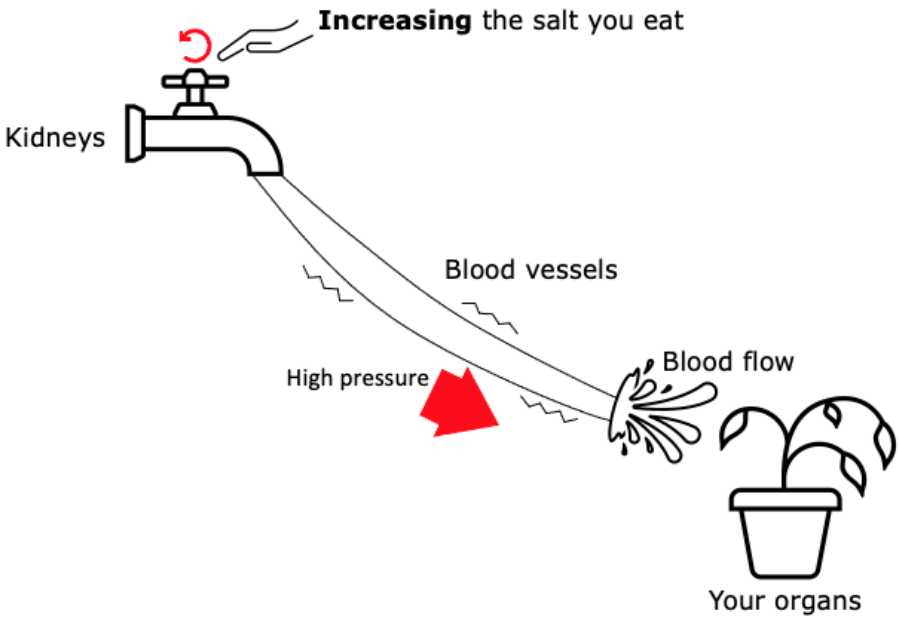
Your kidneys control your blood pressure by regulating the amount of water in your blood stream. Eating too much salt increases the amount of water in your blood stream which increases the pressure inside the veins and arteries (blood vessels). This is known as **high blood pressure**.



High blood pressure makes your veins, arteries and heart (circulatory system) work harder. To cope with the increased work, your blood vessels become stronger and thicker which can narrow the space inside. This can decrease the amount of oxygen rich blood to your organs.

High blood pressure from eating too much salt can impact the following organs:

Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=uM8yQNZ0x10



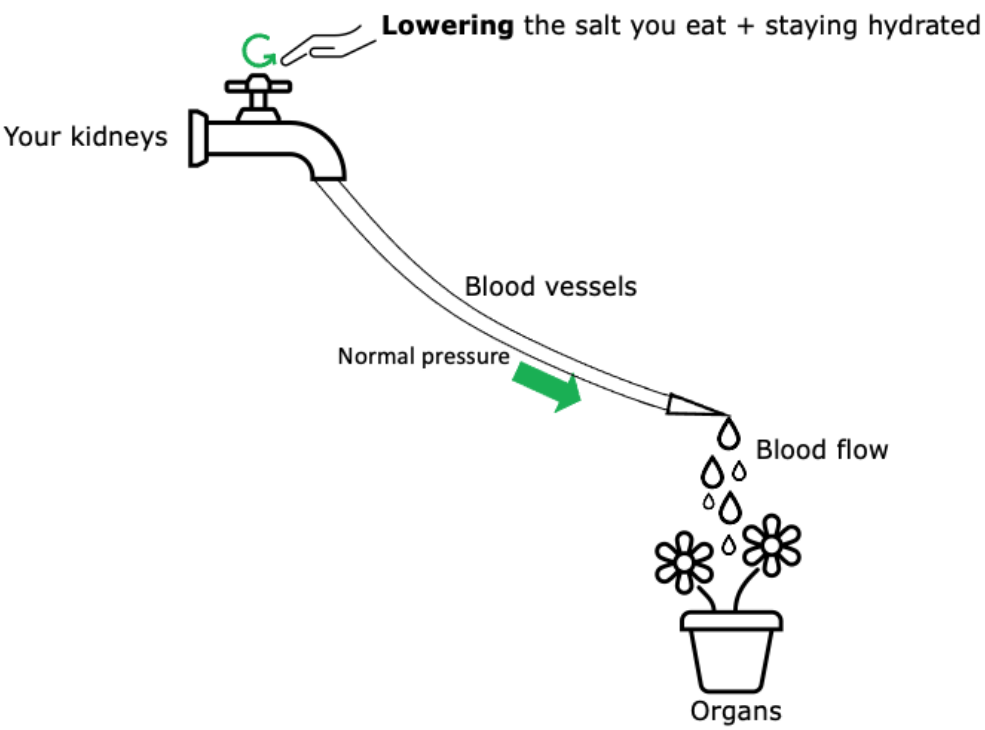


Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=uM8vQNZ0x10

What can you do?

Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=uM8vQNZ0x10

Cholesterol

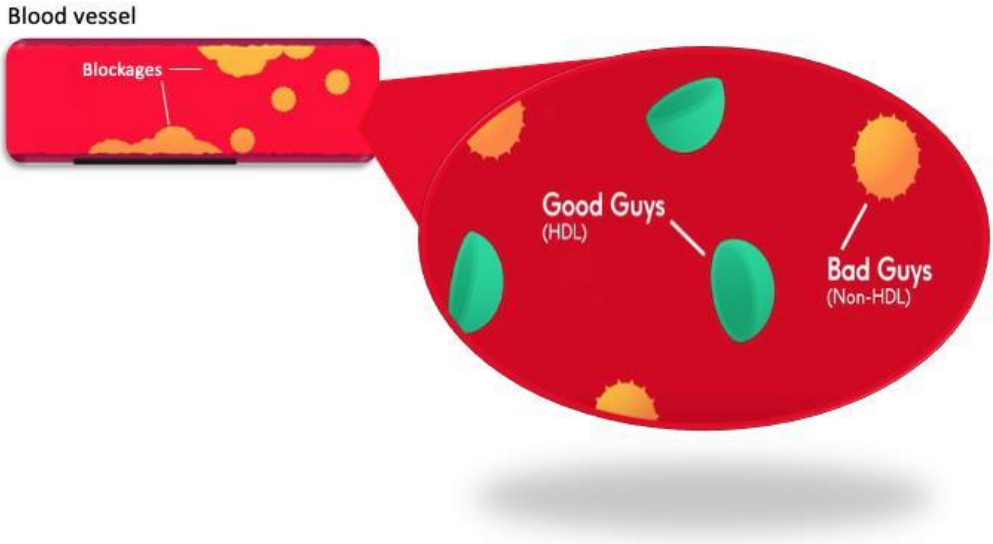


Image and text from British Heart Foundation (2018). https://www.youtube.com/watch?v=_ozT246x8DE

Healthy fats vs unhealthy fats

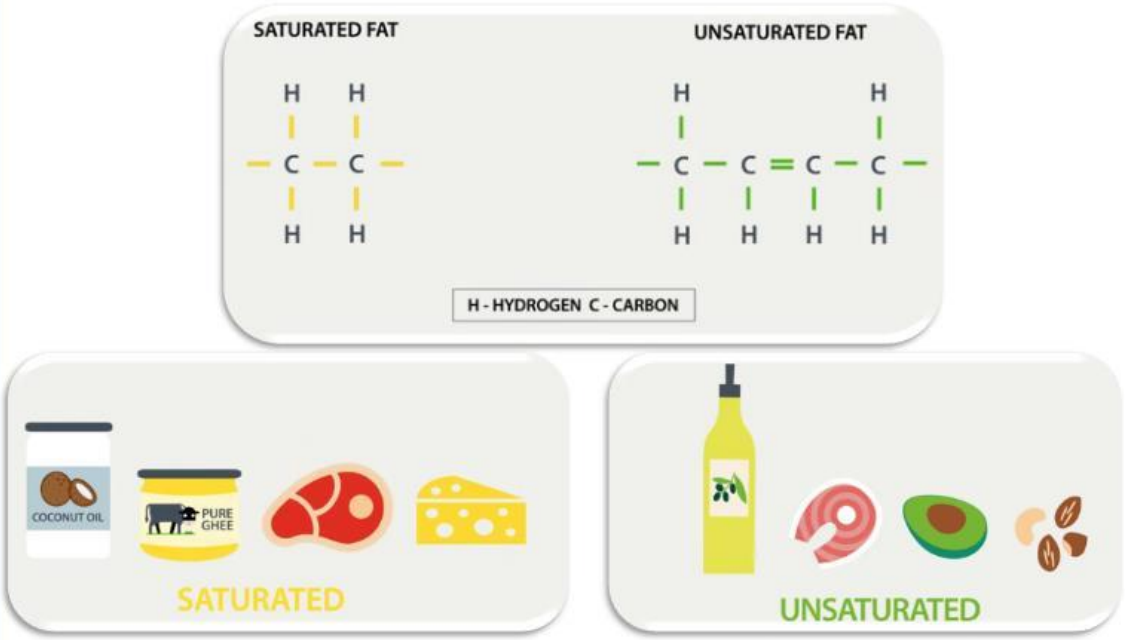


Image and text from British Heart Foundation (2018). https://www.youtube.com/watch?v=HPk2vM6CInM

Healthy fats vs unhealthy fats

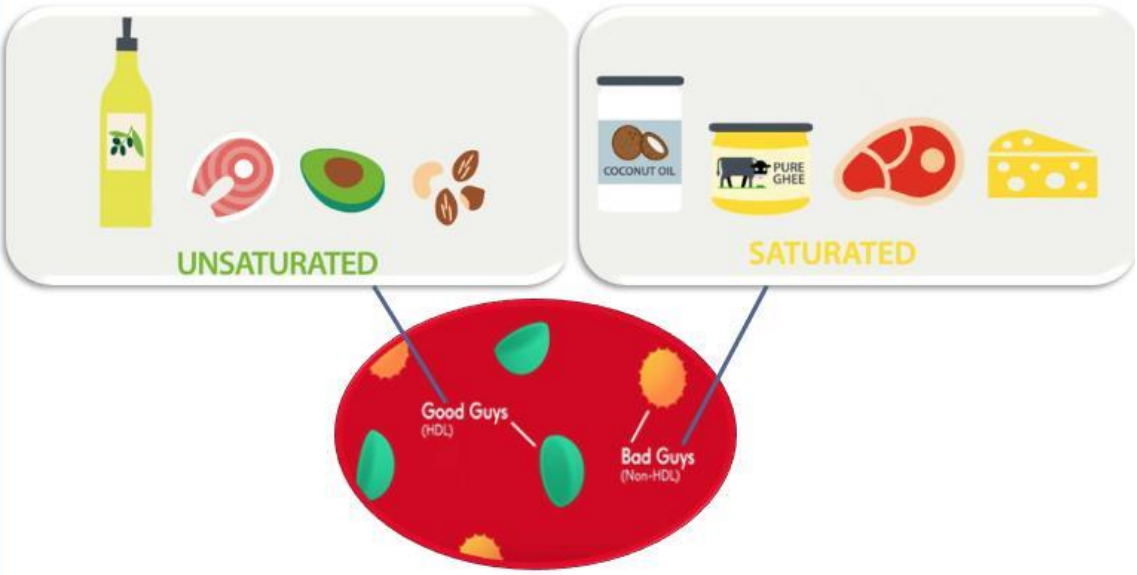


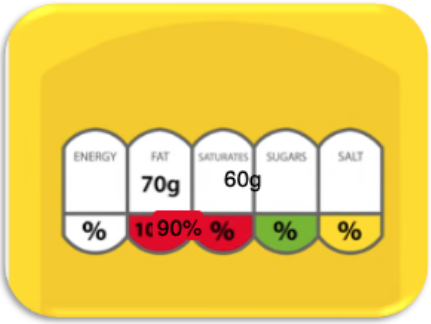
Image and text from British Heart Foundation (2018). https://www.youtube.com/watch?v=HPk2vM6CInM

What can you do?

It is recommended that:

- men should not eat more than 30g of saturated fat a day
- women should not eat more than 20g of saturated fat a day

From NHS Live-well website - https://www.nhs.uk/live-well/eat-well/different-fats-nutrition/



Total fats = 70g
Saturated fats = 60g
Unsaturated fats = **?** (70g – 60g = 10g)

Image and text from British Heart Foundation (2018). https://www.youtube.com/watch?v=HPk2yM6CInM

Exercise

When we exercise our heart and lungs work harder to get more oxygen to the muscles. Muscles get stronger from regular exercise.

Our heart is also a muscle and if it is stronger, it is better at pumping the blood around the body.

When the heart is stronger, it does not have to work as hard. It can pump blood around the body with less effort. As a result, the pressure inside your arteries is decreased. This lowers **blood pressure**.

Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=wWGulLAa0Q0

What can you do?

Being active can reduce your risk of heart disease by 35%. In addition cardiac rehabilitation exercise programmes have been shown to reduce hospital admissions, lower deaths from cardiovascular disease, reduce the risk of further cardiovascular events and improve quality of life (British Heart Foundation, 2021).

It is recommended that you get an a prescribed exercise plan from a medical or healthcare professional.

British Heart Foundation

More information of cardiac rehab at home
https://www.bhf.org.uk/informationsupport/support/cardiac-rehabilitation-at-home

Self-Assessment

These are short and easy measurements that can be done daily or weekly to check that your heart condition is the same (stable) or if there are any changes.

You can assess:

- Shortness of breath when walking
- Shortness of breath when sleeping
- Spells of dizziness/faintness
- Blood pressure
- Blood sugar (if diabetic)
- Swelling of the legs

It's also helpful to:

- Know your target weight
- Weigh yourself every week with scales

What can you do?

MRC Dyspnoea Scale	
Grade	**Degree of breathlessness related to activity**
1	Not troubled by breathless except on strenuous exercise
2	Short of breath when hurrying on a level or when walking up a slight hill
3	Walks slower than most people on the level, stops after a mile or so, or stops after 15 minutes walking at own pace
4	Stops for breath after walking 100 yards, or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when dressing/undressing

Used with the permission of the Medical Research Council (https://mrc.ukri.org/research/facilities-and-resources-for-researchers/mrc-scales/mrc-dyspnoea-scale-mrc-breathlessness-scale/)

Adapted from Fletcher CM. The clinical diagnosis of pulmonary emphysema—an experimental study. Proc R Soc Med 1952;45:577–584.

Sticking to medication

It is important to take your medication exactly how your healthcare provider has advised.

What can you do?

1. **What medications are you taking?**
2. **How and when do you take them?**
3. **Are there any specific instructions to store them or take them?**

Sticking to medication

Storing your medications correctly and getting into a routine

Morning routine

Evening routine

Sticking to medication

Do you know how to order a repeat prescription?

Online - visit: www.nhs.uk/nhs-services/prescriptions-and-pharmacies/

In person – visit your local pharmacy

Section C

Learning to live with your condition

Values

Values are the qualities we choose to work towards in any given moment. We all hold values, consciously or unconsciously, that direct our actions and behaviours. We can use tools that help us live our lives in line with the values that mean so much to us. This can help us to live happier and healthier lives (Harris, 2010).

Instructions:
On the next screen, 38 most common values that people can have will appear. These are not 'the right ones', they're just most common. Please read through each one and organise them into "not important to me" and "important to me. When you're finished, drag your top 3 values that stand out to you in the "important to me" box. Your top 3 values are based on how important it is to you and the way you live your life.

Instructions:
Please read through each value statement and drag into the boxes marked, "not important to me" or "important to me". Remember, your values are based on how important it is to you and the way you live your life.

1. Acceptance/self-acceptance: to be accepting of myself, others, life, etc.
2. Adventure: to be adventurous; to actively explore novel or stimulating experiences
3. Assertiveness: to respectfully stand up for my rights and request what I want
4. Authenticity: to be authentic, genuine, and real; to be true to myself
5. Caring/self-care: to be caring toward myself, others, the environment, etc.
6. Compassion/self-compassion: to act kindly toward myself and others in pain
7. Connection: to engage fully in whatever I'm doing and be fully present with others
8. Contribution and generosity: to contribute, give, help, assist, or share
9. Cooperation: to be cooperative and collaborative with others
10. Courage: to be courageous or brave; to persist in the face of fear, threat, or difficulty
11. Creativity: to be creative or innovative
12. Curiosity: to be curious, open-minded, and interested; to explore and discover
13. Encouragement: to encourage and reward behavior that I value in myself or others
14. Excitement: to seek, create, and engage in activities that are exciting or stimulating
15. Fairness and justice: to be fair and just to myself or others
16. Fitness: to maintain or improve or look after my physical and mental health
17. Flexibility: to adjust and adapt readily to changing circumstances
18. Freedom and independence: to choose how I live and help others do likewise
19. Friendliness: to be friendly, companionable, or agreeable toward others
20. Forgiveness/self-forgiveness: to be forgiving toward myself or others

Not important to me	Important to me

Adapted from *The Confidence Gap: From Fear to Freedom*, by Russ Harris, published by Penguin Group (Australia), 2010.

Instructions:
Please read through each value statement and drag into the boxes marked, "not important to me" or "important to me". Remember, your values are based on how important it is to you and the way you live your life.

21. Fun and humour: to be fun loving; to seek, create, and engage in fun-filled activities
22. Gratitude: to be grateful for and appreciative of myself, others, and life
23. Honesty: to be honest, truthful, and sincere with myself and others
24. Industry: to be industrious, hardworking, and dedicated
25. Intimacy: to open up, reveal, and share myself, emotionally or physically
26. Kindness: to be kind, considerate, nurturing, or caring toward myself or others
27. Love: to act lovingly or affectionately toward myself or others
28. Mindfulness: to be open to, engaged in and curious about the present moment
29. Order: to be orderly and organised
30. Persistence and commitment: to continue resolutely, despite problems or difficulties.
31. Respect/self-respect: to treat myself and others with care and consideration
32. Responsibility: to be responsible and accountable for my actions
33. Safety and protection: to secure, protect, or ensure my own safety or that of others
34. Sensuality and pleasure: to create or enjoy pleasurable and sensual experiences
35. Sexuality: to explore or express my sexuality
36. Skilfulness: to continually practice and improve my skills and apply myself fully
37. Supportiveness: to be supportive, helpful and available to myself or others
38. Trust: to be trustworthy; to be loyal, faithful, sincere, and reliable

Not important to me	Important to me

Adapted from *The Confidence Gap: From Fear to Freedom*, by Russ Harris, published by Penguin Group (Australia), 2010.

Instructions:
Prioritise the values from your "important to me" list that mean the most to you and are the most important to the way you see yourself and live your life by dragging your top 3 values over to the "my top 3 values" box.

Important to me	My top 3 values
37. Supportiveness: to be supportive, helpful and available to myself or others 26. Kindness: to be kind, considerate, nurturing, or caring toward myself or others 29. Order: to be orderly and organised 24. Industry: to be industrious, hardworking, and dedicated 32. Responsibility: to be responsible and accountable for my actions 33. Safety and protection: to secure, protect, or ensure my own safety or that of others 25. Intimacy: to open up, reveal, and share myself, emotionally or physically 30. Persistence and commitment: to continue resolutely, despite problems or difficulties. 11. Creativity: to be creative or innovative	**1.** 37. Supportiveness: to be supportive, helpful and available to myself or others **2.** 26. Kindness: to be kind, considerate, nurturing, or caring toward myself or others **3.** 33. Safety and protection: to secure, protect, or ensure my own safety or that of others

Adapted from *The Confidence Gap: From Fear to Freedom*, by Russ Harris, published by Penguin Group (Australia), 2010.

Passengers on a Bus

Mindful Moment

Section D

Action and further support

Setting a SMART goal

"A goal without a plan is just a wish."

- Antoine de Saint-Exupéry

S pecific

What do you want to achieve?
What will it look like?
What will it sound like?
What kinds of things will you be doing?
Why is it important to you? (Tip – link it to one of your values)

Example:

"In order spend time playing with my grandchildren in the park without getting out of breath easily or feeling dizzy."

M easurable

How will you know you have achieved it?
How would someone else know you have achieved this?
Can you write it down?
Can you log it on a phone app or on the computer?

Examples:

"I will track the salt in my food I eat by entering into a food diary app on my smart phone."

"I will track the salt in my food I eat by entering into a paper food diary using a basic template of date, time, food eaten and amount of salt."

A chievable

How likely are you to achieve this?
Are you 90% sure you can achieve this?
Are there any obstacles that will stop you from achieving this?
Do you have the resources, equipment or knowledge to be able to achieve this?
Do you need to do any preparation before you start this goal?

(Tip - you can set a smaller SMART goal to prepare you. See examples below.)

Examples:

"First, I will download a food diary tracking app onto my smartphone and get familiar with how it works."

"First, I will create a food diary template in a notebook so I can enter in my daily salt intake."

R elevant

Does this goal get you where you want to be?
Is this goal in line with what you value?
Will this goal improve your heart health?

Example:

"I'm doing this because it will help to lower my blood pressure and take care of my heart."

Time-bound

How often? Two times per day? Every day? Every week?
When will it be checked/reviewed?

(Tip – remember to add a specific date.)

Example:

"I will do this every day to be reviewed two-weeks from today on DD/MM/YY."

Specific Measurable Achievable Relevant Time-bound

Example of the full SMART goal:

"In order spend time playing with my grandchildren in the park without getting out of breath easily or feeling dizzy, I will track my salt intake in the food I eat every day using my smart phone app, by two-weeks from today on DD/MM/YY, as a first step to lowering my daily salt consumption and taking care of my heart."

Your turn...

	Write your SMART goal here	Example
Specific	**What are you going to do and how does it link with your values?**	"In order spend time playing with my grandchildren in the park without getting out of breath easily or feeling dizzy."
Measurable	**How could someone else know that you've done this and what will you use?**	"I will track the salt in my food I eat by entering into a food diary app on my smart phone."
Achievable	**Can you do this now, or do you need to prepare?**	"First, I will download a food diary tracking app onto my smartphone and get familiar with how it works."
Relevant	**Why are you doing this?**	"I'm doing this because it will help to lower my blood pressure and take care of my heart."
Time-bound	**When will you review your goal?**	"I will do this every day to be reviewed two-weeks from today on DD/MM/YY."
Full SMART goal	**Putting it all together in a sentence:**	"In order spend time playing with my grandchildren in the park without getting out of breath easily or feeling dizzy, I will track my salt intake in the food I eat every day using my smart phone app, by two-weeks from today on DD/MM/YY, as a first step to lowering my daily salt consumption and taking care of my heart."

Thank you!

Thank you for participating in the Mind your Heart webinar. If you have any questions, please contact Alex Robson on a.robson@2018.ljmu.ac.uk

Please make a note of your SMART goal, if you haven't already. You will be asked about this in two-weeks time.

All supplementary materials mentioned in the webinar can be found attached to the joining email.

Further links and support services are shown on the next slide.

Further resources and support services

Call the British Heart Foundation on:
Call **0300 330 3311**. The helpline is open weekdays 9am - 5pm.

Email:
Email **hearthelpline@bhf.org.uk** and one of their nurses will get back to you as soon as possible.

Resources and helpful guides for healthy living:
https://www.bhf.org.uk/informationsupport/support/healthy-living

Call Diabetes UK on:
Call **0345 123 2399**. The helpline is open weekdays 9am - 6pm.

Email:
Email **helpline@diabetes.org.uk** and one of their advisers will get back to you as soon as possible.

Resources and helpful guides for healthy living:
https://learningzone.diabetes.org.uk/

Call Mind on:
Call **0300123 3393**. The helpline is open weekdays 9am - 6pm.

Email:
Email **info@mind.org.uk** and one of their advisers will get back to you as soon as possible.

Resources and helpful guides for healthy living:
https://www.mind.org.uk/information-support/

Call Samaritans on:
Call **116123**. The helpline is open 24-hours a day 365 days a year.

Email:
Email **jo@Samaritans.org** and one of their team will get back to you within 24 hours.

Helpful guidance on what to do if you're not feeling okay:
https://www.samaritans.org/how-we-can-help/if-youre-having-difficult-time/

Note. You don't need to have a question to call or email a support line, and your conversations are confidential.

References

- Harris, R. (2010). *The Confidence Gap: From Fear to Freedom.* Penguin Group.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behaviour change.* Guilford Press.
- Fletcher, C. M. (1952). The Clinical Diagnosis of Pulmonary Emphysema – An Experimental Study. Proc R Soc Med; 45:577-584.
- Lee-Baggley, D. (2019). *Healthy Habits Suck: How to Get Off the Couch and Live a Healthy Life… Even If You Don't Want To*. Harbinger Publications.

Image credits

- Image and text from British Heart Foundation (2021). https://www.bhf.org.uk/informationsupport/how-a-healthy-heart-works
- Image from https://www.istockphoto.com/vector/human-heart-anatomy-vector-gm1165074919-320445844.
- Image from https://www.istockphoto.com/vector/human-heart-anatomy-vector-gm1165074919-320445844.
- Image British Heart Foundation video (2015). https://www.youtube.com/watch?v=y6QJceOAVY0
- Image from British Heart Foundation (2018). https://www.youtube.com/watch?v=7lMiXJH_bw4
- Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=uM8yQNZ0x10
- Image and text from British Heart Foundation (2018). https://www.youtube.com/watch?v=_gzT246x8DE
- Image and text from British Heart Foundation (2017). https://www.youtube.com/watch?v=wWGulLAa0O0
- https://www.pexels.com/photo/woman-wearing-white-pants-walking-brown-dog-2448734/
- https://www.pexels.com/photo/an-elderly-couple-dancing-to-the-music-at-home-6873733/
- https://www.pexels.com/photo/man-in-gray-t-shirt-and-red-plaid-pants-using-vacuum-cleaner-while-listening-to-the-music-7641549/
- https://www.pexels.com/photo/ethnic-parents-raising-cheerful-girl-on-tree-farm-roadway-5727775/
- https://www.istockphoto.com/search/2/image?mediatype=photography&phrase=blood%20pressure%20check%20senior
- https://www.pexels.com/photo/crop-woman-using-devices-for-pulse-controlling-4428992/
- https://www.pexels.com/photo/city-road-man-couple-8763217/
- https://www.pexels.com/photo/black-nurse-in-face-mask-exiting-metro-train-6097691/
- https://www.pexels.com/photo/crop-unrecognizable-woman-carrying-vegetables-in-bag-on-house-staircase-7262888/
- https://www.istockphoto.com/photos/taking-medicine
- https://www.istockphoto.com/photo/pharmacists-checking-prescription-gm143920344-18169832
- https://www.pexels.com/photo/woman-cutting-fruits-at-table-in-modern-kitchen-in-daylight-6798551/
- https://www.pexels.com/photo/black-father-and-son-brushing-teeth-in-bathroom-6624467/
- https://www.pexels.com/photo/man-and-woman-using-gadgets-for-online-shopping-6667791/
- https://www.istockphoto.com/photo/pharmacy-stock-photo-gm1179644653-330176475
- https://www.istockphoto.com/photo/cute-teenage-girl-hugging-father-and-smiling-at-camera-gm1318472870-405593955
- https://www.istockphoto.com/photo/senior-couple-with-dog-gm879351286-245127352
- https://www.vectorstock.com/royalty-free-vector/emoticon-or-emotions-set-cartoon-vector-1551957
- https://www.pexels.com/photo/black-dart-pink-attach-on-yellow-green-and-red-dart-board-15812/

Appendix E7: Readability report for Mind your Heart webinar.

Text readability report generated on **2021-11-16 12:28**.

Readability Grade Levels	
Flesch-Kincaid Grade Level	6.60
Gunning Fog Index	9.42
Coleman-Liau Index	8.33
SMOG Index	10.07
Automated Readability Index	6.48
FORCAST Grade Level	9.19
Powers Sumner Kearl Grade	5.24
Rix Readability	7.00
Raygor Readability	6.00
Fry Readability	6.00

Text aimed at a general public audience should be around grade 8 to 10.

ReadablePro Rating
A

Readability Scores	
Flesch Reading Ease	72.13
CEFR Level	B1
IELTS Level	4-5
Spache Score	3.34
New Dale-Chall Score	3.81
Lix Readability	31.44
Lensear Write	86.58

Text Quality		
Spelling Issues	15	0%
Grammar Issues	37	8%
Sentences > 30 Syllables	88	20%
Sentences > 20 Syllables	185	41%
Words > 4 Syllables	41	1%
Words > 12 Letters	8	0%

Writing Style		
Passive Voice Count	55	2%
Adverb Count	148	2%
Cliché Count	0	0%

Content Composition

Tone

« Formal Conversational »

Formal

Sentiment

« Negative Positive »

Positive

Personalism

« Impersonal Personal »

Personal

Reach

100%

This text should be readable for 100% of your addressable audience, which equates to approximately 85% of the general public.

Keyword Density

Keyword Density - 1 Word	
is	1.48%
can	1.37%
heart	1.21%
are	0.99%
blood	0.94%
Slide	0.67%
will	0.65%
be	0.59%
have	0.57%
This	0.57%
The	0.41%

Keyword Density - 2 Words	
the heart	0.41%
This is	0.35%
you can	0.24%
heart attack	0.24%
the blood	0.21%
it is	0.21%
the body	0.19%
You can	0.19%
known as	0.18%
a heart	0.18%
blood pressure	0.16%

Keyword Density - 3 Words	
a heart attack	0.16%
the amount of	0.13%
you want to	0.11%
in the blood	0.11%
around the body	0.11%
is known as	0.10%
be able to	0.08%
Make sure you	0.08%
to the heart	0.06%
of the heart	0.06%
blood supply to	0.06%

Appendix E8: Participant debrief and supplementary materials.

PARTICIPANT DEBRIEF SHEET Adults with Heart Disease

Research Ethics Committee Reference Number: 21/PSY/040

Title of Study: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

You have taken part in a research study. Please read this information for further support.

13. What was the purpose of the study?

The aims of this study were to compare whether a one-off psychological intervention would positively change the way 50 people perceive their heart disease, change health behaviours and improve psychological flexibility two weeks after the intervention against a control group. The psychological intervention was a 50 minutes online webinar called Mind your Heart covering basic topics on living with heart disease and keeping the heart healthy, Acceptance and Commitment Therapy activities and further non-medical support.

The purpose of randomly allocating adults with heart disease to either the intervention group or control group was to compare two groups to scientifically assess whether the Mind your Heart intervention was effective in improving health behaviours.

If you were in the intervention group, you were presented with premeasures, the Mind your Heart webinar and the post measures all online.

If you were randomly allocated into the control group, you were be presented with pre and post online questionnaires only without the Mind your Heart webinar in between measures.

In addition, if you took part in the 30–60-minute semi-structured telephone interview this aimed to capture your experiences of the intervention. Your experiences have provided insight into future research and improvements in health psychology practice for heart disease patients.

14. Where can I find further support for my health and wellbeing?

If you feel worried or in low mood, we would like to point out that there are several sources of advice or help which are free and readily available to you and which may provide useful. Specifically, these include:

British Heart Foundation
Open 9-5pm Monday to Friday. Call for free on 0300 330 3311 or visit their website below:
https://www.bhf.org.uk/

Diabetes UK
Open 9-6pm Monday-Friday. Call free on 0345 123 2399 or visit their website below.
https://www.diabetes.org.uk/

Here are some suggested smart phone apps for health and wellbeing:

The Insight Timer
Over 100k FREE mindfulness audio and videos for guided meditation, sleep, anxiety and stress and more.
https://insighttimer.com/en-gb

Calm
Contains a wealth of mindfulness audios and sleep stories. A free version is available with restricted content. A yearly subscription fee of £30.
https://www.calm.com/

My Fitness Pal
Tracks your daily food intake for weight management for FREE.
https://www.myfitnesspal.com/

If participation in this study has had negative effects on you; please seek help and advice from support services such as:

The Samaritans
Open 24 hours a day 365 days a year. Call for free on 116123 or visit their website below:
https://www.samaritans.org/how-we-can-help/if-youre-having-difficult-time/

Mind
Open 9-5pm Monday-Friday. Call for free on 0300 123 3393 or visit their website below:
https://www.mind.org.uk/

15. Payments, reimbursements of expenses or any other benefit or incentive for taking part

For taking part in the intervention and completing both pre and post questionnaires, you are automatically entered into a prize draw to win a £25 Amazon gift voucher.

If you were in the experimental group and agreed to take part in the follow-up telephone call, you are also be entered into a prize draw to win an additional £25 Amazon gift voucher.

Winners will be contacted via email.

Unfortunately, we cannot reimburse any expenses you may incurred.

16. Can I still withdraw my data?

Yes. You may withdraw your data from the study without giving a reason by contacting me before 01/03/2022. After then, you will not be able to withdraw your data from the study.

If you withdraw your data before the 1st of March, you will be removed from the prize draws. Reasons for this are because the researcher will have no record of you or your details and therefore you cannot be chosen at random to win the prizes.

17. Whom do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please contact *Alex Robson* or *Dr Mark Forshaw* and we will do our best to answer your query. You should expect a reply within 10 working days. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at Liverpool John Moores University who will seek to resolve the matter as soon as possible:
Chair, Liverpool John Moores University Research Ethics Committee; Email: FullReviewUREC@ljmu.ac.uk; Tel: 0151 231 2121; Research Innovation Services, Liverpool John Moores University, Exchange Station, Liverpool L2 2QP

18. Data Protection

Liverpool John Moores University is the data controller with respect to your personal data. Information about your rights with respect to your personal data is available from:

- https://www.ljmu.ac.uk/legal/privacy-and-cookies/external-stakeholders-privacy-policy/research-participants-privacy-notice

19. Contact details

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

PARTICIPANT SUPPLIMENTARY MATERIALS Adults with Heart Disease
Research Ethics Committee Reference Number: 21/PSY/040

Title of Study: *Mind your Heart: An online Acceptance and Commitment Therapy based psychological intervention to improve health behaviours and illness perception in adults with heart disease.*

20. Mindfulness practice

You can find a relaxation technique at the bottom of this information sheet.
Here are some suggested mindfulness smart phone apps:

The Insight Timer
Over 100k FREE mindfulness audio and videos for guided meditation, sleep, anxiety and stress and more.
https://insighttimer.com/en-gb

Calm
Contains a wealth of mindfulness audios and sleep stories. A free version is available with restricted content. A yearly subscription fee of £30.
https://www.calm.com/

21. Weight-management

Here is a suggested food and exercise tracking smart phone app:

My Fitness Pal
Tracks your daily food intake for weight management for FREE.
https://www.myfitnesspal.com/

The NHS Live-well website is also full of useful information and guides
https://www.nhs.uk/live-well/

22. **Cardiac rehabilitation**

You can speak with your GP to find a cardiac rehabilitation group in your area. If you would like to try cardiac rehabilitation at home, here's a useful guide from the British Heart Foundation:
https://www.bhf.org.uk/informationsupport/support/cardiac-rehabilitation-at-home

The British Heart Foundation has lots of helpful guides and resources on their website.
https://www.bhf.org.uk/informationsupport

23. Self-assessment measures

You can find some quick and simple measures you can do yourself to stay in control of your health at the bottom of this sheet.

24. Medication support

You can use this link to find out medication information in your local area - https://www.nhs.uk/nhs-services/prescriptions-and-pharmacies/

25. Mental health support services

If participation in this study has had negative effects on you; please seek help and advice from support services such as:

The Samaritans
Open 24 hours a day 365 days a year. Call for free on 116123 or visit their website below:
https://www.samaritans.org/how-we-can-help/if-youre-having-difficult-time/

Mind
Open 9-5pm Monday-Friday. Call for free on 0300 123 3393 or visit their website below:
https://www.mind.org.uk

26. Contact details

Principal Investigator: Alex Robson, LJMU professional doctorate student.
LJMU Email address: a.robson@2018.ljmu.ac.uk
LJMU School/Faculty: Psychology
LJMU Central telephone number: 0151 231 2121
Supervisor Name: Dr Mark Forshaw and Dr Tara Kidd
LJMU Email address: m.j.forshaw@ljmu.ac.uk and t.m.kidd@ljmu.ac.uk

PLEASE SCROLL DOWN FOR ADDITIONAL RESOURCES

Autogenic relaxation technique

The aim of this information sheet is to remind you about how you can manage your stress using the autogenic relaxation technique. This is a technique that encourages you to gradually relax different muscles in your body via your thoughts. You should have already practised this technique with your occupational therapist or as part of the cardiovascular rehab programme. You may want to ask a family member or friend to read it out to help you relax. If you have any further questions or concerns, please speak to your occupational therapist or a member of the cardiovascular rehabilitation team.

What is the purpose of the technique?

Relaxation can help to relieve the symptoms of stress. Although the cause of the anxiety will not disappear, you will probably feel more able to deal with it once you have released the tension in your body and cleared your thoughts.

The autogenic relaxation technique involves relaxing the muscles to make you feel calmer. Don't worry if you find it difficult to relax at first. It is a skill that needs to be learned and it will come with practice.

How do I prepare to relax?

Allow yourself 15–20 minutes for this relaxation. Find a place that is warm, quiet and free from disturbances. If possible dim the lights and tell people that you should not be disturbed – you may want switch off any phones. Take a few moments to get yourself as comfortable as possible. Make sure that your back and head are supported and comfortable. Your hands and arms should be loose, either resting on your lap or down by your side. Make sure that you are not clasping your hands or clenching your fists.

Your legs and feet should be loose in front of you. Make sure that your legs and ankles are not crossed. If you are lying down, let your feet turn out to relax the muscles on the inside legs.

If you can, ask a friend or family member to read the next sections to you.

What do I need to do?

Close your eyes and spend a few moments concentrating on your breathing. Be aware of your breathing and the gentle rise and fall of your chest. Be aware of the air entering and leaving your lungs, and your body loosening and relaxing a little more each time you breathe out.

And now concentrate on your legs and feet. See if there is any tension in your feet or ankles. If there is any tension, let it go. Let the tension drain away. Let your ankles and feet loosen and unwind to become comfortable and relaxed.

And now let go of any tension in your knees and the lower part of your legs, let your knees loosen. Let the muscles in the lower part of your legs feel loose, comfortable and relaxed. Now let go of any tension in your hips and thighs. Let your hips loosen, let your thighs loosen.

Your thighs and hips are feeling comfortable and relaxed. Your legs and feet are feeling loose, heavy, comfortable and relaxed. Feel your legs and feet growing heavier and more comfortable as you let them relax more and more.

Now concentrate on your back. Let go of any tension in your back. Make sure that it is comfortable and supported. Let your back grow more and more comfortable and relaxed.

And now let go of any tension in your chest. Let your chest loosen and relax. You are breathing easily, comfortably and relaxed. Your back, chest and stomach are feeling comfortable and relaxed.

And now concentrate on your hands and arms. Let go of any tension in your hands and wrists, let them loosen and feel comfortable and relaxed.

Now let go of any tension in your elbows and arms. Let your elbows go loose, let the muscles in your arms unwind. Let your elbows and arms feel loose, comfortable and relaxed.

And now concentrate on your shoulders. Let go of any tension in them, let it drain away. Let the muscles loosen and unwind so that your shoulders are comfortable and relaxed.

And now let go of any tension in your neck. Let the muscles in your neck loosen and unwind so that they feel comfortable and relaxed. Feel your neck and your shoulders growing more comfortable as you let them relax more and more.

And now concentrate on your face. Let go of any tension in your face. Let your jaw go loose and slack and check that your tongue is in a comfortable position. Let the skin around your eyes smooth out. Check that your eyes are light and comfortably closed. Let your forehead smooth out. Feel your face growing calmer and smoother as you let it relax more and more.

Be aware of that comfortable relaxed feeling throughout your whole body. Be aware of your body growing heavier, more comfortable as it relaxes, and be aware of your body loosening and relaxing a little more each time you breathe out. Be aware of how comfortable it feels as you let your body relax and enjoy that feeling for a short time.

How do I end the relaxation session?

Let yourself come to slowly. When you are ready, you may open your eyes. When you are ready to get up, get up slowly, feeling comfortable and relaxed.

Contact us

If you have any questions or concerns about this relaxation technique, contact **occupational therapy** on 020 7188 4180, Monday to Friday 8.30am to 4.30pm or the **cardiovascular rehabilitation team** on 020 7188 0946, Monday to Friday, 9am to 5pm.

Leaflet number: 2922/VER2
Date published: January 2013
Review date: January 2016

MRC Dyspnoea Scale	
Grade	**Degree of breathlessness related to activity**
1	Not troubled by breathless except on strenuous exercise
2	Short of breath when hurrying on a level or when walking up a slight hill
3	Walks slower than most people on the level, stops after a mile or so, or stops after 15 minutes walking at own pace
4	Stops for breath after walking 100 yards, or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when dressing/undressing

Used with the permission of the Medical Research Council (https://mrc.ukri.org/research/facilities-and-resources-for-researchers/mrc-scales/mrc-dyspnoea-scale-mrc-breathlessness-scale/)

Adapted from Fletcher CM. The clinical diagnosis of pulmonary emphysema—an experimental study. Proc R Soc Med 1952;45:577–584.

Scoring:
Speak with your healthcare provider if you notice any sudden changes to your level of breathlessness. Check yourself regularly and if you notice that your usual level of breathlessness has suddenly changed with a familiar activity or at rest.

MINNESOTA LIVING WITH HEART FAILURE® QUESTIONNAIRE

The following questions ask how much your heart failure (heart condition) affected your life during the past month (4 weeks). After each question, circle the 0, 1, 2, 3, 4 or 5 to show how much your life was affected. If a question does not apply to you, circle the 0 after that question.

Did your heart failure prevent you from living as you wanted during the past month (4 weeks) by -	**No**			**Very Little**		**Very Much**
1. causing swelling in your ankles or legs?	0	1	2	3	4	5
2. making you sit or lie down to rest during the day?	0	1	2	3	4	5
3. making your walking about or climbing stairs difficult?	0	1	2	3	4	5
4. making your working around the house or yard difficult?	0	1	2	3	4	5
5. making your going places away from home difficult?	0	1	2	3	4	5
6. making your sleeping well at night difficult?	0	1	2	3	4	5
7. making your relating to or doing things with your friends or family difficult?	0	1	2	3	4	5
8. making your working to earn a living difficult?	0	1	2	3	4	5
9. making your recreational pastimes, sports or hobbies difficult?	0	1	2	3	4	5
10. making your sexual activities difficult?	0	1	2	3	4	5
11. making you eat less of the foods you like?	0	1	2	3	4	5
12. making you short of breath?	0	1	2	3	4	5
13. making you tired, fatigued, or low on energy?	0	1	2	3	4	5
14. making you stay in a hospital?	0	1	2	3	4	5
15. costing you money for medical care?	0	1	2	3	4	5
16. giving you side effects from treatments?	0	1	2	3	4	5
17. making you feel you are a burden to your family or friends?	0	1	2	3	4	5
18. making you feel a loss of self-control in your life?	0	1	2	3	4	5
19. making you worry?	0	1	2	3	4	5
20. making it difficult for you to concentrate or remember things?	0	1	2	3	4	5
21. making you feel depressed?	0	1	2	3	4	5

Scoring:
Check yourself regularly, every week to every month or if you notice any changes to your way of living. Please contact your healthcare provider if you notice any changes.

Appendix E9: IBM SPSS version 26 statistical outputs for repeated measures ANOVAS and estimated marginal mean plots for the BIPQ (Broadbent et al., 2006), the IIQ *acceptance* (Oris et al., 2016), the AAQ-II (Bond et al., 2011) the SFFQ (Shaw et al., 2021). Also included are the Friedman statistical tests for the IIQ *rejection*, *engulfment*, and *enrichment* (Oris et al., 2016) for both the experimental and control group.

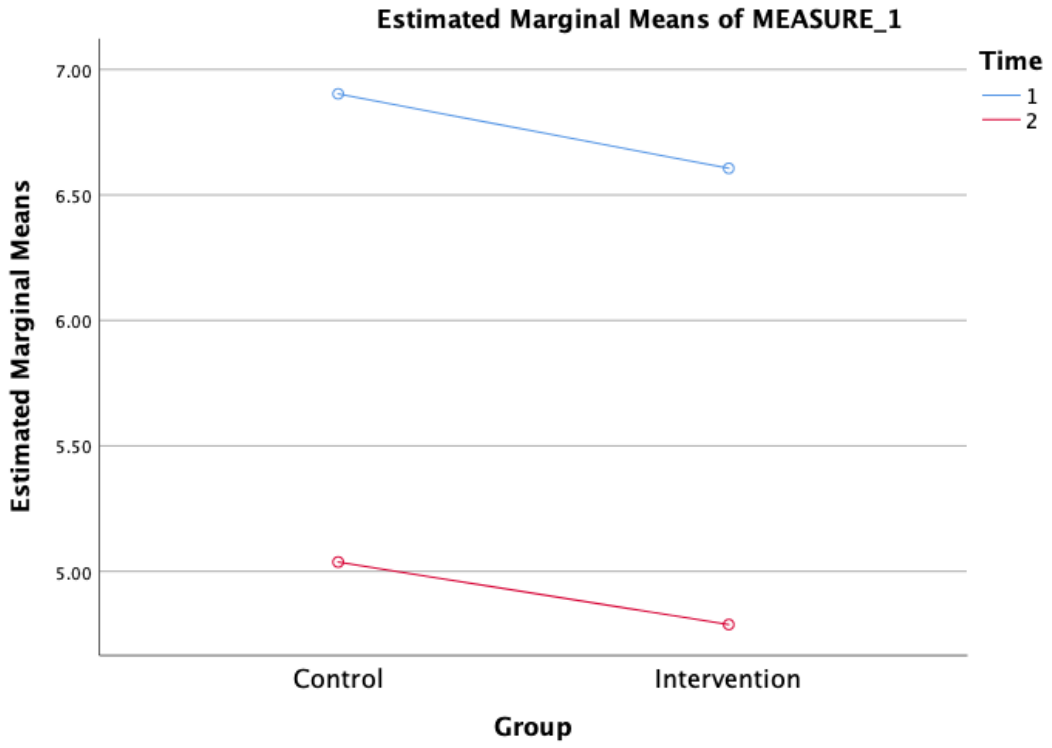
BIPQ Broadbent et al., 2006)

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	100.767	1	100.767	304.099	.000	.840
	Greenhouse-Geisser	100.767	1.000	100.767	304.099	.000	.840
	Huynh-Feldt	100.767	1.000	100.767	304.099	.000	.840
	Lower-bound	100.767	1.000	100.767	304.099	.000	.840
Time * Group	Sphericity Assumed	.017	1	.017	.051	.823	.001
	Greenhouse-Geisser	.017	1.000	.017	.051	.823	.001
	Huynh-Feldt	.017	1.000	.017	.051	.823	.001
	Lower-bound	.017	1.000	.017	.051	.823	.001
Error(Time)	Sphericity Assumed	19.219	58	.331			
	Greenhouse-Geisser	19.219	58.000	.331			
	Huynh-Feldt	19.219	58.000	.331			
	Lower-bound	19.219	58.000	.331			

Profile Plots



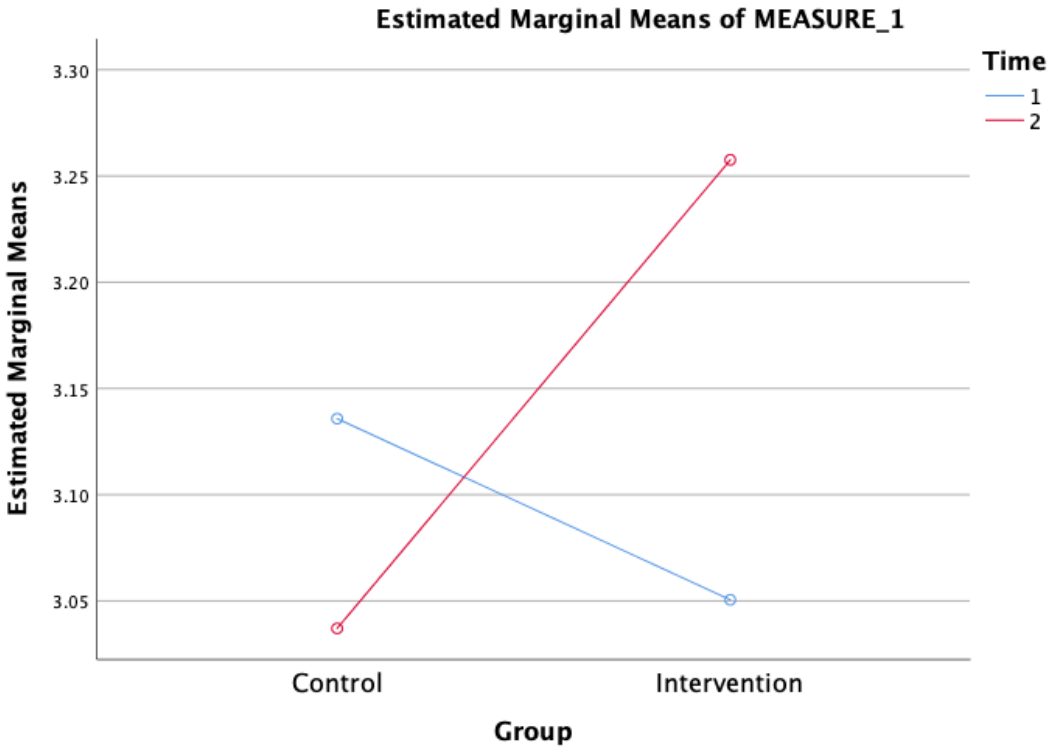
IIQ *acceptance* (Oris et al., 2016)

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	.087	1	.087	1.315	.256	.022
	Greenhouse-Geisser	.087	1.000	.087	1.315	.256	.022
	Huynh-Feldt	.087	1.000	.087	1.315	.256	.022
	Lower-bound	.087	1.000	.087	1.315	.256	.022
Time * Group	Sphericity Assumed	.695	1	.695	10.486	.002	.153
	Greenhouse-Geisser	.695	1.000	.695	10.486	.002	.153
	Huynh-Feldt	.695	1.000	.695	10.486	.002	.153
	Lower-bound	.695	1.000	.695	10.486	.002	.153
Error(Time)	Sphericity Assumed	3.841	58	.066			
	Greenhouse-Geisser	3.841	58.000	.066			
	Huynh-Feldt	3.841	58.000	.066			
	Lower-bound	3.841	58.000	.066			

Profile Plots



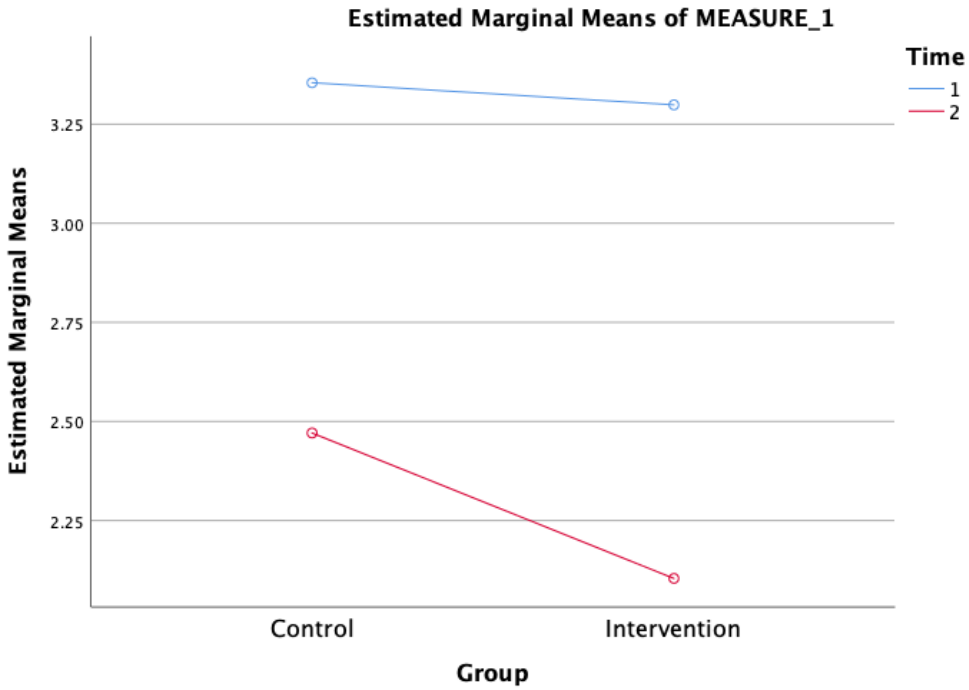
AAQ-II (Bond et al., 2011)

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	32.074	1	32.074	39.773	.000	.407
	Greenhouse-Geisser	32.074	1.000	32.074	39.773	.000	.407
	Huynh-Feldt	32.074	1.000	32.074	39.773	.000	.407
	Lower-bound	32.074	1.000	32.074	39.773	.000	.407
Time * Group	Sphericity Assumed	.719	1	.719	.892	.349	.015
	Greenhouse-Geisser	.719	1.000	.719	.892	.349	.015
	Huynh-Feldt	.719	1.000	.719	.892	.349	.015
	Lower-bound	.719	1.000	.719	.892	.349	.015
Error(Time)	Sphericity Assumed	46.773	58	.806			
	Greenhouse-Geisser	46.773	58.000	.806			
	Huynh-Feldt	46.773	58.000	.806			
	Lower-bound	46.773	58.000	.806			

Profile Plots



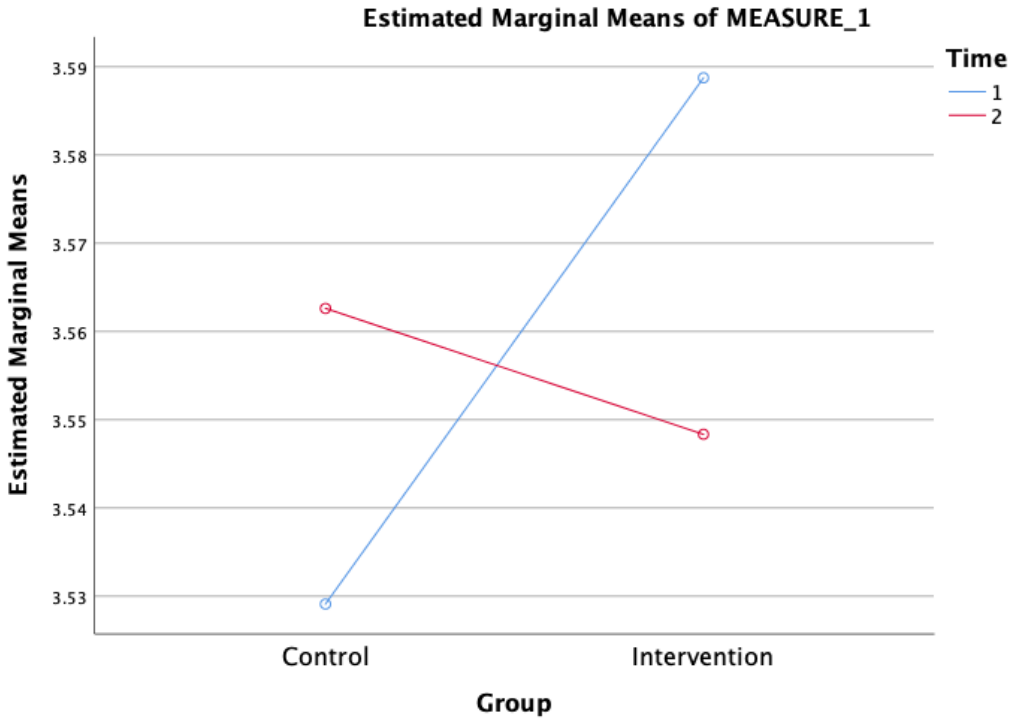
SFFQ (Shaw et al., 2021)

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	.000	1	.000	.034	.855	.001
	Greenhouse-Geisser	.000	1.000	.000	.034	.855	.001
	Huynh-Feldt	.000	1.000	.000	.034	.855	.001
	Lower-bound	.000	1.000	.000	.034	.855	.001
Time * Group	Sphericity Assumed	.041	1	.041	3.872	.054	.063
	Greenhouse-Geisser	.041	1.000	.041	3.872	.054	.063
	Huynh-Feldt	.041	1.000	.041	3.872	.054	.063
	Lower-bound	.041	1.000	.041	3.872	.054	.063
Error(Time)	Sphericity Assumed	.608	58	.010			
	Greenhouse-Geisser	.608	58.000	.010			
	Huynh-Feldt	.608	58.000	.010			
	Lower-bound	.608	58.000	.010			

Profile Plots



Experimental IIQ *rejection* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQRejectMEAN	33	2.7091	.69298	1.00	3.80
POST_IIQRejectMEAN	33	1.6727	.44949	.80	2.20

Friedman Test

Ranks

	Mean Rank
PRE_IIQRejectMEAN	1.89
POST_IIQRejectMEAN	1.11

Test Statistics[a]

N	33
Chi-Square	22.533
df	1
Asymp. Sig.	.000

a. Friedman Test

Experimental IIQ *engulfment* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQEngulfMEAN	33	2.8409	.56013	1.38	3.75
POST_IIQEngulfMEAN	33	2.8598	.55265	1.38	3.75

Friedman Test

Ranks

	Mean Rank
PRE_IIQEngulfMEAN	1.45
POST_IIQEngulfMEAN	1.55

Test Statistics[a]

N	33
Chi-Square	3.000
df	1
Asymp. Sig.	.083

a. Friedman Test

Experimental IIQ *enrichment* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQEnrichMEAN	33	3.0556	.44618	1.67	3.67
POST_IIQEnrichMEAN	33	3.1414	.37759	2.33	3.83

Friedman Test

Ranks

	Mean Rank
PRE_IIQEnrichMEAN	1.41
POST_IIQEnrichMEAN	1.59

Test Statistics[a]

N	33
Chi-Square	2.250
df	1
Asymp. Sig.	.134

a. Friedman Test

Control group IIQ *rejection* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQRejectMEAN	27	2.5852	.78823	1.00	3.80
POST_IIQRejectMEAN	27	2.7630	.57656	1.20	3.80

Friedman Test

Ranks

	Mean Rank
PRE_IIQRejectMEAN	1.48
POST_IIQRejectMEAN	1.52

Test Statistics[a]

N	27
Chi-Square	.053
df	1
Asymp. Sig.	.819

a. Friedman Test

Control group IIQ *engulfment* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQEngulfMEAN	27	2.6250	.46384	1.88	3.50
POST_IIQEngulfMEAN	27	2.9444	.58562	1.63	3.88

Friedman Test

Ranks

	Mean Rank
PRE_IIQEngulfMEAN	1.31
POST_IIQEngulfMEAN	1.69

Test Statistics[a]

N	27
Chi-Square	5.000
df	1
Asymp. Sig.	.025

a. Friedman Test

Control group IIQ *enrichment* (Oris et al., 2016).

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
PRE_IIQEnrichMEAN	27	3.2222	.35204	2.17	3.83
POST_IIQEnrichMEAN	27	3.0679	.29692	2.50	3.33

Friedman Test

Ranks

	Mean Rank
PRE_IIQEnrichMEAN	1.59
POST_IIQEnrichMEAN	1.41

Test Statistics[a]

N	27
Chi-Square	1.190
df	1
Asymp. Sig.	.275

a. Friedman Test

Appendix F: Research – Qualitative Study

Appendix F1. Qualitative follow-up semi structured interview question schedule.

Section A Webinar experiences:

1. Please tell me about your experience of the Mind your heart Webinar.
2. Is there anything you learned?
3. Was there anything you liked?
4. Was there anything you did not like?
5. Are there any changes you would make?
6. How do you feel towards your current health status?
7. How do you see yourself now living with your heart condition?
8. Are there parts of your identity that have changed?
9. Do you behave differently?
10. How are your social relationships?
11. Do you have any feelings about having experienced a heart attack?
12. What are your views on other people who have had a heart attack?
13. Do you have any views on the cause of your heart condition?
14. Have you taken any actions because of your diagnosis?
15. How do you see your recovery process?
16. Are there any positive changes that have happened since having a heart attack?
17. Do you have any advice would you give to someone else who is at an earlier stage of rehabilitation?
18. Are there any thoughts you struggle with the most about your heart condition?
19. Are there any feelings you struggle with the most about your heart condition?
20. Are there thoughts or feelings that help you manage your heart condition?
21. Are there actions you struggle with because of your condition?
22. What do you value in life?
23. Are there any changes you'd like to make to your heart condition?
24. Are there any behaviours/issues would you like help with?

Revision for participant 2

1. Tell me about yourself and your experiences of living with heart disease.
2. Are there parts of your identity that have changed?
3. Do you behave differently?
4. How are your social relationships?
5. Have you taken any actions because of your diagnosis?
6. Are there any positive changes that have happened since having a heart attack?
7. Do you have any advice would you give to someone else who is at an earlier stage of rehabilitation?
8. Are there any thoughts or feelings you struggle with the most about your heart condition?
9. Are there thoughts or feelings that help you manage your heart condition?
10. Are there actions you struggle with because of your condition?
11. Are there any behaviours/issues would you like help with?

12. Please tell me about your experience of the Mind your heart Webinar.
13. Is there anything you learned?
14. Was there anything you liked?
15. Was there anything you did not like?
16. Are there any changes you would make?

Revision for participant 3-7

1. Tell me about yourself and your experiences of living with heart disease
2. How is your lifestyle after having a heart attack?
3. Are there parts of your identity that have changed post MI?
4. How are your social relationships?
5. Are there any positive changes that have happened since having a heart attack?
6. What do you value in life? What gives your life meaning and a sense of purpose?
7. Are there any behaviours/issues would like to change?
8. Please tell me about your experience of the Mind your heart Webinar.
9. Is there anything you learned?
10. Was there anything you liked?
11. Was there anything you did not like?
12. Are there any changes you would make?

Appendix F2. Table of Themes with corresponding quotations.

Main theme	Subtheme	Name	Page No.	Line No.	Quote
Control					
	Disempowerment	AC	1	204	In some ways, if I've been, you know, smoking and drinking and doing these unfit things I'm gonna think I can change. So, I think if I could make some changes, and then I might be able to do something to prevent another one. I can't do that. And lots of people can. Most people having heart attacks have changed something.
		AC	2	44	There's nothing I could do really to change my lifestyle anyway. And that was sort of the main frustration with it was that I thought I was doing everything I could.
		AC	2	47	There's nothing I can do even now to improve my chances of not having another one if you like. So other than taking medications, so yeah, there was nothing in there. That would change my perception or my, the way I'm living my life
		AC	2	49	I wish I wish there was there was something I could do, but there isn't.
		AC	5	186	So because I think it's because it was so unexpected, and I haven't been able to do anything obviously I'm on medication and I've had stents in certain things, but I haven't been asked to do anything other than take the medication that would improve my chances of not having another one so I feel like I don't know whether there's one I don't have another one tomorrow or if you know when we're going in the morning that it might happen again
		AC	7	290	And perhaps in the future, there might be more research on people more like me rather than because when it came to the cardiac rehab, it wasn't, wasn't this wasn't relevant, really. I heard quite a lot of things from

					people having cardiac rehab in other countries where they were all there on ECGs and being pushed to do different things and doing it three lots a week and things like that. Whereas here we had one sort of half hour session a week and it's kind of like mobility exercises next to a chair. Which for me, it was like it's no different sort of sitting on the sofa. I can see why because you know, also in that same class, you've got an 85-year-old lady who's had a heart attack and never done any exercise before, because it's not the sort of thing they did, that she needs to be taught how to do it, but I didn't need that. So it was wasn't very relevant to me. I did go but it was kind of frustrating. Yeah. It could have been so much more.
		JS	2	53	That was something that really concerns me because I thought at that time there's no way they can find out what's going on inside your heart. They test your blood and stuff like that tell you haven't had a heart attack. Or if you've got a heart defect unless you can feel something in yourself.
		RC	1	25	Because I used to work a lot of overtime. And you know, I was I was quite a big earner at that stage. And when you're told at that age that you can't, I mean, I had two young children or schoolchildren and, more or less was well, I was psychologically disturbed to be quite honest.
		SC	2	73	But I was a weak as a kitten. I couldn’t get up the stairs in one go. I just couldn’t believe how much my life had changed. I sat and cried I went through depression.
		SC	2	74	I felt so helpless, I didn’t know what to do after I had my heart attack, and although they gave me tablets and sent me on my way, for the first time I felt like I had let my body down and I didn’t know how to feel healthy again.
		SC	2	78	And the things that I started to think was I won’t be able to do this and I won’t be able to do that. I felt that life was unfair I felt powerless. I just hit rock bottom. So, whilst I was struggling with mental health

					recovery. Bearing in mind I couldn’t go to cardiac rehab. I didn’t know anyone in the same position. It was so isolating
	Acceptance	AC	4	152	It wasn't great. It wasn't what I wanted to be doing really, but it's just I didn't have any choice. So at the time, I was I was sort of dying to get ahead and doing it because my chest still hurt and I didn't feel up to doing it. I just had to do that because I'm not great at sitting on the sofa and doing nothing but I was able to get out and walk and fortunately we live right on the beach here. So I can go and walk on the beach and things like that whenever I want. So I was able to do short walks and things even now with all of the activity more than I am only doing one training session and about an hour or so a day. Whereas before I would be doing it needs to be longer and harder.
		AC	4	168	Yeah, it was nice to do this. Yeah. I wanted to be outside doing things, I guess doing. But being able to progress that's you know, when you're doing training, you're always trying to see some sort of improvement and I guess to start with it was fairly quick because you've started from nothing. So each time I can add a bit more onto it. So it's quite nice to do that and see some progression basically. So plateaued a bit, but that's to be expected
		AC	9	364	Yeah, so it's clutching at straws for a positive, but I guess you could say that is that well, now, I can slow down, and I've got reason for doing it. And nobody's going to judge me because of it. Like I’ve said before, nobody really cares what I was doing before, even when you sort of think they do that they do, whereas now it's like they’re almost pleased at the fact that I managed to do a 5k.
		BC	4	165	I think I could have been worse, and I could have just packed my job in and just did nothing and felt sorry for myself, which I did do at first, I must admit. But I decided to put my time into volunteering. And that's really what I love. I'm doing a lot of work behind the scenes for the group.

		JS	2	84	For a few months afterwards psychologically, I would say I was very grateful. I was very thoughtful; I would say that I went quite introverted. I have a few tears now and again, just for no reason just because I was so emotional.
		JS	3	124	So I think it's your body solves it, you know what you need to do.
		JS	5	181	I feel as though again, I'm very lucky that I've had relatively low impact physically. And going forward. I feel like I've been given a license to get on with it. So basically, I'm going through a new phase of life. Lots of positive. Lots and lots of really good positive people around me.
		JS	6	220	So as far as my identity is concerned, it actually makes me feel stronger, and I feel better. Because I no longer have the worry that I'm going to drop down dead. But I've also got the knowledge to help change the way that people feel about these things. Like in Fight Club when the hold the gun to the kid's head and say tomorrow will be the best day of your life. And that's exactly what it was like, after you thought, you were going to die like really genuinely literally thought I am going to die and not see anybody else ever again. The next day you are superhuman. And you've got to be careful to not become an egotistical lunatic after that as well
		MC	1	39	Well, I've never dwelled on it. And to be honest, I think I didn't dwell on this because I was already in the rehab system. I was exercising and I'm trained as a walker for cardiac groups all these things, so I have never felt for years have been doing this didn't make any difference I've never like felt like it's an excuse.
		MC	2	44	For example, one of our lady members called me one morning to tell us that she wouldn't be coming to the exercise classes on the morning because she said I've now got IBS. I said, oh yes, it is a problem because I've had it for years and she said, I didn't think you'd have IBS because you're always doing something. And if I was going somewhere I would be careful around eating the night before. So I don't let it rule me, I just work it out.

		RC	1	30	It was hard to it was hard to accept that I wouldn't work again in that environment.
		SC	5	182	I realise that it's okay to not be in control of everything and I realise that I have learned that we're not always in control but it's okay because I'm still going to enjoy life.
		SC	2	76	I was so, so sad. I was still going through the denial. How could it happen to me? Surely, they got it wrong. Did I actually have a heart attack? At the time it was not a reality I wanted to accept.
		SC	6	224	Well. I was so excited. I really, really wanted to go and then all of a sudden, I realised it's a drink and drugs party. I'm going with my daughter and her friends, and I have actually accepted but that's not a really good place for me. To take my ticket and I'm going to get a day pass. So, the reality is now, how can I accept what my limitations are but still enjoy being that young 57-year-old is very young and you know what this you've just got so much in life and so much energy and spirit about you. It's pretty much what I want people to do. Live life and be happy
		SS	3	199	For me, it hasn't made me any different. I try to let go of any worries that come up and not let them get in my way. I think that that's important after having a heart attack. Both my husband and I still enjoy the same life that we always have and everything in moderation
Behaviour Change					
	Barriers	AC	2	60	There I guess the only thing that I could improve is probably stress levels and things like that which and even when it comes to the training and things I've always got all expectations and wanted want to be living up to certain things and I guess that puts some stress on myself as well. So that's the only place where I can improve, I guess.

		AC	6	230	But it’d difficult especially these days in today's social media and everything like that, instead of saying that you've did a six-mile run along the coast path doesn't look very good as you say. 30 mile walk in showers and things. Yeah, there was an element of that, not bragging as such, but a sense of achievement
		AC	6	250	I'll probably end up doing more with people than I did before. And yeah, which might be nice. Lots of people do play sports. You know, like, some of the social side of it, whereas I never did really. Yeah, so I guess I might have to be a bit more social. Now. I'll do my best anyway. Lots of it was just the logistics of it. You meet them at nine o'clock in the morning is 10 o'clock before you actually get going and then something that other people share and you've got to get up doing it early, come back. So that was why I did it on my route, it was to fit in more.
		AC	8	338	Because sometimes, you know, when you're dealing with medical professionals and things you've come away from thinking, but that's just what they say to everyone. And I'm not everyone, I'm someone different.
		BC	4	135	But when we were working away, we would have a big fried breakfast to keep us going for the day. Then we would snack and have a McDonald's or something..
		BC	6	224	I can’t really change much, so stress is the main thing that gets in the way
		BC	6	248	I was 55 felt quite healthy, I was fit, I wasn't overweight. And didn't realise that maybe treating high blood pressure and the cholesterol may have stopped the heart attack. I don't know. I couldn't stop the stress of work either. You know, you're feeling fine. You go to work every day you don’t think of things.
		JS	4	136	So gradually as time goes on, you forget about the things that you were supposed to be doing like healthy things and you start eating cheese again. But one of the reasons for that is because for six months afterwards, I became a pain in the arse, reading labels and taking 5 hours to go around Tesco’s because I was reading the back of every package. They'll tell you what's in it because you’re paranoid. Which I was

					ridiculed I was laughed at, obviously because that's ridiculous behaviour. But it's because you're so worried about it.
		JS	4	143	I went to see the doctor after six months and he said I was doing brilliant, I look good. And I was keeping the weight off doing more exercise going for more walks. So being the idiot that I am, when someone congratulates me, I decided that I will break it because I can't help it. So basically, went home and had a chicken Kiev pizza. The chicken Kiev pizza then decided to give me a massive spasm in the gallbladder which caused me 50,000 times more pain than the heart attack did.
		JS	4	153	So it turns out I'd ruptured my gallbladder and because I was eating so many good things so that's what my gallbladder did to me. So I would have been alright if I did have smaller bits of pizza, bits of red meat have cheese, chocolate but of course me there's a type person I am, obviously a greedy person.
		JS	4	161	I mean obviously that isn't the case, but it is because had I been eating a little bit of crap now and again it wouldn't have caused that reaction. So that's my psychological assessment psychologically thinking that I don't want that pain again so I'm gunna have that so that's the first thing that I'm blaming for being fat at the moment
		MC	4	133	Ah sleep. Because of [husband's] illness over the years, I've been a bad sleeper. And I could be lying at about one o'clock at night I'm back and forth to the toilet, sometimes three times in the light, but I'm just lying there. And I think I wish I could go to sleep; I wish I could go to sleep. I'm a really bad sleeper and if I've got anything on my mind, we're going anywhere or doing anything that effects my sleep.
		MC	5	176	Oh yes, the bit with the breathing? Yes that was relaxing I enjoyed that but then all the thoughts start again that's the problem.

		RC	3	102	I will go back to the exercise. Yes, I know that I can. I think it's the fear of mixing with the elderly and the fact that I could pass it on to them as well as well as they're passing on to me. So I think it's just the fear of that happening so much to say and as I've got to do what I'm told by the way by my wife.
		RC	6	229	The beginning bit was stuff that I already knew, I sort of know what causes a heart attack and I just don't feel like there's anything else I can do to prevent another one [heart attack] from happening.
		SC	6	232	But it seems to me that people that have heart issues are quite slow in actually doing anything. I think it's to do with confidence. The amount of confidence you lose is huge.
	Facilitators	AC	3	96	As far as the sort of psychological side of things I've through the cardiac rehab team, they have sort of suggested going to see a psychologist just come to terms with things.
		AC	6	226	I was running around the whole world and doing 1000 Miles. And so that's what I was doing at the weekend. And I'm still doing that. I'm just not doing it as I was before. I was doing sort of 20-30 mile sections as a run now I'm doing it in six mile sections with some support. So yeah, I can still do it. Sometimes it's good to do that. So I'll come up with other projects that break down what I used to do.
		AC	8	337	I think it'd be quite nice to would it be nice to talk to other people who were in a similar situation?
		BC	2	44	So, the rehab programme which was six weeks general exercise two mornings a week. And on one of the mornings you, your wife or your partner, your husband could come along, we would get a talk from someone, you know, professional could be someone, a dietitian something like that.
		BC	2	49	But so, the dietician would call one week, the psychologist came, and they were very helpful. There was someone who told me about stopping smoking.
		BC	2	64	The support part of it is, to me is certainly very important. We're not medical, we can't if anybody comes in with medical advice. We're you know, we're all we've all had heart problems ourselves where we can

					maybe say well, you know, sort of shows up or why don't you have a chat with such and such they've had a similar issue. Try and ease your mind.
		BC	2	72	I'm a great believer in support. I think a lot of people are frightened of support and I think if it's there you should take it.
		BC	2	81	It's all being Coming from the support I've been given and wanting to give support to other the people. I went through a stage when I first got home, and we didn't know what was going to happen. I was on incapacity benefit and out of work and it did affect my mentality to be honest to get up on a morning and things you know why am I here? I've not got much going on to support my family? But I went to see the psychologist and have come away feeling a lot more positive
		BC	4	137	So once I packed work in my diet went back to normal.
		BC	4	146	I probably about 20 cigarettes a day. And that was from the age of 15 when I started work till when I'm around about 20 of the where my wife and I were married fairly young and decided to start a family. You know, a pack of cigarettes we just couldn't afford them.
		BC	5	183	At the present time, helping other people and I think it was always the same even when I was working in life was earning and living. But continuing as long as I can to give support and let people know that there is these things out there. And you're not alone and there are people to talk to
		JS	1	18	Dad was a smoker and a heavy drinker, he was overweight and became more overweight because of the stress of everything and the stress of not being able to go to work way to because of the stress of being able to work and possibly something that I'm guilty of, so at that point I made a decision that I was never going to be a smoker. So this resulted in no smoke and because I never smoked I never ended up taking drugs and I regularly went to places where drugs were regular things but it wasn't something that I was ever going to do

		JS	1	25	Because if I've got a history of heart disease why would I put stress on that on that organ? Particularly cocaine or ecstasy was around a lot when I was younger. So that's why I've got a problem with it, that's why I don't do it. That's why I'm, like particularly heavy on the kids about smoking and drugs. So I never smoked, didn't particularly drink when I was younger but then you get into the habit of being a drinker the usual Friday Saturday night session. But generally, alcohol was as far as it went.
		JS	3	124	It's just a case of whether you action it or not and fortunately at that time, I had time to action because everyone was off work.
		JS	5	176	I have a client who is a psychotherapist and she recommended someone out of my circle completely. So as a result, I went to go down to this professor of psychology. I had 8 weekly sessions with him which were brilliant. And he was very helpful, they may think of things in a slightly different way, calmed me down. And I feel much better
		JS	5	214	So, how it is affecting the identity. It's made me feel as though I can help more people. Does that make any sense? Because I feel like I've got so much more knowledge because obviously I ask 1000s of questions, and I'm quite good at retaining them because I never smoked dope. So when people tell me something, I remember it really easily so therefore, when people are asking me questions, I feel as though I'm a more useful engine because of it, like I can help other people.
		JS	6	237	I really missed travelling in and out of work because I like to do some self-meditation and just sit and relax on the way home and you should relax your thoughts on the way to work.
		JS	7	267	It made me really reconsider how I'm going to approach work because I've never said I don't want to go to work. I've got to prove myself to be a useful engine like Thomas the Tank Engine. Doing the values activity is something that's actually changed my approach to many things, and I feel like this new way of living is calm and much better.

		JS	7	285	I think the mindfulness stuff was great. I thought it was really good to encourage people to do that and I've even started to do that more and I feel better for it.
		MC	2	55	So, it's hard to tell because our lifestyle changed when [husband] had his heart attack. Yeah, we changed our diet we change what we did, we got a different social of life. Where [husband] sort of worked, I've been on the school committees. I've always been outgoing. And then when [husband] had his heart attack, he couldn't actually go back to working and our social life started to revolve with friends we met as a cardiac group. Really, my rehab started with [husband] rehab. Let's say I was already in our system. Because in our cardiac group, your partner can become a part of it
		MC	2	71	To be honest, I think the positive change was when [husband] had his heart attack because he was joiner, and he was always on deadlines and pub refurbishments. So everything was sort of revolved around what he was away all the time and stressed and things like that. All the positive things came from a heart attack in a weird way was a blessing because he had such a bad back to see him go to work with his tools and things, we made a different life.
		MC	3	109	Yeah, the cardiac group. And when we joined the cardiac group, we also decided to do a course to be a walk leader and we walk like once a week with the group. And we organise trips with the cardiac group.
		MC	3	125	First of all, [husband] and my family. And then Friends. We have friends going back 20 years as part of the group. We've got to keep active and been active, as positive as well over the last year. The support, I think, giving the support to people, it makes me feel happy
		RC	1	12	So, my wife and the family were absolutely brilliant. They helped me through all of the sort of aftereffects of the heart attack. And then not long after, with three or four friends, we started the X cardiac support group, which was which was a great help because the same type of people as myself were there.
		RC	3	106	I'll be honest with you, I actually go to bed since I had the bypass surgery, which is the last 12 years ago I'll go to bed every afternoon for an hour, and I need that rest in the afternoon. I mean, I know I'm getting older

					now. I suppose a lot of being done same type of thing. So, whether that's my heart working slower or what, I just feel like I need that rest in the afternoon. So what it did to me was, it changed me because I've not been activated until I've had that afternoon sleep. So in the afternoon, if I sleep from two until three, I could then feel as though I could do an eight-hour shift. I mean I probably couldn't, but my mind starts working better in the afternoon after that rest. So, I can't physically work an eight-hour shift but I feel mentally like I can after my afternoon nap.
		SC	2	83	But I found people on social media, and I got some solace from lurking because I didn't want to connect but I could watch other people about their medication and their treatment and their feelings. It stopped me feeling so alone.
		SC	3	115	I recommend that heart attack survivors talk to everybody and anybody share your story. Write your story. I sat and wrote everything that happened to me down and there is an enormous amount of therapeutic cathartic about getting out there because I think acceptance is really important. And by talking about it, by writing about it, you're bringing it out that denial that you have of it couldn't really have happened to me by except and using breath work and meditation, but it's about if you can accept that it is happened and like you said it is not. it's not a death sentence.
		SC	4	134	And for me my starting off something small was being able to sit at my desk for 10 minutes and answer some emails. And that was exhausting at first, but I then got that feeling because I had set my heart on doing something I had achieved it even if it was small, and that started to lift how I was feeling. But essentially, talk. Talking is the main thing.
		SC	5	190	I think it's important to have that breathing space and be aware of the positive things in life because it's easy to get caught up in all what's going on around you.
		SC	5	214	When I was reflecting back over, what made the biggest difference for me for me, how did I go from being all about illness and not knowing what to do or not even particularly liking myself because I felt like. I felt

					guilty because I felt a like I had let my body down I felt down because my body let me down you know, all of that. And as I started a couple of nights thinking about it, it was like they were all the mindsets that I needed to go through. To finally feel okay and like I felt better than I did before I had my heart attack.
		SC	6	245	When people come into the group, there are a lot there are a lot of people in the group who are active and then there's lots of people in the group that aren't. I was never active, because I was watching and reading. But the number of comments that people have said, I'm so glad that I joined this group, I don't feel that I'm alone. I understand a lot more about what is happening to me.
		SS	2	50	I try to adopt the Greek philosophy, everything in moderation. I still have what I want to eat. I still drink alcohol. But I do it in moderation and I'm careful. I am a diabetic or type two diabetes diabetic.
		SS	2	57	Preparing for lifestyle changes, because obviously, you need to make sure that post operation, a heart operation, whatever it may be, you know, you need to make sure that you are sort of balanced and you have some enjoyment and pleasure in life.
		SS	2	73	So I say to people, try and get yourself as fit before the surgery, if you can, as well as getting yourself fit after the surgery.
		SS	4	131	I try to enjoy life and I think other people should do the same, so I liked the bit about what gives your life a sense of meaning. I think that can be beneficial for some younger folk who don't know what makes them happy.
Webinar feedback					
	Content	AC	2	77	No. So obviously, I had my heart attack seven months ago or so now. I've done quite well and engaged with all the cardiac rehab and read all the things that they give you and everything, so it was all in there

					anyways. And it wasn't I didn't learn anything new as such. Just yeah, it was just recapping things that I knew I knew beforehand.
		BC	5	216	But it was all easy to follow and easy to understand all the bits of information about heart disease. Very informative
		BC	6	224	I learned a lot about heart disease through the support group, so it wasn't really new to me.
		JS	6	246	It was fine, easy to understand. See the thing with me, I'm sure most people, is that basically we know we shouldn't be eating too much rubbish and it's easier said than done. I can imagine a lot of people who don't know the basics would benefit from it.
		JS	6	250	So, I think what you're doing is useful but what I liked the most was the bit about mindfulness and stuff about values. It's really important to be useful engine and when you don't have that, it can make people like me lose the plot a bit and start getting angry over stuff that I shouldn't even be bothered about.
		JS	7	266	I think that some people need the health information more than others, and that's not to say I'm some guru, but I have spent a lot of time like an idiot looking into what to eat and drink after a heart attack. I found the second part more interesting than the first if I'm honest.
		MC	4	149	Well, I would like to have some more information on sleep, I don't know if there's anything I can do because what it is, I find that I'm lying there awake for hours worrying about everything and any feelings in my chest before I can get back to sleep
		MC	4	169	Yes, I think it would be good to know about things like that if there's anything you can do to stop the thinking.

		MC	5	184	And no there's nothing, nothing that I can think of that would I would take out because it's all good knowledge and you see we see when people come to our group for the first time they don't know all this stuff and so it's good to have it explained in a way that's clear to understand
		RC	6	226	The beginning bit was stuff that I already knew, I sort of know what causes a heart attack.
		RC	6	226	I really liked the breathing activity, we used to do those in the group, and it was nice and short so yeah that was good. Another thing that made me laugh and my wife, she's laughing, she said the same, those faces on the bus. Put it this way, I'm a man who thinks about everything and I feel like I've got too many people on my bus all the time, but that's just who I am.
		SS	3	111	I think it was very well set out, yes it was clear. Having the background like I do in healthcare it was good to see. I can understand how people who didn't know much about heart disease would benefit from it
		SS	3	128	Well, for me personally, I liked the mindful breathing exercise because it's like the one I already do on a morning. It was shorter than the one I do which is around 10 minutes. I thought it was a nice break halfway through.
	Format	AC	3	106	There was nothing I didn't like, quite like doing you know, questionnaires and things. Like that. Anyway
		SC	4	147	It would be good to pause the video and close it down and come back to the questions. I watched the video and then the questions were there straight away. It probably doesn't affect everybody but if I've got an hour video to watch, I kind of would go into my lounge not to put on the television while I'm sitting on my computer.
		SC	5	197	People take in information in different ways. Some people like to read and write. Some people like to watch. I like talking so I don't mind doing podcasts and I would suggest that you consider additional formats for your webinar

	Delivery	AC	1	7	As far as technical qualities of it, it all worked, you know, pretty easily it was almost simple to do, just follow the link. It was really simple, I actually watched the video part of it in time and a half speed just seemed a bit better to me, but yeah, it was all nice and easy.
		BC	6	237	It was quite long, and I struggle with my concentration these days so maybe it could be done over a few sessions.
		JS	7	226	The only thing I would suggest is maybe finding a way of shortening it.
		RC	6	219	To be honest, I thought it was informative and I'm not very good with technology, but it was pretty straight forward to do. I thought it was a bit long in some parts, but it was okay overall

Appendix G: Reflective Diary

W/C	Activity	Learning points
18/01/2018	• Health Psychology Doctorate course induction.	• Aims and outcomes for professional doctorate in health psychology.
25/01/2018	• Created a logbook of professional practice as well as a reflective diary and started to work on plan of training. • Worked on L2 Counselling certificate. • Created Gantt Chart and Plan of Training for module one. • Critical summary of Plan of Training.	• Counselling skills such as unconditional positive regard, paraphrasing and body language are important when working with people in a therapeutic setting as a trainee health psychologist. • Record keeping and admin to demonstrate competency one, professional practice. It's going to have to become a professional habit for good practice.
1/02/2018	• Critical summary • Gantt chart.	• It was tight to try and get it done in two-years, but I will try my best. I'm starting with the largest projects first, the research competency, because it's more familiar and completing this will give me a sense of achievement. .

Signed by manager:

8/02/2018	• Critical summary. • Core L3 Child Safeguarding training. • Critical summary & SPSS refresh. • Critical summary. • Submit first completed draft of critical summary, PoT and Gantt chart for feedback.	• There's a lot for free training and I'm grateful to be in a role that provides this. • The Child Safeguarding course was intense, but I learned about the reporting procedures and made connections with Bernados staff.
15/02/2018	• Make changes on critical summary from feedback received. Systematic review refresh from previous work. Reading for Thursday on systematic reviews. • Reading for Thursday on systematic reviews. • Developing a systematic review research question and protocol. • Systematic review protocol. • Chaperoned service user to biometrics appointment.	• Starting to frame my question for the systematic review, which is difficult when I have a specific area in mind. There isn't a lot of literature on this area because it is specialised so pulling it together in a systematic review may be difficult but definitely impactful to direct future research. • I learned the importance of non-verbal communication as I chaperoned a service user to a biometrics appointment. I also used some Urdu phrases I have learned from my colleagues.
22/02/2018	• Systematic review protocol. Critical summary feedback update. • Draft a report for collaboration publication in the Journal of Forensic Practice on honour-based violence, from the health psychology perspective.	• This week I have learned about the importance of cross collaboration with other areas of psychology to provide a dynamic approach to research. With the study of Honour-based Violence being a new research area, it has mostly been researched under a forensic psychology perspective. My contact sought out my research perspective from health psychology because they believe HBV

Signed by manager:

	• Planned out and discussed 'Halo Exhale' – research intervention to be delivered to participants of the charity to improve health and wellbeing.	effects the physical health of a person, but there is not a lot of literature from that standpoint. • I have been planning the research intervention after my systematic review and I'm excited to implement it and get on-the-ground practice and hopefully provide some empirical evidence to guide practice with populations that have endured HBV.
1/03/2018	• Systematic Review protocol search terms. • Honour-based Violence (HBV) publication in collaboration with a professional contact through Halo. • L2 counselling skills workbook part 3 out of 4. • Halo exhale – session plan weeks 1&2.	• I have learned how to search using the 'AND', 'OR' method and was able to practice my counselling skills out on a colleague who came to me in confidence about an issue. My listening skills have improved but language skills could be better. I'm still finding my feet with my professional role and I'm trying all I can to improve my practical hands-on skills when working with people in a therapeutic support setting.
08/03/2018	• Supported a client to a Sexual Assault and Referral Centres (SARC) meeting. • HBV reading. Reflection on service delivery of support workers and clients. • Mindfulness day training with NHS (Mindfulness-based Cognitive Therapy – MBCT). • Halo Exhale session plans weeks 3&4	• I got to practice counselling skills with a client and my listening skills were challenged with the language barrier. It was an emotional experience to actually be part of. This reinforced reasons why I am doing this research intervention, Halo Exhale, and working in this role and undergoing the professional doctorate to become a health psychologist.

Signed by manager:

15/03/2018	• HBV publication writing on introduction and reading literature around best practice, clinical guidance and health outcomes. • Halo Exhale session plans weeks 4&5	• It's difficult to find literature directly on health outcomes and as a trainee health psychologist, I can see the connection but there isn't enough research out there at the moment which is making it difficult for the systematic review.
22/03/2018	• HBV publication. • Counselling L2 Part 4 of 4. • Emotional Processing Scale (EPS) course. • Halo Exhale session plan 6.	• I'm developing my communication and use of language in a therapeutic setting by building on the L2 counselling and taking up more training on the EPS which is a psychometric tool for understanding emotional regulation – central to behaviour change.
29/03/2018	• Disseminate EPS training to colleagues. • HBV publication introduction and literature review reading around health outcomes. • Halo Exhale overall course planning and development.	• I learned that it's difficult to convey psychology knowledge to colleagues in a way that they can applied. I tried my best and it made sense to me, but not sure if it made sense to them. I need to develop teaching and psychoeducation skills. • As I'm drawing closer to finishing the plans for Halo Exhale, I'm struggling with session topics so after consulting the MBCT course structure, I've decided on only conducting eight-weeks as opposed to my original estimate of ten-weeks.

Signed by manager:

05/04/2018	• HBV publication introduction and literature review sent for feedback from colleague involved in the collaboration. • Systematic review search. • Halo Exhale course materials and content (PowerPoint presentations and arranging of transport for outdoor activities).	• I am not expecting a huge return in literature from the search criteria, but I'm interested to see what emerges. • It's quite difficult to arrange the delivery of an intervention. Especially since I am solely responsible for organising of logistics and dates and there are a lot of variables to consider.
12/04/2018	• Systematic Review search. • Halo Exhale course materials and content (PowerPoint presentations)	• EndNote is a really useful tool, something I haven't used previously but will always use it going forward. Especially for systematic reviews. • Graphic design and PowerPoint skills.
19/04/2018	• Systematic Review Search	• Getting a lot of poor-quality studies in my searches that I can immediately see will be discarded against the criteria set. This may be a problem, but I will continue.

Signed by manager:

26/04/2018	• Systematic Review literature selection. • Consultancy basic outline of intervention • Systematic review analysis.	• Looking through there are some interesting studies, but I can't quite seem to get what I'm looking for specifically. I will persevere and use the systematic review as a process to find this out. • I have found a potential consultancy opportunity with a local police force from meeting an officer at a mental health event that Halo sent me to.
03/05/2018	• Systematic review analysis. • Consultancy basic intervention	• Continuing with the analysis of papers rejecting most based on the criteria. • Finally emailing the consultancy intervention and introduction email over to the contact in the police. It's difficult to know exactly what to plan when I haven't consulted the target group, but I've done my best to give a general idea of my skills.
10/05/2018	• Systematic review analysis. • HBV publication amendments from feedback on writing style. • Extra literature to read on suggestion from co-author on HBV publication.	• Standing ground with writing from a health psychology perspective is important.

Signed by manager:

17/05/2018	• Halo exhale research design • systematic review.	• Starting to get together the literature review for the research competency Halo Exhale intervention is an emerging area with not a lot of quality literature so I'm going to have to draw on research from supporting areas.
24/05/2018	• Systematic review analysis and write up. • formulation for Behaviour Change Interventions.	• Attending the Blue Light event which supports mental health of emergency service staff got me to see the need for support in the area and the charitable projects involved. I feel more enthused to support this cause.
31/05/2018	• Systematic review analysis.	• Finally, having deduced 11 reports as the final results on the systematic review, taking time to read through them and appraise them against the criteria.

Signed by manager:

04/06/2018	• Systematic review analysis – data extraction matrix. • Read articles for Systematic review- • *Social stress and depression during pregnancy and in the postnatal period in British Pakistani mothers: a cohort study.* • *The utilisation of Complementary and Alternative Medicine (CAM) among ethnic minorities in South Korea.* • *Cognitive–behavioral stress management and psychological well-being in HIV+ racial/ethnic minority women with human papillomavirus.* • *Developing a culturally adapted cognitive behavioral therapy-based intervention for British Pakistani mothers with persistent postnatal depression.* • *Group psychological intervention for postnatal depression: a nested qualitative study with British South Asian women..*	• The literature is quite wide ranging, but I really want to find out if there is quality evidenced based practice with the female BME population for increasing health and wellbeing. • I'm getting a lot of post/ante natal studies which could be applicable since increasing health and wellbeing and reducing stress is a key intervention for this population group. And I won't find mixed sex studies since it's post/ante natal (which is proving difficult to find female only studies).
11/06/208	• Annual Leave	
18/06/2018	• Reading on Neuropsychology and Nutrition and behaviour. • *Brain foods: the effects of nutrients on brain function.* • Halo Exhale report. • Teesside by Side Peer support group meeting • Systematic review introduction and methods writing.	• There is a wide range of health interventions available that could be applicable to the target population for Halo Exhale. I have included what I think will be best fitting from speaking with the clients I support at The Halo Project, but I'm always searching for more evidence and literature.

Signed by manager:

	• Formulation plan for emergency service worker intervention. • Meeting with supervisor, Mark, to discuss progress. • Reading on trauma: • *Traumatic dissociation: Neurobiology and Treatment.* • *Heal my PTSD website resources.*	• Meeting with supervisor was a chance to catch up on progress and ask about systematic review literature search. • I'm part of a peer support group and I'm now finding out about the impact of trauma on not just people who have been in abusive situations, like the clients I support, but also the responders and front-line staff who are involved too. The impact on their physical and mental health is huge as they face burnout and poor health behaviours like insomnia, addiction and poor diet.
25/06/2018	• Motivational Interviewing readings. • Systematic review second stage back search. • Initial placement assessment meeting for the professional doctorate. • Read Trauma resources from Ambivalent Goddess: • *Recovering from sexual abuse, reflections on the Trauma Model.* • *Learning from Medusa.*	• On the suggestion from my supervisor, I have started a hand search and back search of the 11 papers identified as potential final reports for the systematic review to find additional papers within my criteria area. • After the initial placement visit with Mark and my work supervisor, I felt supported and on track with both work and the doctorate.
02/07/2018	• Halo Exhale advertisement poster. • Halo Exhale research report literature review. • Read Trauma Resources from Ambivalent Goddess: • *An introduction to trauma recovery.* • *Practice living within your window of tolerance.* • *Making sense of the senseless.*	• Gathering research for the systematic review has given me some literature to review to hopefully feed into the research report. I'm starting to find better evidence within government and NICE guidance and there's some appropriate further reading suggestions. • I am also familiarising myself with how to practically speak with and work with vulnerable people with trauma in a psychological setting. I

Signed by manager:

	• *Getting your unconscious on board with your goals.* • *The phase-oriented model of recovery part I.* • *The phase-oriented model of recovery part II.* • *The core organisers of experience.* • *Working with emotions.* • *Working with beliefs.* • *Working with the body.* • *All that cannot be said.*	realise I have to lean on best practice evidence from therapeutic areas such as counselling and psychotherapy, which is arguably is a more clinical approach. However, in improving health and wellbeing, a health psychologist also needs these key communication skills to provide and impactful health and wellbeing intervention. Furthermore, stress is central to health psychology research and the impact of emotions on health behaviours, so it makes perfect sense to improve therapeutic skills. Although this is quite a difficult task to do on my own, I'm seeking as much reading materials and courses as possible to improve my skills in this area.
09/07/2018	• Systematic review expanded key terms search and data collection and organisation. • Halo exhale literature review writing. • Reading around appropriate scales to measure resilience and sense of coherence.	• I have decided to look back at my search terms and revisit the aims of my systematic review. The papers I found don't have a clear link to my research question so I'm searching again and tweaking search terms with the help of my supervisors, Mark and Tara. • I am also reading around accurate measures of resilience as another possible measure to include for the Halo Exhale. The intervention impacting on wellbeing and stress, measuring resilience could provide some interesting data as well as the other wellbeing measures.

Signed by manager:

16/07/2018	• Resilience scale manual read through. • Teesside by Side peer support group meeting. • Read resources for sexual abuse trauma therapy: • *The many selves of personhood.* • *Integration of the soul.* • Systematic review journal searches with amended search terms.	• I have found a great manual on resilience that has brief and extended reliable scales. Because of the potential language barrier for participants on the Halo Exhale intervention, I have decided to use the brief resilience scale for ease. • Another Teesside by Side support meeting and again I'm shocked to hear about the lack of support for first responders and the impact it has on their mind-body health. I'm motivated to research this from both angels, from the responder and the victim.
23/07/2018	• Prepared and delivered presentation about Halo Exhale to trustees of the charity, Halo Project where I work. • Searched for CPD training in working with trauma as a psychologist for the coming months. • Read and watched resources on Biofeedback for stress reduction.	• I realised that I needed to refresh my skills on anatomy and physiology to understand terms used when describing the effects of trauma on physical health. • I'm also searching for extra training on working with people that have experienced trauma. • It was good to present the Halo Exhale intervention to potential stakeholders and make more contacts in this profession. On reflection, I should have spoken more about potential opportunities beyond this project.
30/07/2018	• Halo Exhale report. • Teaching case study report framework and plan. • Systematic review literature search extended with new search phrases.	• I am dovetailing my teaching and training series with the research Halo Exhale intervention, since it involves a lot of health literacy and psychoeducation. • Continuing with the systematic review search so that it is thorough and hopefully find literature more in line with my aims and criteria.

Signed by manager:

06/08/2018	• Systematic Review literature search. • Read: *Disassociations and the Imaginal* • *Questionnaire Evaluation with Factor Analysis and Cronbach's Alpha.*	• I am brushing up on research methods especially since my workplace supervisors have asked me to find effective measurements and questionnaires to demonstrate the support of the charity on the target population.
13/08/2018	• Systematic review literature search. • Spreadsheet for Halo Exhale participants. • Halo Exhale schedule and planning for September. • Planning content for the 'Book of Healing'. • Teesside by Side peer support group meeting. • Planning for World Mental Health Day event with peer support group. • Updated info about Halo for the Teesside by Side members network website and brochure.	• Learning about the new evidence-based methods of working with participants with trauma. I have been drawn to researching on what self-employed therapists do in their practice, since they have to make it work otherwise, they wouldn't be able to generate clients and they would get a bad reputation very quickly if whatever they were doing didn't work. I'm hearing more about the somatic approach which appeals to my health psychology approach since it takes into account both the mind and body in reducing stress and anxiety from PTSD and trauma. • I have also decided to create a workbook so that the participants on the Halo Exhale can reflect on their progress throughout. I notice that some similar interventions apply this method and so I'm willing to try it out.
20/08/2018	• Funding budget and final organisation for Halo Exhale. • World Mental Health Day Event liaising and organisation. • Watched Dr Peter Levine's video tutorials and webinars.	• Next week I have booked onto a training day with Dr Peter Levin himself, who I have been intrigued by his research and Somatic Experiencing approach.

Signed by manager:

	• Read Dr Peter Levine's books: • *Trauma and Memory.* • *Healing Trauma.*	• I'm also finalising plans to deliver the Halo Exhale intervention in the next few weeks. All ethics and consent forms are being created.
27/08/2018	• A Day with Peter Levine – Refugees and War Trauma Workshop. • Halo Exhale workbook content planning. • Revisions to Halo Exhale because of knowledge learned at workshop. • Diversity in Tees conference distribution and booking attendees.	• Being quite disappointed with the workshop as it seemed to have been targeted at counsellors currently not undergoing further studies, as it was used as a platform to sell training in Somatic Experiencing. And after all, from what I know about it is highly applicable and evidenced by quality research, so in different circumstances, it would have been worth the money and time which I think is 2 years. However, it's not what I was looking for and I was sad to have wasted the money on the ticket. • What I am looking for is one-on-one supervision practice in communication techniques and approaches to help me with health behaviour change in populations with PTSD. Not only because I know from basic research that it is highly unethical to work with someone with PTSD in the same way as someone without; something like mindfulness can retraumatise the individual. But I also want to make my interventions a success, I want to know what works. Because right now, I'm not feeling confident in my capabilities. It seems I found yet another brick (pay) wall to the mysteries of therapeutic practice.

Signed by manager:

03/09/2018	• Halo Exhale plan from week 4.	• Revising the Halo Exhale based on more research around the area of PTSD. I'm feeling deflated like it's not going to be a success but based on health psychology principles of behaviour change, it should in theory be okay. I just feel like there's something I'm missing, and I don't know what.
10/09/2018	• Halo Exhale report method section. • Halo Exhale attendee list management.	• The method section write up of the Halo Exhale report has restored a little bit of confidence. I just have to deliver it now and see what the outcome is. I think with my contract coming to a close, I naturally want to do as best as I can with this intervention so that they keep me on because I want to stay and help a cause that I have been motivated to support from the start – survivors of HBV and front-line workers on PTSD, stress and poor health behaviours.
17/09/2018	• Halo Exhale attendee list management. • Co-designing core principles of maternal mental health peer support conference in Newcastle. • Deliver Halo Exhale week 1 intervention. • Teaching and training reflection.	• This week I attended a conference on supporting maternal mental health. Peer support is a word that's popped up quite a lot and it seems to be a community level intervention for specific groups of people. It's an important issue since childbirth is like a trauma and there is a likelihood that a woman will have complications of some kind to deal with. Traumatic births also being a possibility and the natural fluctuation in hormones, it's easy to see why maternal mental health requires attention and support.

Signed by manager:

		• This was also the first week that I delivered my Halo Exhale intervention and all of the phone calls and admin that I had to do to get eleven people in one place was quite remarkable. I didn't realise it would require that much effort and planning. Four out of eleven turned up and I suspect it was because of the stormy weather. The session was hijacked by a 'helper' who I had only met once who started to share a lot of personal information that was potentially triggering to the other participants. Nevertheless, it tested my group coordination and teaching skills to bring the participants back to focus. I will speak with this person afterwards to clarify the group aims. Once I got in the flow it was good and I was pleased with my teaching skills, especially with a language barrier.
24/09/2018	• Halo Exhale week 2. • Teaching and training reflection.	• Week two was a bit of a disaster to be honest, my car broke down and went into limp mode so was excruciating slow at pulling away and it could only chug along at 30mph which was not good in and around Teesside with the A19 and A66. I had agreed to pick up participants because of lack of attendance last week and we had a smaller room which was stuffy and poorly laid out. By the time I go there they were already in the room, and it took me a while to

Signed by manager:

		compose myself and set up. I have learned the value of room layout and being there before participants arrive.
01/10/2018	• Halo Exhale week 3. • Teaching and training reflection.	• Huge improvements from last week because of the room and my session on gratitude went down well with the participants. They were calmer and more focused, and they asked plenty of questions which was a good sign of engagement. We did a practical mindfulness activity, the body scan, which involves proprioception and is used as a safe grounding exercise for people with trauma as opposed to silent cognitive based mindfulness which can be stressful for this population.
08/10/2018	• Halo Exhale week 4. • World Mental Health Day event set up and deliver. • Teaching and training reflection.	• Today was the mindful nature walk so I drove the participants to a seaside location, and we had tea and healthy snacks provided from a café. The participants had never been to this location that was very

Signed by manager:

		close to where they were living because they simply did not know it was here. The walk was a good chance to get the body moving and to breathe in the sea air and scenery. We spent an hour in total walking along the coast with mindful prompts such as noticing the senses and taking moments to pause and look at the scenery in silence. I had a lot of fun today and we shared some laughs over lunch which as a facilitator is an added bonus. For some participants it was the first time they had left the house to visit a natural beauty spot. They all reported feeling content on the journey home. • I also presented today on World Mental Health Day for the Teesside by Side support group meeting. I got asked to do it at the very last minute because someone else dropped out. Because of everything else that was going on, with Halo Exhale, I didn't have a talk prepared and they expected me to talk for 30 minutes. This was a big mistake. I foolishly overlooked how it would be to be on a stage in an auditorium speaking on my own. I did not do well, and despite thinking I could just talk about Halo Exhale, I panicked and just explained the benefits of mindfulness which was a brief ten-minutes. On reflection I was doing okay and was about to be brave enough to conduct a mindfulness activity, but there were some school kids sat at the back chatting and laughing, probably not at me but I took it like that, and it really put me off my stride. I completely lost track of my thoughts and made a sharp exit off the stage. Overall, I left

Signed by manager:

		feeling completely embarrassed and annoyed at myself for not preparing properly. I have only given my worst fears and anxiety of not being good enough ammunition for yet another flashback. Great!
15/10/2018	• Halo Exhale week 5. • Brief summary of my work on the Prof Doc for the LJMU RCBB newsletter and website.	• This week we were in the same room as we were for session 3 and the layout was good with chairs in a semi-circle around the projector where I was presenting.
22/10/2018	• Halo Exhale Week 6. • Emailed supervisors for progress update on research competency. • Read, Eye Movement Desensitisation and Reprocessing (EMDR) APA guidelines. • Read, EMDR and the Adaptive Information Processing Model: Integrative Treatment and Case Conceptualisation. • Read, National Institute for the Clinical Application of Behavioural Medicine (NICABM) article on traumatic memories. • Webinar on bringing a client out of a dissociated state.	• This week we covered positive self-talk with the mindfulness element of noticing thoughts and internal chatter. I struggled a little with the language barrier, it being a more cognitive approach this week. And I was looking forward to the following week where we would be doing something practical. I learned that practical activities worked best with this participant group.
29/10/2018	• E-learning research on CSE and safeguarding. • Halo Exhale week 7. • Trauma online workshop working with dissociation.	• I have been asked by my workplace to develop a Child-sexual exploitation E-Learning course for taxi drivers in the local authority area. It would only involve me putting together slides of information for an IT professional to make into an e-learning course. I felt happy to be asked to be involved in work that I was good at and wouldn't take much effort.

Signed by manager:

		• What I now know looking back is that they were deciding if my contract was going to be extended and pitted me against another support worker who wasn't performing who was also involved in this task at the same time. Despite the above and beyond job that I did without question and working as a team with the other member of staff who had completed nothing by the time I handed in my draft, they decided to keep the other person employed because the managers were related to them. I was only to find this out in December with 3 months to look for another job which was devastating. And I found out this information from 2 friends who worked there at the same time as me who left shortly after my departing. Looking back now, it doesn't hurt as much as it did at the time and truth be told I needed the push to find new job in a fresh area. It took a while to recover from this, financially and mentally and I had to pause the doctorate for over a year and was tentative about returning. Still, I learned a valuable lesson about the world of work. *(Reflection on reflection 23/02/2020)* • This week was more practical, we spent the first five minutes looking at art inspiration on the computer and then we decided on what techniques they could apply mindfully without a lot of effort. For example, repeating patterns like mandalas and dot work. I had paints, pens, pencils and other craft items to allow the participants to create something mindfully without distraction. In their homes the

Signed by manager:

		participants all have responsibilities and childcare duties and don't often get time for themselves to relax and be in the moment. All the participants took to this activity well and within minutes of choosing their colours they were all silently working on their creation. I learned that this group responds well to artwork, but I may need more direction in terms of the mindfulness element, perhaps I could have asked them to draw what happiness or health means to them. But since this was the first time doing anything like this intervention, I just kept it simple.
05/11/2018	• Revaluated Plan of Training and reflected on all of the informal formulation based on experiences of the Exhale programme and learning from Uni sessions, Psychotraumatology research and webinars. • Halo Exhale week 8 – Yoga. • Teach and training reflective diary. • Systematic review research matrix final results. • Webinar on Limbic System Therapy	• Putting together all of the information that I have learned from the experiences of working with the target population of my research interests and all of the supporting health sciences and psychological approaches is quite a large task. Reflecting on my journey has made it easier to see where the knowledge has come from and how it has accumulated over the weeks. I really enjoy the reflective process and it's been the most beneficial tool I have implemented during this doctorate and at times, it's almost been like a silent counsellor. It's something that I will be motivated to upkeep beyond the doctorate. • Today I hired a local yoga teacher because I am not qualified to conduct this type of movement based physical activity. The session had only 3 attendees which was surprising, and I thought was interesting. I think the cultural barriers of a Muslim or for that matter any religious person to practice something that is quintessentially

Signed by manager:

		derived from Hindu spiritual paganistic practices may be a conflict of interest. Of course, the participants were not given enough explanation that it would be a basic movement-based activity without spiritual elements to it, and I should have emphasised this. If I were to do this again, I would market it as mindful movement and see if that would improve the numbers. Or perhaps the low numbers were simply because it is a form of exercise, and they may not have wanted to engage for typical exercise barriers.
12/11/2018	• Halo Exhale Report. • Halo Exhale last session preparation. • Post measures collection. • Teaching case study interview data collection. • Skype meeting with supervisor. • Data entry Halo Exhale into SPSS. • Transcribe teaching and training interview.	• Although the Halo exhale is an eight-week intervention, there is a final presentation of certificates on completion of the course. This was also a chance to collect post measures to see if there has been a lasting impact on the scales chosen to measure wellbeing. I also took the opportunity to collect some quantitative data. It was a lovely way of closing the research intervention and so lovely to see the participants again in the same room.
19/11/2018	• Exhale Report. • Data analysis SPSS. • Teaching case study reflection. • Transcribe interview.	• I lack interviewing skills and although I had a semi-structured interview planned, I found that I always ask closed ended questions. I hear myself doing it and get annoyed with myself every time. I get that caught up in it I panic and become flustered. I like a good conversation with people, and I feel it's better when it's natural, which is maybe why I feel awkward in interviews, but I think I got some good data because I already had a rapport with the participants I interviewed.

Signed by manager:

26/11/2018	• LJMU Ethics. • Exhale Report. • Teaching case study reflection. • Systematic review.	• On the back of a meeting with my supervisors I have been informed that the Halo Exhale that I had just completed was ethically invalid because I needed to apply for LJMU ethics. This is wholly my responsibility in miscommunicating my plans with both my supervisors. I'm looking on the positive in that I will run the Halo Exhale again and this time it will be better because of the amendments I will make based on all my reflections and learning points. I'm going to be working on applying for ethical approval before I can run it again next year. • How wrong I was, this was to add to the fatal blow in the next few weeks of receiving the news that my contract was up in March. I was unable to implement the Halo Exhale programme again and so I was absolutely devastated that I couldn't make the changes I had intended. *(Reflection on reflection 23/02/2020)*
03/12/2018	• LJMU Ethics. • Exhale Report. • Delivered communication skills presentation in team meeting.	• Putting together the ethics has helped me to better frame the research report that I had already started based on literature from the systematic review. I actually always enjoyed ethics because it helps to plan your research out properly and I wish I had not been so stupid to have missed this. From all my years of studying I know that the first term is all about getting the ethics form written as soon as possible to start work on the research project as soon as possible because of setbacks. I don't know why I didn't remember or realise that the doctorate would be any different. Major life lesson learned, communicate plans better with supervisors.

Signed by manager:

10/12/2018	• LJMU Ethics. • Read up on and watched webinars on Actigraph device (digital biomarker sensor for sleep). • Read up on Dyadic Developmental Psychotherapy. • Read Systematic Approach to Trauma (Woodcock). • Read Neurosequential Model of Therapeutics approach.	• I'm planning a BCI single case study with one of the participants who was on the Halo Exhale programme since I picked up on the fact that she could not sleep and asked for my help with that. I'm looking into biological markers of sleep patterns on the back of a suggestion from one of my supervisors, Tara. I realise the importance of making a note of conversations like this with participants because it gives a further opportunity to support.
01/01/2019	• Annual Leave.	
07/01/2019	• LJMU Ethics form LJMU Ethics and participant information, gatekeeper information and consent.	• I enjoy doing ethics, it helps to get a clear plan together for empirical research and it makes the process structured and guided. However, I wish I had started this earlier with my soon to be departure from the work placement. It is my hope that I can get ethical approval in time for me to run another Halo Exhale intervention before I leave at the end of March, so I'm trying my best to get it submitted.
14/01/2019	• Teaching and Training reflective diary and case study. • Systematic review writing.	• I learned that there is a lot of reflective work on the doctorate, more than I realised. It is a good thing because I enjoy reflecting, but if I have a lengthy series of ten-weeks to write about, it takes a lot of time. • Although I have to almost start again with my systematic review search because of the lack of quality papers in the search, I still have some good literature in the review, and I think it's worth saving some written points.
21/01/2019	• E-Learning CSE Taxi Drivers. • Systematic review writing. • One-to-one with client.	• I have been asked to make amendments to the Child Sexual Exploitation for Taxi Drivers so that the IT professional can turn it into an e-learning course. I just need to add more detail on how to

Signed by manager:

	• Client's discharge meeting from mental health ward.	report the safeguarding issue with local contacts and more specific detail. It has given me experience on the format of a basic e-learning course and it's something I may create in the future. • A client came in to see me about trouble sleeping. I used basic formulation to identify things that might be able to help. She has trouble sleeping because of her shift patterns, which are the opposite to her partner's, and issues with a single glazed window. She also consumes a lot of sugar to keep herself awake for the 5-12pm shift that she does every weekday. She also has job uncertainty and outside issues with her family. I suggested some basic recommendations for healthy sleep, but I also noticed that in conversation, she kept either reeling into the past or the future. It was clear to see that she has difficulty focusing on the present moment and this is related to anxiety both as a cause and a symptom. I suggested that she go back to her counsellor that she's been unable to see because she's been feeling so tired and to work out her issues there. I mentioned mindfulness but warned that if it exacerbates her anxiety to stop immediately but is something to explore to ground her in the present moment. • I have a client who has been detained under the mental health act and is currently being reviewed regarding their discharge. It's been good experience to see the process of when someone gets admitted into the mental health hospital and how the GPs, Nurses and social care staff meet to discuss the transition back home. I was part of this meeting as their case worker, and I got to meet a great psychological service that supports this transition. It's comforting to know that this client is

		being supported by multidisciplinary professionals despite not having a legal right to remain in the UK. Knowing my client and knowing their history and background it restored my faith in humanity.
28/01/2019	• Exhale update course content and materials. • Final check over ethical application. • Created new poster for Exhale. • Enquiry into Personal Trainer L3 Diploma.	• Having hired a yoga instructor for the last Halo Exhale intervention, I wanted to be able to deliver exercise and movement-based activities in the future as a health psychologist. I value being practical with participants, and I struggle with taking a passive approach, I also feel it adds credibility to what a health psychologist does because it's quite a difficult role for people to understand. If I can show people what practical things I can do, personally, as a health psychologist then people can understand the application of my services a little better. It also gives me guidance and inspiration for interventions and activities. I know this is not the way every health psychologist practices, but for me it makes sense. Also, with the prospects of picking up work in that area, being a fitness instructor is a good skill to have. Not only does it provide practical and functional training about the body and physical and mental health, which is the essence of my health psychology practice, it is also an employability skill that I feel I am missing. With my soon to be departure from this workplace I am homing in skills that I think I will need for future employment and if it takes a while to find new employment, I could pick up some self-employed business to bring in some income. • This was a smart move and one that motivated me to build up a portfolio of other practical fitness qualifications when going self-

Signed by manager:

		employed in November 2020. I actually went on to complete a GP Referral for Exercise instructor course and Yoga Instructor qualification because of its application to my practice as a health psychologist. (*Reflection on reflection 24/02/2021)*
04/02/2019	• Raising Awareness at Middlesbrough College Mental Health Awareness week. • Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (five x one-hour face-to-face). • Consultancy contract and session plan.	• Throughout my role at the halo project, I didn't have a case load of my own, but I did support with the support workers' caseloads in providing one-to-ones and behaviour change interventions. Since I was definitely leaving at the end of March, I wanted to spend some time closing my support with the clients that I had worked with over the years. It was a great exercise and I felt that I was getting closure as well as the clients. It reaffirmed the impact I had made in my time here and I felt proud of the work that I had done. I have grown as a professional in lots of ways and although I haven't got a finished piece of work for the doctorate, I have maintained thorough professional practice which is a large running competency.
11/02/2019	• Ethics application revisions. • Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (four x one-hour face-to-face + two x thirty-minute telephone). • NICABM webinar working with avoidance.	• I learned the value of keeping in regular contact with supervisors and I have not been keeping them up to date with my ethical application. I was just about to submit the whole thing without them looking over it and that was a mistake. I made the assumption that the application would go to my supervisors to be approved like in other universities, but LJMU has a different protocol, and I wasn't aware. I feel slightly deflated since I know now that I'm unlikely to complete this research as time is running out at this placement. However, there's nothing stopping me from going back to the work placement and conducting

Signed by manager:

		it on a voluntary basis, to which the work placement has already kindly agreed.
18/02/2019	• Consultancy contract and plan. • Fitness Instructor L3 Diploma week one.	• Today was the first day of my fitness instructor diploma and it felt really good to be learning a new skill and be back in the fitness environment. I try to maintain a regular exercise regimen but, like most people, it peaks and troughs depending on my circumstances to which there has been a lot of change in the past few years. Nevertheless, I am excited at gaining this practical skill and potentially picking up some work related to this area. I learned that some people have poor listening skills in an icebreaker task we did to start the session. I had remembered key points about the person who I was sat next to as we chatted and the person next to me couldn't remember a thing but my name. I felt proud of myself for this skill as I know active listening it's not easy and it is central to healthcare and psychology practice.
25/02/2019	• Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (five x one-hour face-to-face + one x thirty-minute telephone). • Consultancy plan and literature review. • Fitness Instructor L3 Diploma week two.	• Last year I took the time to brush up on my anatomy and physiology skills, this was tested in the second week of my fitness instructor course, and I was impressed at the level of knowledge required for this qualification. It gave me the chance to push myself to levels I had never explored, and this understanding gave me a deeper respect for the human body as I was amazed at all the intricate mechanisms that silently work away. It made me explore the connections between mindfulness and the stress response as I read more into literature for the potential consultancy project I am planning with front-line services.

Signed by manager:

04/03/2019	• Ethical application. • Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (three x one-hour face-to-face). • Fitness Instructor L3 Diploma week three.	• Feeling deflated and unmotivated to revise the ethical application and the Halo Exhale research intervention, it took a lot to open the document today and resume working on it. It's difficult at this point to carry on with something I know may not happen. I have to make the choice to continue and push through or to leave it and start again, I am temped towards the latter as I draw closer to the end of my work placement without another in place. I dread the thought of having a leave of absence from the doctorate, but I have to accept what's in front of me. I wish I had known sooner to prepare and find another placement. I have learned to always keep on the lookout for the next employment opportunity as a backup.
11/03/2019	• E-Learning CSE Taxi Drivers amendments to slides on feedback from IT developer. • Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (two x thirty-minute telephone). • Fitness Instructor L3 Diploma week four.	• On the telephone calls today with the clients I got a sense of sadness to not be supporting them anymore. I really struggle with imposture syndrome and perfectionism and not having final finished projects is anxiety promoting for me. However, speaking with clients reminds me of the good work that I have done and the softer ways that I have helped and supported. My compassionate focused language has been well received and I know has worked well with this population. I learned that early on from my counselling L2 course and it was implemented well within practice from there on with intention.
18/03/2019	• Focus on supporting clients with one-to-one appointments in preparation for leaving placement at the end of March – (three x thirty-minute telephone).	• I have found the fitness instructor course to be highly applicable to the health psychology doctorate as it is helping me shape and improve my interventions. I have the basis of a consultancy, research, behaviour change intervention and teaching and training series. I am

Signed by manager:

	• Fitness instructor course work. Planning a gym-based exercise programme and learner assessments. • Halo Exhale amendments to 'mindful movement' session based on information from Fitness Instructor course. • Online conference on improving function and wellbeing of people living with chronic conditions. • Fitness Instructor L3 Diploma week five.	learning about basic principles of fitness and nutrition which I am embedding into my Halo Exhale intervention. Having faced a lot of rejection from new placement employment, I am struggling to keep myself motivated especially with the stresses of being unemployed as of April. I'm trying not to let the stress overwhelm me, but I feel I have to focus on supporting myself. I have a meeting to discuss voluntary work with people with chronic and long-term conditions, but it's still not paid work which is what I need the most. • I now realise that my employment skills were massively out of date and that I needed support with rewriting my CV and targeted job applications. It was only until out of desperation that I found an employment agency to take on some temp work that I realised there are professionals who can help with those things. Evidently an employment agency was actually where I found my second placement in the October of 2019. *(Reflection on reflection 24/02/2021)*
25/03/2019	• Fitness Instructor course work. • Consultancy plan restructure. • Final day at Halo. • Fitness Instructor L3 Diploma week six	• I have learned the importance of accepting change. I had my final day at this workplace, and it provided closure on a chapter of my life where I have learned a great deal. It was sad to not see some of the friends I had made on a daily basis anymore, but we agreed to keep in touch. I believe that I left on a professional high and that my time there would be regarded as impactful. I received this feedback from the managers and other members of staff as they wished me well. I now need to move on to a different placement. I don't know where

Signed by manager:

		that will be or how long it will take me, but I know I will finish what I started with the doctorate. I have decided to use this time to further my skills in practical health and fitness areas and come back with a stronger skill set for the application of health psychology. • It's taken a while to look back on this placement since the shock of being unemployed crushed me on a personal level, so much so that it took a long time to recuperate my mental wellbeing. However, I learned a lot about the world of employment, and it further motivated me to eventually go self-employed. Reasons being that I had trouble finding a role that would allow me the autonomy and flexibility to practice and complete my doctorate, so I figured what best than to create my own role with the skills I built up in the interim period. *(Reflection on reflection 24/03/2021).*

Signed by manager:

03/08/2020	• Business plan • Social media scheduling, graphics, and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session one.	• I found the initial session of wellbeing Wednesday easy to plan and deliver. I need to slow down and lengthen pauses because all they can hear is my voice, so I need to maintain a calm composure for modelling purposes and relaxation. • From a teaching and training perspective the beginning sessions are always about safety and outlining the aims that I enjoy delivering. It sets the tone for the rest of the • The business plan is starting to shape into something real, although it's a large piece of work. It's a bit like ethics and it's helping me plan everything out. I have found help from the Prince's Trust.
10/08/2020	• Business plan • Social media scheduling, graphics, and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session two.	• I need help with social media and marketing because it is a lot to take on when I have a full-time job and a behaviour change intervention going on. I have sought help from a friend who knows a person who can help. I am prepared to pay for this as it is a massive ongoing job and I'm still learning. I don't actually use social media much personally, so it is like a whole new area. • The teaching and training aspects of the Wellbeing Wednesdays has been easy to embed with the behaviour change intervention since it involves a lot

Signed by manager:

		of psychoeducation through experiential learning. However, it's something I have to stay mindful of because of all of the tasks I'm juggling at the moment. I keep a log of the progress from both perspectives to keep an accurate description of the events and to separate the elements of each competency.
17/08/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session three.	• Social media is taking up a lot of time with my day-to-day responsibilities. I am now working with a social media accounts manager, but it's still a lot of work and I feel like an imposture putting myself out there in public. Despite this I'm pushing myself out of my comfort zone because that is where the growth is. I'm glad I chose to try and start a business now because it's definitely something I want to do when I graduate from the doctorate. If I make business mistakes now in training it will mean by the time that I am a registered Health Psychologist, I will have a stronger foundation to practice, as I know how quickly I learn.
24/08/2020	• Business plan • Social media scheduling, graphics and content.	• Almost halfway through the BCI & Teaching and Training series intervention, it's going well, and it gives me more confidence to know that I can do this

Signed by manager:

	• Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session four.	as self-employed. Although I still get imposture syndrome and I'm naturally apprehensive of going self-employed before Christmas this year. The great thing about it is that I have no pressures and I can continue working on it and working in this placement until I'm ready.
31/08/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 session & TT series five.	• Wellbeing Wednesdays BCI & TT series is halfway through, and it's been difficult to get mid questionnaires back from colleagues. It's been a busy week at work, and I have had an influx of new cases. I have learned the importance of pre-planning and making sure I follow up on emails. Nevertheless, I got the responses just in time for the following week, but it was close. I struggle with asking people to do things for me, especially since I know that it is a privilege to have my colleagues participating in my doctoral work. I need to work on my assertiveness.
07/09/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session six.	• This was a good session, but I made some mispronunciations and verbal errors. I think it's important that I get a better night's sleep. I am taking on a lot at the moment and with the heat on an evening and things going on in my personal life, I'm

Signed by manager:

		not sleeping well. Perhaps this altered my concentration today.
14/09/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session seven.	• The business plan has been reviewed by my mentor at the Princes Trust. I got some great feedback regarding my pricing structure and delivery. It's difficult to know how to plan a series of one-to-one sessions just like it was when I originally started at this placement. I can't use exactly the same format because I'm aiming for a different target demographic, and I can't use other people's materials since I will be profiting from it. Still, I am using a basic structure of appointment as I would in this placement, but as a psychologist it's difficult to reduce since what I can offer and who I can offer it to is so versatile and diverse. I'm just trying to speak with as many people as possible to get more information.
21/09/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session eight.	• It's difficult to manage all the aspects of work at the moment. I am really drawing on teaching from the book I read in the summer called Eat that Frog. I'm starting each day with a long to-do list, and it can be overwhelming at times. I am trying to focus on the task with the most impact and priority and I am

Signed by manager:

		walking on a lunch for thirty-minutes. I use this time to catch up on any reading via audio books to get me away from the screen. It's helping to break up my day in this stressful time.
28/09/2020	• Business plan • Social media scheduling, graphics, and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session nine. • Consultancy contracts	• I've decided to hand my months' notice in at work, I'm now preparing to launch my business and go fully self-employed. Even though I know I still have a lot of work to do, and it's daunting, I need more time during the day to concentrate on the doctorate work. I need the autonomy during the day to be able to fully focus on completing the doctorate and building my practice. • A consultancy piece has come out of the blue from a contact I made last year. This is a good chance to get the most out of this work placement. Although it is yet another task to take on when I am already stretched, I feel it is a perfect way to demonstrate the consultancy competency.
05/10/2020	• Business plan • Social media scheduling, graphics, and content. • Marketing and social media interactions. • Wellbeing Wednesdays BCI1 & TT series session ten.	• The final session of Wellbeing Wednesdays has been emotional because I know that I will leave this placement at the end of the month. I haven't told my colleagues yet as I don't want to draw attention to it.

Signed by manager:

	• Consultancy protocol • ACT introductory (BPS approved) webinar two-days.	I am still nervous about going self-employed for the first time, but I know I will enjoy being able to spend most of my time working on the doctorate. • I have pulled together a research protocol on weight management from a health psychology perspective in record timing, even for me and I am so proud of all that I have achieved in this week. I have given a lot of thought to this competency, but it is also pretty straight forward. The client is keen to have it done before my departure from the placement, so it is a win-win situation with timescales and scope. I am playing to my strengths, and this is when I work the most efficient. • I have decided to take on one final training course in preparation for my self-employment, Acceptance and Commitment Therapy. I know that this is a tool used with coaching and health behaviour change, and I am particularly interested in it for the training on use of therapeutic language and session structure. I have to listen to two days' worth of the introduction course before I do a live course next week. I have learned that it is a highly applicable method of behaviour change within the health psychology approach and I am looking forward to getting live training.

Signed by manager:

12/10/2020	• Business plan • Social media scheduling, graphics and content. • Marketing and social media interactions. • BCI1 report data and ethics admin and collation. • Consultancy PowerPoint presentation • ACT course (BPS approved) two days.	• Preparing for the final presentation for the consultancy and having finished the wellbeing Wednesdays BCI & TT series makes me feel like I have accomplished a lot with this work placement. I'm really looking forward to some autonomy when I go self-employed of daily schedule so I can write up all the necessary assignments for the doctorate. I have learned that sometimes projects come out of nowhere and that I have the capacity to manage a few at the same time. It's not something that I want to aim to do, as my mental health comes first, but I know that I have the strength to do it which is a good thing to learn about myself. • In this week I am also undergoing live training over video call in ACT. It is full of counsellors and therapists who are well established. I am nervous to speak within the group and just keen to sit back and learn what I can from the other professionals. I have learned that my work on thinking about 'self-limiting beliefs' is more of a CBT model, of which a professional can get drawn into with a client and it is not as an effective approach as opposed to highlighting mechanisms behind the thoughts such as avoidance, elimination or control. It's good to

Signed by manager:

		know that this model is behavioural and highly applicable to health behaviour change. It's also given me confidence and structure to sell my services.
19/10/2020	• Business plan • Social media scheduling, graphics, and content. • Marketing and social media interactions. • Consultancy report.	• My penultimate week I have spent seeing my case load and making sure I have seen them before I leave. Ensuring that closure is made between both myself and the participants. I have learned that this is an important aspect of working with people, especially in a psychological sense. • I have learned the value of health psychology research methods as a potential future consultancy, and I underestimated health professional's knowledge of empirical methods. It has given me confidence in my skills, but I am still needing skills in business negotiation as I didn't manage to secure future work. However, I have built up an excellent rapport with this client and I know that in the future I will be able to recall the quality of work that I did as a reassurance of my skills if an opportunity arises.
26/10/2020	• Business plan • Social media scheduling, graphics, and content.	• Being in the final week of employment at this work placement I have been careful to keep a record of

Signed by manager:

	• Marketing and social media interactions. • Consultancy report. • BCI1 report data and ethics admin and collation.	any evidence I may need going forward for the doctorate and all of the work that I completed on the work computer has been transferred to my own. • I have learned that writing up the consultancy piece what I delivered is more difficult that I first anticipated. I have been careful to collate all of the necessary evidence, but I am struggling with the concept of a case study report. I have only ever written one in my master's degree and it's not a format that I am familiar with, and I can't seem to find any practical how-to information, especially in context with health psychology. I'm going to persevere with the learning outcome provided and submit my best effort to my supervisors for feedback.

Signed by manager:

02.11.2020	• Business plan. • ACT Day 1 recording re watch and collate notes. • Social media scheduling, graphics, and content. • Website edits. • IT security check-up. • Marketing and social media interactions. • Corporate session plan. • Session plans and materials for one-to-one private sessions. • Consultancy report. • BCI1 report and data.	• Since there was so much to take in over the live ACT training, I decided to re-watch the recordings of the sessions so I could get a deeper understanding of the teachings. It's been incredibly beneficial because it's given guidance on the structure of the sessions. Being newly self-employed, it was important for me to have a physical plan so that I could be ready to deliver an intervention. I struggle a lot with my confidence and imposter syndrome, and I know it's going to take a lot of work to get my business up and running. So, some days are harder than others to motivate myself for an overwhelming amount of work. I find a resistance between trying to remain person centred but also wanting to be prepared for potential clients. If I get a general plan based on my training and target audience, I will have a good place to start.
09.11.2020	• Business plan. • ACT Day 1 recording re watch and collate notes. • Social media scheduling, graphics and content. • Website edits. • Marketing and social media interactions. • Corporate session plan. • Session plans and materials for one-to-one private sessions.	• I had to turn down some potential voluntary work for the St Helen's and Knowsley hospice. It would have been great, but as they kindly reflected back at me "if I'm not earning money, I have to be doing something towards the doctorate.", for which they could not provide. Because of COVID-19 there were more restrictions and they said that not all of the

Signed by manager:

	• Meeting with Helens and Knowsley Hospice project. • Consultancy report.	patients had access to technology. I was looking to do an online based pain management BCI with cancer patients which would have given me the valuable experience of working with a specific illness group. Since I have only ever worked on the wellbeing and stress reduction for a non-ill population, I was looking forward to the chance of broadening my experience. However, it was not to be, I have made connections for the future.
16.11.2020	• Business plan. • ACT day two recording re watch and collate notes. • Social media scheduling, graphics and content. • Marketing and social media interactions. • Session plans and materials for one-to-one private sessions. • Terms and Conditions. • Privacy Notice. • Consultancy report. • Teaching and training report.	• I have created my privacy notice and terms and conditions with the approval of my supervisor in relation to the wording and transparency of my doctoral studies. This was a difficult thing to collate since my circumstances are usual. Typically, psychologists are licensed and registered when they set up their practice, and I am not as of yet. Therefore, I need to be clear about my role and my scope so that there is transparency and ethical consideration. I call myself a coach since this is not a protected title. I have decided against calling myself a health psychologist in training since in the business world the word 'trainee' or 'student' has negative connotations and could affect the pricing of my work.

Signed by manager:

23.11.2020	• Business plan. • ACT day two recording re watch and collate notes. • Social media scheduling, graphics and content. • Marketing and social media interactions. • Terms and Conditions. • Privacy Notice. • Embodiment videos, seminars and reading. • Session plans and materials for corporate groups. • Session plans and materials for starter package one-to-one. • First session with first client SD. • Teaching diary reflection.	• Surprisingly I have received a self-referral for my first ever client in such short notice. I was delighted but also felt underprepared since I did not think that I would get any clients until next year. It threw me a bit because I was still developing my session plans and branded materials. I was so nervous, but we had a good first session lasting 2 hours with what I had planned. I learned that I should remember how good I am with people in session and not rely too much on the session activities. It's easy to freeze when you feel that you don't have the information there and then when the client asks you a question. I find comfort in planned activities for now, but I'm sure as my practice improves, I will rely on those less and less. When I was a Health and Wellbeing Adviser, I hardly ever used materials in session, I don't know why I am behaving differently. Probably because I have more riding on this and if I fail, I will have lost a big part of my identity and will have no career. Sometimes I wonder if it's my prerogative to put myself under extreme pressure.
30.11.2020	• Business plan. • Social media scheduling, graphics and content. • Marketing and social media interactions.	• I received a second more urgent referral and was amazed at how quickly it happened after receiving my first. I am working tirelessly to created word

Signed by manager:

	• Session plans and materials for corporate groups. • Video tutorial on creating editable word documents. • Created word document worksheets and handouts with logo and protected from editing (mindfulness and information on ACT, PAR-Q). • First session with second client GB. • Teaching diary reflection and report.	documents to handout to my clients to practice between sessions so still feeling underprepared. • This client has a lot of issues and he benefitted more from an active listening approach than activities. However, this client spoke more than the previous client which I wonder if I should try and get other clients to do the same instead of relying on activities? I was worried that I wouldn't be able to keep up with the thread of conversation, but I took some deep breaths and kept listening, avoiding the urge to jump into the conversation, which was difficult. However, this client was in a hyper-aroused state so I figured it would be beneficial to allow them to run out of steam, which they did eventually. Mindfulness type activities will not work with this client since they were triggered by the idea of 'relaxation'. So, I kept a mental formulation as they were speaking and only gave advice when they asked and paused. • I realise how different each client could potentially be and I myself, although I did what I think was a good job, am feeling stressed and overwhelmed after this session.
07.12.2020	• Social media scheduling, graphics, and content. • Marketing and social media interactions.	• This week was hectic, but I managed to fit everything in, I have been working through the weekends just to

Signed by manager:

	• Session plans and materials for corporate groups. • Session plans and materials for starter package one-to-one. • Second session with second client GB. • Recorded audio for five-minute mindfulness activity. • Consultancy report and collate contract and supporting documents. • Teaching and training one off diary reflection dovetailed with the consultancy.	get all the preparation and admin done for my one-to-one sessions. It's taking up a lot of time now, but I realise that once it's done and the processes are in place, then I will have more time to rest and recuperate. • I got some good feedback from this client saying that my mindfulness recordings were good because it was like they could access me between sessions which was comforting. It wasn't too difficult to record but I did have to take a lot of retakes because I messed up the flow. Building up this bank of materials will help save time for future clients.
14.12.2020	• Social media scheduling, graphics and content. • Social media promotion collaboration with LW (Yoga Studio owner, Bolton). • Marketing and social media interactions. • Session plans and materials for corporate groups. • Session plans and materials for starter package one-to-one. • Podcast interview with Positive Heads. • Recorded two mindfulness audios. • Systematic review literature search and ideas. • Consultancy report and collate contract and supporting documents. • Teaching and training diary reflections dovetail with consultancy.	• I have decided to collaborate with a friend who has a yoga studio and offer a month package where they would get two x two-hour group sessions with me and some weekly live yoga recordings. This will help with exposure, and it will help with experience in delivering group sessions. • I learned this week that I am not good at speaking about my business just yet. I did a podcast and all of my preparation seemed to go out of the window as I spoke fast and with nerves. Not a good look for a psychologist. I need to improve these skills.

Signed by manager:

21.12.2020	• Social media scheduling, graphics and content. • Social media promotion collaboration with LW (Yoga Studio owner, Bolton). • Marketing and social media interactions. • Session plans and materials for corporate groups. • Session plans and materials for one-to-one sessions. • Third session with second client GB. • Business Networking International (BNI) Meeting. • Systematic review literature search and ideas. • Consultancy report.	• I am still planning the group sessions to deliver in collaboration with my friend. It's taking longer than expected because there's just so much I could do with this group. In sticking with my training of ACT, I'm planning the sessions around that. It's difficult to squash it all into two sessions, but I'm hoping it will impact their health and wellbeing as well as giving them a taster of my services.
28.12.2020	• Business plan. • Social media scheduling, graphics and content. • Social media promotion collaboration with LW (Yoga Studio owner, Bolton). • Marketing and social media interactions. • Session plans and materials for corporate groups. • Session plans and materials for one-to-one sessions. • Fourth and final session with second client GB.	• I have realised that I need workbooks to go alongside the group sessions. I have decided to call it 'Body Kind, Healthy Mind.' I have protected word documents, but if these people are paying good money for a course, I want my materials to be more professional. I have decided to create an editable pdf workbook which I have never done before. It's quite a lot more work and I wish I could just pay someone to do it for me, but money is tight. • I also felt despair in the pit of my stomach as I realise that all of my one-to-one client materials should also be editable PDF files and I would have to go back through all of the word documents I painstakingly created a few weeks ago.

Signed by manager:

		• Overall, I can say that I am uncertain about how the next year is going to unfold but surely, I've got to get some reward in respite for the rate of work that I've been going at?
04.01.2021	• Social media scheduling, graphics and content. • Collaboration with LW (Yoga Studio, Bolton), 'Body Kind, Healthy Mind' course create content and materials – workbook one. • Marketing and social media interactions. • Session plans and materials for corporate groups. • Business Networking International (BNI) Meeting. • Meeting with LJ– coach. • Meeting with SK – marketing consultant. • Consultancy case study report.	• I have learned that creating editable pdfs is a long and difficult process, but I have got better at it from the use of software and feedback from friends. • I have learned that I need to develop my business skills which is why I have joined the BNI. This is a local business group that pass referrals between members. I also get a weekly sixty-second pitch and access to members across the world. I have been wanting to tap into the global market sop I think it will be pivotal in my success as a psychologist. • I received feedback on my consultancy piece that it is not quite finished yet and I need to make amendments to the report. Since I have little experience in writing a case study report, this is something I'm struggling with. However, I'm persevering and speaking to other students on the course about it for some guidance and book recommendations.

Signed by manager:

11.01.2021	• Collaboration with LW (Yoga Studio, Bolton), 'Body Kind, Healthy Mind' course create content and materials – workbook one. • Final session with SD. • Marketing and social media interactions. • Session plans and materials for corporate groups. • Business Networking International (BNI) Meeting. • Meeting with PL (BNI). • Meeting with LD (Princes Trust). • Meeting with LC (BNI). • Meeting with NO (BNI). • Meeting with JN (BNI). • Power Team meeting BNI. • Systematic review – search terms and Cochrane library search for inspiration on existing papers.	• Planning a zoom meeting with more than one person a day is draining and exhausting. I will only leave my meetings to a few per week and only on Wednesdays and Thursdays. This is so I can manage my workload effectively. • I need to learn about the wants and needs of the corporate world and how to grow my business and get a steady stream of referrals. I have learned a lot already through the one-to-one meetings with other members in my group, it's been great to have their support. • Also, there are a lot of learning materials provided through the BNI that are accessible online. I have really improved in my elevator pitch and targeting specific asks for referrals. I did this through completing the BNI one-to-one referral sheet. It's a very useful tool and helped me to clearly map out my referral requests and also got me to think a little bit more about my business aims. • After doing a small search on basic literature, I have found that there's a lot of Cochrane reviews on yoga, so I'll have to do some more investigation on the areas that I'm interested in.

Signed by manager:

18.01.2021	• Business plan. • Website edits. • Collaboration with LW (Yoga Studio, Bolton), 'Body Kind, Healthy Mind' course create content and materials - workbook one. • Business Networking International (BNI) Meeting • BNI 121 referral request sheet update for sixty-second pitch. • BNI Member Success Programme Training. • Meeting with SF (BNI). • Meeting with PW (BNI). • Meeting with LC (BNI). • Meeting with NO (BNI). • Meeting with JN (BNI). • BCI1 report data.	• After looking at my plan of training, I have decided to concentrate solely on the consultancy and teaching and training during the month of February. I have spent a lot of time meeting with people from the BNI but now I need to focus and get some intensive work done. I am also going to try and complete the BCI, and TT competencies by June and once they're done, I can focus solely on the research competency and take it systematically from the systematic review. Now I am more aware of the structure of a consultancy case study report, through speaking with another student I am confident I'll be able to pull what I have already written together to format it in a way that will hit the learning outcomes for the competency by the first week of February. This has given me more confidence and I am motivated to get that piece finished.
25.01.2021	• Business launch meeting with L (Princes Trust) • Website edits. • Collaboration with LW (Yoga Studio, Bolton), 'Body Kind, Healthy Mind' course create content and materials - workbook 2. • Member training (BNI) – chapter growth. • Meeting with SL (BNI). • Meeting with SS (BNI). • Meeting with SK (Marketing).	• From meetings I have found that the most impactful referral for the corporate referrals for my practice would be an HR director. I learned this through meeting my group members of the BNI and so I asked for this in this week's meeting in my sixty-second pitch. • There is a lot of design work involved which is taking up a lot of time, but I have finally completed

Signed by manager:

	• Business Networking International (BNI) Meeting. • Initial consultation with third client CC referral from BNI. • Upgrade materials from word documents to editable PDF files with branding design – T&Cs, Consent and PAR-Q. • Teaching and Training Diary.	the two workbooks for my Body Kind, Healthy Mind course that will now run in March. I wish I had the funds to pay someone to do all of the marketing side of things for me, but I am quite proud of myself that I have learned a new skill, and actually I found that I am quite creative which I didn't know about myself.
01.02.2021	• Meeting with CK (BNI). • Business Networking International (BNI) Meeting. • NEPRO register for local authorities' business referrals. • Meeting with mentor from Prince's Trust. • Marketing workshop with SK. • Consultancy report.	• On speaking with people in the Prince's Trust, I have found another potential avenue of referrals with local authorities, the NEPRO register. I'm going to have a look into that because the more referral streams the better. • Working on the consultancy I had no idea it was so reflective, and I've been writing it more in the style of a traditional research report. It's been quite good because I have kept detailed reflective diary and I have integrated it into the report.
08.02.2021	• Business Networking International (BNI) Meeting. • New York BNI meeting. • Teaching and Training diary (almost finished, to complete summary and conclusion). • BCI2 planning stages with new client. • ACT session plans one and two out of six for new client potential BCI2 participant. • Branded materials create on Canva and pdf escape (to make them editable):	• Already I have had 3 referrals to speak with HR directors and so I look forward to meeting with them in the coming weeks. This will help me to formulate my practice to their needs and issues of which health psychology can be applied. I'm particularly interested in the language they use and their key issues that I could help with and who to speak with next.

Signed by manager:

	Hexaflex, behavioural commitment worksheet, Triflex, Intro to the four F's, Fusion vs. defusion, Forty common values worksheets, ACT Matrix worksheet, Weight management resource.	• I also got a one-to-one referral from the BNI which is great. This person requested six sessions over three-months. I have also asked them to be part of my BCI2 single case study to which they kindly agreed. So, progress is on target for my plans to complete the consultancy, TT and BCI competency before June.
15.02.2021	• Business Networking International (BNI) Meeting • Session one with client CC. • Networking meetings with physiotherapist from New York • Marketing session with SK two of ten. • Teaching and training summary, conclusion and appendices. • Teaching and training diary (include extra words from report) • Amendments to consultancy report. • BCI2 plan with new client.	▪ I came down with a migraine for a few days after my first appointment with CC. Maybe because of the amount of time I have been spending on a computer lately and maybe because of the stress of a new paying client, with so much riding on it. I have learned the importance of walking outdoors when I can to make sure I get my blood flowing. I have also increased my water intake. ▪ I had a meeting with my supervisor, Mark, and we agreed to catch up every month to ensure I am maintaining progress with the doctorate work. I have learned the importance of making regular appointment with a supervisor regardless, since I only really have appointments with them at important junctures of change or when something is going wrong. This could be where I have slipped up

Signed by manager:

		in the past regarding not completing an ethics form for Halo Exhale research project.
22.02.2021	• Business Networking International (BNI) Meeting • Updated and tidied up all reflective logs from the beginning with same format throughout. • Marketing meeting with SK. • Meeting with Prince's Trust mentor. • Meeting with HR contact. • Prepare for next session with client CC. • Read five chapters on Never Split the Difference: Negotiating As If Your Life Depended on It. • Completed book Exactly What to Say and When to Say it. • Teaching and training diary • - BCI2 admin with new client.	• Having the support of a marketing friend has been amazing, in fact the support from anyone who reminds me that I need to slow down and do less is welcome. • I have set myself the challenge of finishing the doctorate by Christmas this year, I feel confident that I will be able to get the work completed. It is a big push but one which I think will be worth it, as I know that once I have a target date, I feel more motivated.
01.03.2021	• Business Networking International (BNI) Meeting • Session two with client CC – BCI2. • First group session of Body Kind, Healthy Mind. • Blog post on sleep. • Video on gratitude. • Leaflet content targeted at stress in the workplace.	▪ I have decided to look into Samaritan's suicide prevention training in order to increase these language skills over the telephone and to improve negotiation in general. ▪ Also, I have started listening to hypnotherapy recordings on a night-time before I sleep to help with my own eating and exercise habits that have fallen by the wayside since Christmas, partly because of the volume of work I have had over the past few

Signed by manager:

		months. I feel like an imposture for not practicing what I preach, and I like to maintain authenticity as a practitioner. Also, I alternate between that and hypnotherapy for confidence and self-esteem which takes a battering sometimes when working on my business development.
08.03.2021	• Business Networking International (BNI) Meeting. • Blog posts for the year on sleep, shame vs guilt and burnout, benefits of a psychologist, what is acceptance, why crying is healthy, why health habits are not easy, World Mental Health Day conversation starters. • Leaflet targeted at stress in the workplace. • Teaching and training diary. • Plan Session three with client CC. • BCI2 reflections.	▪ I keep myself in check with my practice around health psychology specifically and I have now come to realise that I should not feel guilty about focusing on the more psychological and emotional influences of health. I am always worried in case I appear too clinical or counselling psychology like sometimes and I often get the sense that I should be more of a health coach. But I've got to say, health coaching bores me and I don't feel inclined to share they typical health information, eat well, exercise more, sleep better. It doesn't quite gel with me because I know that it's not enough. And I know that it can be triggering and a turnoff for other people too, myself included. Through speaking with clients who are well educated working people, they are aware of the vast amount of health information out there. But that doesn't mean they engage with it. Burnout and stress is the real issue that people seek help from my

Signed by manager:

		services and with my ACT training I help people put into place what they already know, which I think is far more fitting for a health psychologist. ▪ This week I have created all of my content for the year so that it is out the way and I'm not worrying about it whilst practicing and working on the doctorate. I have also spent a bit more time putting together ideas for a pitch presentation to promote my services in HR CIPD meetings to generate referrals. ▪ I really actually enjoyed writing the blog articles because it had a reflective and personal tone of voice to it with mixing in scientific objectivity. I have a responsibility to write about psychology in that way and whilst I can make it sound more friendly and personable, I always adhere to the scientific objectivity with plenty of quality references. I also like it because the sentences are short and snappy and the whole structure of it is different to a research paper. I like cutting down on waffle and I find it an enjoyable challenge to write in clear and concise statements to suit a more relaxed attention span of a lay person reader. ▪ I have also enjoyed writing about the emotional influencers of health behaviours which is very much my speciality within health psychology. It further reaffirms where I stand as both a practitioner and an

Signed by manager:

		academic. I also like how the content that I write is different from my health coach competitors because the literature and theoretical underpinning is higher quality.
15.03.2021	• Business Networking International (BNI) Meeting • Session three with client CC – BCI2. • Meeting with supervisor. • Second group session of Body Kind, Healthy Mind. • Teaching and training diary. • BCI1 report. • BCI2 case notes and reflections. • Teaching and Training report evaluation and feedback amendments.	▪ Having finished the first draft of my teaching and training competency ahead of what I had scheduled I feel relived as it has worked out to be quite a large piece of work. I can now start to focus on completing the BCI competency now so that I will have a completed draft to send in by the middle of April. I feel so motivated lately and I am incredibly grateful that I now have the time during the day to work on the doctorate write up because of being self-employed and being able to flex my work. ▪ The second session with my client went incredibly well and I am happy with the way that she is progressing towards her goals. I keep detailed reflective logs and case notes about the process of this and it is also feeding into my BCI2 single case study. I trust in my formulated intervention using ACT as it appears to be having an impact on her desired outcomes of weight management and mental wellbeing. ▪ The final session of Body Kind Healthy Mind went amazingly well, and my two participants have changed their lives. I really trust the process now

Signed by manager:

		and I believe in my services. It's given me a lot of confidence for ACT and my skills as a psychologist.
22.03.2021	• Business Networking International (BNI) Meeting. • Meeting with Prince's Trust Business Mentor. • BCI1 report data entry. • BCI2 literature review. • Met with counsellor to initiate cross referrals and check out the therapy room space for hire.	▪ This week was a slow week, after handing in two large pieces of work for the Teaching and Training, my body and brain were telling me to have a break. I felt resistance to this, of course, not wanting to slow down the momentum to dive straight into the BCIs to push to complete them in a few weeks' time. I managed to finally finish data entry for the BCI1 and did some writing on BCI2. ▪ And I also met with a counsellor who has a beautiful new space to hire for therapeutic sessions. This was a great business meeting and I'm sure we will be working together in the future and using his homely therapy rooms at £10 per hour. ▪ Finally, I managed to get my leaflets and business cards designed and printed so I can now go ahead with networking and marketing for corporate work. So, it's not as if I have done nothing this week. When will I learn to listen to my body when it needs a break instead of fighting against it and pushing through for the sake of progress?
29.03.2021	• Business Networking International (BNI) Meeting. • Session four with client CC – BCI2.	▪ Because of various other commitments with the doctorate, I have arranged to complete the

Signed by manager:

	• BCI1 report analysis. • Presentation for HR meetings & BNI to be delivered on the 8th of April.	presentation for my 10-minute slot at my BNI meeting until this week. The aim so for me to have a longer slot to pitch my business and educate the members on what it is that I do as a trainee health psychologist and how they can generate referrals for me. The ideas have been pouring from my mind onto paper and it is going to be really difficult to narrow it down within the ten-minute time slot. I have cut out a lot of materials already, which will not go to waste since I am planning on delivering a webinar for my research competency. I feel that these slides will come in handy, so I have saved them in a separate presentation. ▪ I am rusty on the basics of SPSS, so I have spent this week reading up on stats and ensuring I produce the correct analysis for the data I collected for my BCI. I know that I need to do a one-way ANOVA, but I forgot about the descriptive statistics, which is why I was glad to pick up a textbook before conducting the analysis in SPSS.
5.04.2021	• Business Networking International (BNI) Meeting. • BCI2 prep and reflection for session five with CC. • BCI results. • Presentation for HR meetings & BNI to be delivered on the 8th of April.	▪ Having my first COVID jab at the end of last week and it being Easter – I didn't manage to get a lot of work done over the weekend as I planned. I was quite poorly with it and when returning to work on

Signed by manager:

		Tuesday I had to use the small amount of energy I had to complete the ten-minute presentation for the BNI. ▪ The BNI presentation went really well, and I managed to educate the members on health psychology and how I work as a trainee health psychologist. ▪ I am still working on the results; I think for more fear than anything in case I mess it up. Now that the presentation is out of the way and I am regaining my usual energy levels, I should have it written by the end of this week to start to conclusion and discussion next week.
12.04.2021	• Business Networking International (BNI) Meeting. • Session five with client CC – BCI2. • BCI1 results.	▪ I have been asked by the BNI group members to introduce the meetings with a two-to-three-minute wellbeing activity. Today I chose the 'five, four, three, two, one' sensory activity because it's entry level with minimal risk and is appropriate for the setting. It went well and they all said they were relaxed. ▪ The session with CC went well again today and her scores on the psychological flexibility and SWL measure have improved. She is cheery in her demeanour and is reporting to be sleeping less and continuing to lose weight gradually. She is amazed

Signed by manager:

		at the difference in her own outlook on life and I'm glad that the ACT intervention is helping her.
19.04.2021	• Business Networking International (BNI) Meeting. • BCI2 Introduction and method section.	▪ This week for the BNI meeting I did a 'four, seven, eight' breathing exercise and was mindful of contraindications such as high blood pressure, COPD and anxiety. However, as always I make it clear that all activities are an invitation to practice and if anything feels uncomfortable stop. ▪ Having just got my morning swim back in the past week, I am experiencing headaches and joint pain, particularly in my arms and shoulders. I don't know if this is to do with the side effects of my COVID jab I had a few weeks ago, but my work has slowed this week. I don't think I have given myself enough time to rest and on returning to my work duties I came back with full force. I'm taking things slow this week and concentrating on the important tasks. ▪ Having had issues with my BCI1 results, I met with my supervisor a few times this week to go over the process with SPSS from start to finish. I don't know if it's lack of confidence, brain fog from stress, being out of practice, or the psychological effects of the

Signed by manager:

		COVID jab – or a combination of all of them, but I felt really slow this week.
26.04.2021	• Business Networking International (BNI) Meeting. • Session 6 with client CC – BCI2. • BCI2 data analysis. • BCI2 results, discussion and conclusion.	▪ This week for the BNI I am doing a brief introduction to gratitude since it's an entry level wellbeing activity with minimal risk and will work well within the timeframe given and the tone of the meeting. I'm planning on doing a different gratitude activity over the coming weeks to keep a steady flow of material. ▪ The BCI1 report should be finished by the end of this week, which I am so pleased to say. Although it was a relatively simple intervention, it's taken me a while to get my head around the difference between a reflective report and a research report. Once I overcome that learning obstacle it's looking great. It still astonishes me about the amount of work and writing that can be pulled out from a seemingly simple intervention. Perhaps it isn't so simple after all, and I should give myself more credit for my professional standards. ▪ The last session with my client CC was really enjoyable. It was great to recap on her progress throughout the intervention and to end on a high

Signed by manager:

		note. Out of all of the assignments, this has been my favourite from start to finish. I think it reflects my passion for health psychology in practice. The writing process is flowing and because of my reflective case notes that I kept throughout, it is easy to transfer them into the case study report. I'm aiming to have a first draft complete by the end of this week.
03.05.2021	• Business Networking International (BNI) Meeting. • Make amendments to consultancy competency from second supervisor. • Start the systematic review.	▪ After a bank holiday weekend working tirelessly through both my BCIs, it felt really good to submit a first draft of my BCI2 and a second draft of my BCI1. I loved the BCI2, and it has been my favourite piece so far because of its application and my strengths as a practitioner. ▪ Before I begin the systematic review, I ensured I went through the feedback from my second supervisor on my consultancy piece. I felt that I needed to sort out my current problems before taking on new problems e.g., the ones that will naturally stem from the systematic review. I was a little disheartened by the feedback only because it highlighted that it was not my best work. It was difficult to salvage what was left after I amended the draft. I immediately wanted to start again and make it easier for myself, but on guidance from both my supervisors, I decided to attempt to rescue the piece

Signed by manager:

		of work. This was a really difficult task, not one that I was looking forward to doing. This was not my favourite competency, and I found the theory confusing, conflicted, hard to find and too complex to understand. Most importantly, I did not find consultancy interesting and so I was no prepared to have the patience to read through, if I did find material, which was rare. I found that consultancy is an enormously vast and vague subject and the models and theory really depend on where it's being applied. The articles I found were too specific to other disciplines to fit with my project, and the models were too vague with little to no instruction or guidance on the constructs. ▪ What I have learned is that I do not like consultancy and will not seek work around that area in the future, if I can help it. I feel like behaviour change models would be more effective than consultancy models. ▪ Also, if there is too much to be amended this time I will look to starting a fresh consultancy project as I don't want to waste any more time than I feel like I already have. I am pushing to get finished as soon as possible, preferably by the end of this year. This new deadline has given me a lot of motivation as I feel ready to move on with my life.

Signed by manager:

10.05.2021	• Business Networking International (BNI) Meeting. • Systematic review protocol. • Research protocol. • LJMU Ethics training revisited from doing it in 2018. • First session with client SS.	▪ After making a breakthrough over the weekend on a potential systematic review research question, I felt positive about the progress I was making. I have found that there are currently no systematic reviews on ACT and CVD and have identified 10 papers that fit the criteria. I have outlined this in my basic research protocol which I will have complete by the end of this month. ▪ In light of my new time-management strategy and ways of working "take time to save time", I am giving myself the whole of May to properly plan out and complete the protocol for the systematic review and the final research piece. I have a meeting with both my supervisors to discuss plans next week so this should give plenty of time to make a robust plan. ▪ I have also re-done the LJMU ethics training in order to gain access to the correct ethics form and assess the risk of my study. I have found that for the current plans the research I propose a minimal risk ethical application. It felt good to go back over the LJMU ethics training as it is in depth and quite interesting. I especially needed guidance on incentives since I am planning on this for the proposed study.

Signed by manager:

		▪ I have also picked up a new client for six x two weekly sessions based on ACT framework to help him with his health and wellbeing. This session was about letting the client have space to talk at length about their issues since he said that he no one ever listens to him in his day-to-day life, which is a big issue for him. We went through the expectations of the sessions and risk assessments.
17.05.2021	• Business Networking International (BNI) Meeting. • Systematic review. • Research protocol. • Meeting with both supervisors for progress review and research plan.	▪ I met with both Mark and Tara this time we spoke about my plans for the final research competency. It was great to have ideas bouncing between us all and to hear their guidance from two different perspectives. I'm now doing some more research into the plans we discussed and will update them with a more detailed protocol by our next meeting on 08th of June. I left this meeting feeling really happy and excited for the potential research pieces and I feel a huge sense of gratitude for my supervisors to share their wisdom. ▪ The simple changes that we agreed to my initial research plans were to explore a systematic review around congenital diseases, such as MS, Motor Neurons Disease and Cystic Fibrosis and as I am writing I have thought of Amyotrophic Lateral

Signed by manager:

		Sclerosis which I read about recently in Gabor Mate's When the Body Says No. Reasons for this are that ACT is a useful therapy for issues that are not changeable such as progressive health conditions. I'm also having a look to see if there could be a common thread between the use of ACT across these progressive conditions and seeing where it works best. I understand there is already a systematic review registered for ACT on long-term and chronic conditions that I will take a closer look at to see when it was published, to ascertain if there could have been more studies published since then, and secondly to see the outcome measure and the types of health conditions included. This will help me to develop my rationale. ▪ As for the research piece, I am going ahead with the brief online webinar intervention aspect for practicalities and for theoretical reasons, but I am now going to look into change perception of illness for people post MI and assess their traits and characteristics between participants. This will have a strong rationale of assessing the type of person against the intervention with outcome measures of locus of control, intolerance of uncertainty and perseverity of cognition.

Signed by manager:

		▪ We also spoke about levels of health literacy and Mark has a tool to assess a piece of work, which will be great in order to be as inclusive as possible and to negate health inequalities.
24.05.2021	• Business Networking International (BNI) Meeting. • Helping people with long-term conditions find their way to a better life IMACC tool webinar with Dr Lis Hammond. • Teaching and Training diary and case study feedback amendments. • Consultancy amendments from supervisor feedback. • Systematic review new search terms suggested by supervisors from previous meeting – update protocol. • Session two with client SS. •	▪ I have revisited the search terms and found promising results for the new direction suggested by my supervisors for the use of ACT on congenital progressive conditions. One thing I have noticed is an overlap of some studies in what they contain. So, this makes my search even more intense and longer because I'm having to review papers that include all health conditions. This is because I don't know what it is they have and haven't included. ▪ I also revisited training that I received a while back now on the Integrative Model of Adjustment to Chronic Conditions (IMACC) developed by Dr Lis Hammond. I attended a one-day training event in 2018 and have followed the progress of this therapeutic model, especially because of its application to health psychology. I found that I developed a deeper understanding of the framework since taking up my own professional private practice and it was easier to have cases in mind when going

Signed by manager:

		through the stages in the model. I particularly like the many formulation formats to use, and it has helped me to improve my therapeutic communication style. I feel much more confident now thanks to this tool and ACT. ▪ I had my second session with my client SS and this session was continuing the formulation process. I used tools from ACT, and we mapped out themes of "obstacles", "feelings", "motivations" and "values. The client was amazed to see a visual representation of this and is benefitting from non-judgemental compassionate focused communication that he feels he does not get in his day-to-day life.
31.05.2021	• Business Networking International (BNI) Meeting. • Consultancy feedback amendments. • Teaching and Training diary and case study feedback amendments. • Systematic review new search terms suggested by supervisors from previous meeting – update protocol. • New client JS consultation.	▪ I have spent a lot of time, perhaps more than I should have revising the consultancy and teaching and training diary and case study. There were some in depth amendments to make and I actually feel quite pleased with how they have improved, but it has taken up a lot of time. Nevertheless, I would rather act on feedback as soon as possible before moving onto the next stage which I want to give my full attention. ▪ I have taken on a new client today which is a bonus. He is struggling with moving on from two health

Signed by manager:

		incidents that have impacted his confidence, self-esteem and motivation. He will receive the six x two-hour ACT sessions to help him work through his issues and change his health and wellbeing behaviours.
07.06.2021	• Teaching and Training case study and diary amendments. • Systematic review protocol. • Research protocol. • Meeting with supervisors.	• I have really benefited from taking my time in the planning process already because having multiple meetings with my supervisors has allowed for better and more constructed ideas to form. For example, the development of both my systematic review question and research question has been shaped by these meetings and my supervisors have highlighted potential pitfalls because of their extensive research experience. • This week I have also decided to leave the BNI business referral group for time management reasons. I remember last year reading a time management book and since then acting on core principles outlined, including prioritising and delegation. I asked myself the 1 thing that I needed to do that no one else could do that would have the maximum impact on my success and it was quite obviously the doctorate. Therefore, I have ceased to make any future business meetings, I am no longer

Signed by manager:

		actively taking on new clients for my practice and I am freezing my social media accounts for 6 months. These are the tasks that drain my energy and time and are incredibly low impact. Six-months doesn't sound like enough time to complete two research pieces and a systematic review, but it is more realistic if there are no other priorities in the working week (and weekends). The only tasks I will be doing for the next six months are going to the gym and working on my doctorate. I know this discipline will give me the best chance of achieving my goal and I'm sure I will thank myself for it come December 31st. If it takes me longer, then fair enough, at least I have a goal in mind. Six months of discipline is worth almost a year and a half's normal productivity – especially in my 40-hour working week at Reed.
21.06.2021	• Teaching and Training case study amendments. • Systematic review protocol – amended search terms from meeting with supervisors. • Research protocol.	• I'm drawing closer to finishing off the teaching and training case study which was a large document with time consuming amendments from my supervisor's feedback. I had not factored in time for amendments to take so long to make. I am really pleased with the improvements as I can see now that the quality has

Signed by manager:

		massively improved and I'm really proud of this piece of work and it now hits the learning outcomes for the assignment. I actually have enjoyed teaching and learning theory and there is a lot of clear and evidence-based practice which I was astounded to find in such quantity. It has helped me to understand health psychology practice by using every opportunity to teach. • Because of supervisors needing to take annual leave and the university calendar coming to a natural break, and of how much time I need to spend on feedback, I have decided to give myself more time to plan the systematic review and research. Furthermore, the ethics committee will likely meet less frequently. There's no point in rushing this phase, as I have reflected on previously, and after the year of 2020 with lockdowns, I feel I need to enjoy the summer break too. I still feel slightly overwhelmed at the three tasks ahead, but if I'm going to sustain my motivation for beyond six-months, I need to factor in breaks and life outside the doctorate. Next week I will finish off the final amendments for my teaching and training case study and take a natural break to enjoy the good weather and some social events I have planned.

Signed by manager:

28.06.2021	• Teaching and training case study amendments.	• This week it felt good to finish off the amendments I have been working on for over a month. However, I feel a little overwhelmed because I know that the next document, I work on is nearly triple the size comprising of both the consultancy reflections and the teaching and training reflections, so I just know this will also take a while to get through. I realise I just need to regroup my motivation and remember that the December deadline is a soft deadline instigated by me, and so I have to face the reality of this being pushed back to Easter next year. When I initially set this deadline, I was in January 2021 and the thought of Easter 2022 was not motivating in the slightest. However, as time and my work has progressed, I now feel more comfortable accepting the Easter 2022 deadline. • Also, I like to work on one thing at a time and currently I'm juggling three pieces of work and feedback. I think this has caused my feelings of overwhelm and lack of motivation. What I'm going to do is to continue with the planning stages of my systematic review and research pieces and get to a certain point until I meet again with my supervisors at the end of August/September and spend all of July

Signed by manager:

		making amendments to the T&T diary and all of August making amendments to both the BCIs. This way I won't feel like I have too many tasks at hand.
05.07.2021	• Teaching and training diary amendments. • Fifth session with client SS.	• This was the penultimate session with my client and as requested in the previous session I have given him a breakdown of exercises and precautions for diabetes and back pain. He is to see his GP first before engaging in these recommendations and will; request to be referred to a specialist gym to be supervised by a GP exercise referral instructor. Even though I hold this qualification, and I have assessed his risk, which is why I was able to make basic recommendations, it is paramount that his GP gives him clearance before engaging in these activities. • Starting on the Diary amendments, I notice that I can corroborate with the amendments I have made with both the T&T case study and the consultancy report. So, although it is a large document, I'm feeling more hopeful about the potential rate of progress.
08.07.2021	• Teaching and training diary amendments. • BCI1 amendments.	• I have learned a lot about teaching theory, and I am actually really pleased to have come across it in my training. It's helping me to see opportunities to teach in my practice and also to have a better awareness of the way people process and retain information.

Signed by manager:

		• I have also been working through the amendments for my group BCI and because I dovetailed it with the teaching and training, some of the changes have affected both, which has saved time.
19.07.2021	• Teaching and training diary amendments. • BCI1 amendments. • Final session with client SS.	• The final session with my client was a one that will last in my memory for a long time. I was so pleased with his engagement and progress over our session, and he went from the maximum threshold of risk on the PHQ-9 that I could take on (moderate depression) and he scored the maximum on the GAD-7. His scores today had dropped to the lowest bracket for the PHQ-9 indicating no depression and a score of zero on the GAD-7 indicating no anxiety. These results are remarkable, and I was so privileged to be part of this. I left feeling confident in my practical skills as a trainee health psychologist and it motivated me to continue with the final pieces of written work.
26.07.2021	• BCI2 amendments. • Meeting with supervisor.	• Although feedback makes my stomach churn initially, once I get into it, it's a really rewarding process. No one ever likes to go back over work they feel they may have completed, but the standard of my work after feedback is something I am very proud to submit. I was happy with my work before feedback but now I feel it's at a really high standard.

Signed by manager:

		• I had a final meeting with one of my supervisors, Tara, to discuss any final research plans for the summer before annual leave. I am going to concentrate on developing the research protocols for the systematic review and the research pieces.
02.08.2021	• BCI2 amendments. • Systematic review protocol.	• I have learned that my strengths lie in the practical side of things as do my interests. I have reflected on this aspect throughout my whole doctorate journey but until now I have never felt comfortable with it. As well as seeing clients face-to-face I have started teaching Yoga at my local gym where I train, and I have never felt happier. Every session I improve my skills and I get excited at the prospect of my development over the coming months. By the time I qualify, I will have perfected my practical skills and I feel I will be ready to step out into the world as a competent and confident Health Psychologist. I'm really proud of the experiences I have pushed myself into before completing he doctorate.
09.08.2021	• Systematic review protocol. • Research protocol.	• Having time over the summer to prepare and thoroughly plan my final research competency feels like a really good approach to take. I feel less stressed and I'm enjoying the process for a change. I have stumbled upon some interesting literature in

Signed by manager:

		cardiovascular health and it's something I feel drawn to pursue. I have found that there are currently no published or unpublished registered systematic reviews on the use of ACT on the CHD population particularly and this I find incredibly exciting. I have downloaded EndNote and I'm using that as my reference filing system and it's making the process a lot easier. Without any time-pressures and space in my diary and mind, I feel like I have the opportunity to organise my systems so that when I do get into the difficult parts, like collecting the data, I have more of a chance of things running smoothly. And this feels good. • Reading some studies in the literature base, I have come across some interesting points that are starting to form my research paper, for example the power and evidence of health literacy and illness perception interventions for patients with CHD. I'm getting a good feeling about where this is going and I'm trusting my instincts. What I love the most about reading through this literature base is its direct relation to health psychology. Over the years I have tried to make subjects fit with a health psychology approach, but this is actually a health psychology approach that is applied to the issue. I'm continuing the systematic review question framing and potential

Signed by manager:

		paper identification and I am drawing up a basic plan for my literature review for my research paper.
16.08.2021	• Systematic review protocol. • Research protocol.	• I am learning so much from this literature base, more than I had imagined. The potential systematic review papers are feeding my curiosity as I feel like I am getting a good grasp of the literature base. I am delighted and astounded at the quality evidence base for the use of illness perception and health literacy intervention with cardiovascular health and especially their relationship to ACT as a new approach. Having identified 17 potential papers for the systematic review, I decided to input all eligible papers in a matrix. Seeing this visually has allowed me to easily compare the relevant literature and I feel happy with this progress. However, I don't want to go any further before getting this checked over by my supervisors. • I have always been interested in CVD through my other interests in modifiable lifestyle behaviour change such as exercise, nutrition and stress reduction. Having trained as a Cardiac Rehabilitation Fitness Instructor, I got to learn about the heart in more depth and the treatment process. I feel that being able to help with the prevention and rehabilitation of CVD is an incredibly worthy cause

Signed by manager:

		and also something for both me as a professional and individuals have a lot of control over compared to other diseases such as cancer. Through thoroughly scouring databases, I'm starting to feel like I have the foundations of expert knowledge in this area and I'm excited to learn more. It feels professionally affirming to have found this literature base, so much so that I can see the huge benefits of specific health psychology intervention. • This research and newfound confidence in the application of health psychology to cardiovascular health has now started to make me think about specialising in this area once finished and I have contacted all the local hospitals for shadowing opportunities in the cardiology departments.
23.08.2021	• Research protocol.	• Digging deeper into illness perceptions, health literacy, ACT and cardiovascular health I began to form a literature review. I feel like it is one of the best I have ever written because of its breadth of supporting literature and because I have taken the time to read thoroughly before writing. This is a huge lesson learned and it made the process of pulling together my notes on the subject incredibly smooth. So, although I feel a motivation towards the

Signed by manager:

		theoretical finish line (December 31st, 2021) that I have set myself, and for obvious reasons wanting to get pieces of work done as efficiently as possible, I am actually enjoying this research process. I didn't think I would get joy from any research subject after being on the doctorate for almost four years now growing tired of academia. However, it feels fulfilling and applicable to my next steps post doctorate which seem to be falling into place.
30.08.2021	• Research protocol.	• Having finished my literature review for the quantitative research paper to a standard that I am happy to present for feedback from my supervisors, my attention has now turned to my qualitative study. I have the spare time before my supervisors return from annual leave to write the literature review for my systematic review; however, I feel it's best to wait for clearance from my supervisors before continuing with that endeavour. I also feel like this literature review will be similar to the quantitative since it will be using the same participants within the same study timeframe, so it's difficult to know what else to write. I have decided the most productive task would therefore to create a flowchart of the participant recruitment process so that it is clear in my head for

Signed by manager:

		ethical application. Once my supervisors have returned, I will send them my work and hopefully I can begin to start the ethical application process.
06.09.2021	• Ethical application. • Research protocol.	• Having used the LJMU decision tool, I found that my study is low risk and eligible for proportionate ethical review. This is good news because it means that I am not constrained to the monthly meeting times for the full REC review and that I should get a decision in 10 days. I'm hoping that I can get ethical clearance for the start of October so I can start to collect data. I'm aware that from October, it is a race towards Christmas holidays and people may be busy with other commitments, therefore I want to give myself as much time as possible to collect the data I need. I'm envisioning that data collection for both the quantitative and qualitative will take two-months. If I can go into the month of December with all of my data, then I will work tirelessly to complete my final drafts by December 31sts. I realise that again, my supervisors will be on annual leave, so I won't have time to have everything signed off and I will probably spend January doing amendments. But in my head, if I can stick to this timeframe, I will have achieved what I will have set out and that is to run all of the

Signed by manager:

		assignments so that there are only amendments and write up to complete going into 2022.
13.09.2021	• Ethical application. • Research protocol.	• This week I have learned the value of designing flow charts, not just for a reader to understand the process of my participant recruitment or the incentives eligibility but, also, for my own clarity. Having created two flow charts depicting both aforementioned processes, I feel much more confident in explaining my research in writing as I am working my way through my ethical application. I know that I am a visual learner, and this applies to many aspects of my life. I need to see what it is that I'm doing before I can do it, whether that's in my mind's eye or in reality. It's probably why I have such a vivid imagination. • In order to make serious progress on my ethics form, this week I have decided to attempt at least four separate questions per day for the next seven-days. If I can achieve this, I will have a first draft to send to my supervisors which they may be able to look over by the end of September. If all is well and there are no major issues, I'm hoping to submit within the first week of October to then receive approval for the second or third week in October. These timings will

Signed by manager:

		allow me the grace of a week or so for any feedback or amendments I might have so that I can begin to collect my data throughout the month of November. I have booked separate meetings with my supervisors because they were unable to both meet next week. I have realised the importance of scheduling meetings well in advance, and so I will remember to ensure I book in a joint meeting after Christmas break in the first week of January so that I won't be waiting as long as I have after summer break. This will be arguably more important as I will have first drafts of both the qualitative and quantitative papers for submission and the sooner, I get feedback on them, the sooner I can submit and finally finish the doctorate. • I started 2021 with the aims to finish and write up all projects within every competency. This is a soft target that I set myself and it has motivated me throughout the year. I am on course to have achieved everything I set out to do, which is great, and I have learned a lot about time management, dedication and patience. However, I now have the added pressure of a job post that came up at Sunderland hospital in cardiology within the clinical health psychology department. It sounds like my absolute dream job, and they are willing to accept a student psychologist to have

Signed by manager:

		HCPC registration within six-months. Of course, this is achievable, but I worry that if in the best-case scenario, I am successful, then I will lose precious time in the final stages of the research project which arguably needs the most focus. What I do not want is a situation where I start a dream job with so much to learn, whilst still completing the in-depth stages of research. This is why I am now so more than ever trying to be in the write up stages over December with Christmas holidays. I don't mind the thought of starting a new job in December or January where there will be less intensity and it will just be a case of working through feedback and preparing for my viva.
20.09.2021	• Ethical application. • Research protocol. • Clinical hypnotherapy course week one.	• By the end of this week, I now have a completed first draft of my ethics form for feedback from my supervisors. I also have been focusing on a job application for the psychologist post in cardiology. • This week I have learned that sometimes other duties in life take responsibility and I would be foolish to miss an opportunity like this. With my work ethic and dedication, I have managed to submit an application for the role. I worry that I won't have enough clinical experience for the role, but I believe that my skills and my ability to learn quickly will transfer.

Signed by manager:

		• This weekend I am attending the first sessions of my clinical hypnotherapy course with the Northern College of Clinical Hypnotherapy. The course is registered with the Complimentary Medicine Association, the British Society for Clinical Hypnosis and the Hypnotherapy Association. It is running by a registered nurse who now works as an independent Clinical Hypnotherapist, so her background knowledge in healthcare is valuable to my trainee health psychology practice. The first weekend we covered basics of therapeutic practice which was great to pull together learning from ACT and other CPD training. We also covered the basics of hypnotherapy and were given the task to write a hypnosis induction script with suggestion therapy. I found this task enjoyable as I am practiced in writing mindfulness style scripts for ACT and yoga practice. I have developed a relaxing tone when delivering mindfulness, so it was good to be able to develop that further into a hypnotic voice. I also like the application of clinical hypnotherapy to long term health conditions, which is an area of health psychology that I specialise in. It's highly applicable to my practice and there is a strong evidence bass, so I'm really enjoying this CPD.

Signed by manager:

27.09.2021	• Research intervention webinar design and content. • Interview preparation for psychologist post in cardiology.	• I have started to create a basic outline for the proposed research webinar, Mind your Heart. I have based this from the literature I found that detailed the specific content recommended. • I also have been preparing for my interview for the psychologist job after a successful application. I am preparing a ten-minute case study presentation and general interview questions they may ask. I am getting as much feedback as possible, because I am wary that I'll be interviewed by two Clinical Psychologists, and I worry about my health psychology-based methods. However, I have used my ACT formulation process and chosen a recent case study that I have been working with over the summer with issues related to those with heart conditions.
04.10.2021	• Research webinar design and content.	• After my interview on Tuesday, I started to pick back up where I left off from my webinar intervention plan. I added more detail and found that the British Heart Foundation is a great source of information. • I just have the issue of how it will work out technically because I've never done this before, and I

Signed by manager:

		don't know how to use Qualtrics. I hope that my links to videos will work within the platform.
11.10.2021	• Research webinar design and content. • Ethical application.	• I'm delighted to report that I was successful in securing the position of psychologist in cardiology and I am even more motivated to get as much doctorate work done before my start date in December. • I have since found that videos will not work within a webinar in Qualtrics, so I have used this week to take the basic information from the videos and put them into a graphic. This took longer than anticipated, to make it visually appealing and easy to understand. However, I'm quite pleased with it. • I sent it to my supervisors, and we met on Friday to discuss. I have a few changes to make, and they asked me to complete my ethical application by Monday to submit next week. • I am now tweaking my ethics application form and creating all of the ethical materials such as participant information, consent etc. It will be great to have that approved as soon as possible so I can start to figure out the technical requirements of the webinar.

Signed by manager:

18.10.2021	• Qualtrics layout for research study intervention. • Ethics application.	• I was aiming to submit my full ethical application for full review for the next meeting date on the 20th of October, so I have been working tirelessly to get all of the participant information and consent forms complete. I submitted it to my supervisors, and it still had too much to edit so it's now going in for the 25th of November review. This week I have learned the difference between hypotheses and research questions, and I have more understanding of the ethical application process. • I have also got a LJMU account for Qualtrics and I'm learning how to use its basic functions and familiarising myself with it this week. Having never used it before, I am not aware of its features.
25.10.2021	• Ethics application. • Clinical hypnotherapy course week two.	• Being a little disheartened that I did not make the October ethics date, it took me a while to go back into the feedback and make big amendments to my study. Having gone through the comments by my supervisor, I realise that there weren't as many major amendments to my study as I had originally thought, it was just the way in which I presented the information on the ethics form. Huge lesson learned on how to properly set out the ethics form.

Signed by manager:

		• I met with both my supervisors this week to discuss the feedback on my ethical application and adding the study to my Qualtrics account. • This weekend was the second sessions of my clinical hypnotherapy course, and it was great to practice more advanced techniques building on the basic induction scripts we wrote for homework such as the Elman induction and taking people into the Esdaile state which is the deepest level of hypnotic trance state and is highly relaxing and sensitive to suggestion. As part of the course, we are offered unlimited supervision including therapeutic time, which is a generous offer within the course fees.
01.11.2021	• Ethics application. • Qualtrics project.	• This week I updated my ethics application with comments from my supervisors. I feel much more confident with the updates that have been made and I realise it was less about the content and more about the layout. My writing can become unclear, and I am easily confused with new layouts, such as the LJMU ethics form, but now it reads much better. • I have started to upload the updated ethics content onto my Qualtrics account which was easier than I thought. It's quite a user-friendly programme and I find it straight forward to use up until now. I think it's

Signed by manager:

		also been easy to use because I have some basic understanding of using platforms like WordPress for website building for my own business Mindbody Coaching and the principles and functions make sense. This week I finished uploading and formatting the pre-screening part of the intervention which I was pleased to have done on my own. I do, however, have a few questions reading some of the functions which I have kept a note of for my meeting with my supervisors on the 16th.
08.11.2021	• Qualtrics project.	• Having finished the first working draft of my pre-screening, this week I am ready to move onto the rest of the programmes. The reason I have many different programmes/projects under the Mind your Heart intervention is because they require separate functions at different points in time for example, pre-screening, pre intervention, post intervention and also, I have a control group. Therefore, I require a pre-screening programme, a prequestionnaires and webinar for experimental group A programme, a prequestionnaire and no webinar for control group B programme, a post questionnaire for experimental group A programme (taking them to a booking system for the qualitative follow up), and finally a

Signed by manager:

		post measure for the control group programme. Over the coming week I will aim to complete the remaining four programmes and hopefully get a full working version after I speak with my supervisors on the 16th. • This week I have put to use some of the transferable media skills I have learned through setting up my business. I have never made a webinar, but I knew there was software available to do this. I'm actually impressed with my patience this week as I have systematically created the webinar from scratch without any major meltdowns, which has required a lot of hours and concentration. Usually, I set myself a task and expect it to be completed immediately without issues and without preparation. However, I kept a mantra in my head of "It won't be complete by today, but you have come a step further". This has really helped with my motivation and mental wellbeing as a large-scale task like this without prior experience or training would have most certainly caused distress with major setbacks. However, I'm relieved to report that it went smoothly but only because I took my time and had patience with each crucial step. This is the process I followed:

Signed by manager:

		1. Finalised and polished presentation including animation timings 2. Write the webinar script, rehearse out loud and edit 3. Record the audio and edit with audacity 4. Record presentation on zoom to the exact timings of finished audio 5. Combine video with audio to make webinar 6. Upload final webinar onto YouTube to then embed into Qualtrics. • Now all that's left to do over the weekend is the following: 1. Add image credits, references and support services ending slides as graphics in Qualtrics to end the study session. 2. SMART goal question configuration in Qualtrics • I still have to figure out the scoring functions for each question which I'm hoping my supervisors will be able to assist with when we meet. Other than, I'm

Signed by manager:

		really happy with the progress I've made this week and I'm so glad that I've had the chance to do this before starting my new full-time job. Hopefully I can get this intervention live and running with ethical approval over the next few weeks and then when I start my job it can just run and collect the data. Going into the Christmas break having a working live intervention would be a great relief for my sky-high ambitions of finishing the doctorate early next year.
15.11.2021	• Qualtrics project. • Meeting with supervisors.	• Over the weekend I had issues with uploading the video file onto YouTube and it was the only task that left me frustrated. Finally, I learned that a webinar should be saved as an .mp4 file format in order to be easily uploaded onto YouTube and stored. It uses less space and is supposed to maintain quality better than other formats. I had several attempts at uploading the high quality .mov file but after leaving it for 24 hours it only reached 33%. I have also realised that I need to manually enter subtitles onto my video to make it accessible. Overall, I'm still quite impressed with advancements in technology and, although I would not like to, if I did have to do this again, I would be better informed. It would still be a lot of work, but I

Signed by manager:

		would be aware of the uploading processes and could accurately calculate the hours it would take to complete. • Another point that has come to my attention, is that I am not very good at reading out loud. It's a task I find difficult, and I struggled in the recording to make it sound natural. There are still some points in the webinar where my intonation is a bit off, and this makes it obvious that I am reading from script. Coupled with the usual Northern accent hang-ups, I had to battle against my perfectionist tendencies and accept the standard of work that was in front of me and move on to the next task. I do not trust myself to speak academically 'off-script' as I often struggle with muddling up my words and speech, especially in high pressure. I do like to verbally explain concepts and can do so when there is less time pressure in a more naturalistic setting. And I am comfortable in delivering mindfulness without scripts now, a skill that grew with my weekly yoga classes. However, it was a risk I did not want to take with the recording of the webinar, and perhaps my verbal academic skills will grow with time. As I mentioned, I'd like to never have to make a webinar again but if, and probably when, I do, at least I will have noted improvements to make.

Signed by manager:

		• The meeting went well with my supervisors, I got great feedback on my work on the webinar which I was relieved. I managed to clarify the final couple of minor comments on my ethics application, and I've made the amendments. We also discussed the following points: - Scoring. I'm now going to allow the pre-screen to run with the forced desired responses because it was easy to input because the simplicity in yes/no in that if they answer no to consent and no to the clinical demographic of having 1 uncomplicated heart attack more than six-months ago then they will be automatically excluded by Qualtrics. - PAR-Q. I have also decided to take out the PAR-Q from the pre-screening because this is for the purpose of a control demographic measure rather than on the basis of exclusion. For example, their scores will allow me to collect their health status. - Qualitative Interview Scheduling. I am in the process of thinking about how I can embed a Teams calendar into Qualtrics so that participants in group A will be able to book a time slot for a call at the end of the post measures. Having looked into this further, I feel it's going to be a more complex task and I'm speaking with my friend on Thursday, who is a website designer, on how I may be able to do this or a

Signed by manager:

		simpler way. If I can somehow get my Teams calendar and Qualtrics to link, then I may be able to do it. If not, I'll have to do it by hand. It won't be so bad considering I only need ten participants to do this. However, I want to make it as easy as possible for the participant to set it up. I fear if they have to send an email to arrange an appointment then they are less likely to do it. If they click an available appointment time on screen, then it's easier for them. - Autogenerated emails. I have read some guidance on Qualtrics about autogenerated emails and so I'm going to attempt to configure those today. The emails will be the automated signed consent form, participant information and the link to either group A or B and the email to request post questionnaires which will have to be timed to go out exactly two-weeks after. The only thing I can't do that with is the qualitative interview scheduling email because it will have to have a personalised link to the meeting. - Random allocation. I can only randomly allocate questions within the same project and currently they are split into group A and group B. So, I may have to reconfigure so that only those in group A see the webinar and the SMART goal question.

Signed by manager:

		• Once I get a running version of my webinar, which will be by the end of the week, I'm going to format my quantitative report from my ethics application and I'm also going to start conducting a literature review for my qualitative report. This should take me up until I hear back from ethics in early December, by which point I may be able to go live with the study and start to concentrate on the systematic review. I am hoping to work on the systematic review over the Christmas break.
22.11.2021	• Qualtrics project. • Ethics Application. • Clinical Hypnotherapy course week three. • Clinical Hypnotherapy client appointments SF and MC.	• Having tested the Qualtrics Mind your Heart project a few times with the help of friends and family who volunteered to be dummy participants, I finally had a working version of the online intervention. I'm happy to present this to the general public once I gain ethical approval and I'm really proud of myself for the skills I have learned through hard work, determination and problem solving. I now feel competent using Qualtrics, which is a great skill for future research, and developing a webinar with all the technical elements involved. • I'm thrilled to receive an email containing only five minor amendments to my ethics application to be re-

Signed by manager:

		submitted for full review on December 6th. I have worked incredibly hard to make it as clear and thorough as possible and I feel confident that it will get approved. • This week in my clinical hypnotherapy course we learned more about suggestion therapy and post-hypnotic suggestions which you can tag to an activity the client does every day such as "every time I see myself in the mirror from now on, I will feel a wave of confidence and self-acceptance". I really love Clinical Hypnotherapy and I feels it's such a beautiful thing to offer a client that has been struggling with their issues for so long. I have been inspired to potentially provide some quality research in the future because the literature base isn't good enough for all of the conditions that practitioners use it for on a one-to-one basis. The NICE guidelines agree that the evidence base for its specific use with IBS patients is of a good standard but for everything else such as stress related disorders, anxiety, depression, insomnia and health behaviour change, the literature base is poor. What's interesting is the continuous use of it as a therapeutic modality and anecdotal evidence from Hypnotherapy practitioners and trainers who use it every day with a multitude of issues with high success rates, so much so that they make a living out

Signed by manager:

		of it. They are on open and public platforms and could easily have any of their clients say that it didn't work or complain, but it doesn't happen at all or as often as you would think considering the literature is so poor and inconclusive. Therefore, what could be the case is that age old theory practice gap where busy active practitioners aren't going to submit publish single case-study research on their many clients. There simply wouldn't be enough time in the day. Furthermore, Clinical Hypnotherapy practitioners don't tend to come from research backgrounds, and they wouldn't easily be able to conduct a high standard RCT with large sample groups. In addition, the world of publishing is notorious for rejection, and so from their perspective the effort and challenge outweigh the small reward. I do believe that Clinical Hypnotherapy should be a unified regulated body, despite attempts from the CMA, CNHC and varying other bodies, and that it should only be used by healthcare professionals and trainees under supervision because its potential for harm is high risk. I never thought I would want to do research again after completing the doctorate, but a seed has been planted to eventually try to produce quality research on use of Clinical Hypnotherapy with health behaviour change.

Signed by manager:

		• I had my first two paying clients this week under supervision from my trainer. I passed my basic training, I'm fully insured, I have my DBS and I am a student member of the CMA and International Hypnotherapy Association. One was a face-to-face session for preoperative distress for an eye operation and the other was delivered online for insomnia. From my skills from the Mind your heart webinar, I now know my way around Audacity, and I successfully created their respective audios of the session for them to listen to repeatedly after our live session. I learned that recording the session as it's being delivered over the binaural theta wave music that is played does not produce a quality audio. It also does not make the recorded audio binaural because it is recoding it in mono and not stereo. So, after hours of research and trial and error I realised that I needed to purchase a royalty free binaural mp3 and then record a separate audio of my voice only and then put the two together in Audacity to then combine as an mp3 for the client. This works fantastic because I can easily edit the voice only audio, which sometimes requires for different inductions, deepeners, metaphors, suggestions, sometimes the use of the client's name. I also recorded two alternative endings, one for the daytime to bring the client into a wakeful

Signed by manager:

		state and the other for night-time listening to allow them to drift into sleep. The client receives both and it is now easy for me to do. But as ever, it was a lot of work to set this up! However, it has saved so much time and effort for the future.
29.11.2021	• Qualitative literature review.	• Having successfully completed the literature review, method section and intervention for the quantitative study, my attention turned towards the qualitative paper. I intend to write the literature review by my meeting with my supervisors next Tuesday for them to give me feedback before Christmas break. I have found a few qualitative papers of interest that I'm enjoying critiquing and I don't feel it will take long to come together for a first draft. • It was initially difficult to know where to start writing about the same subject and intervention I had written about in the quantitative paper. However, I flipped my way of thinking into seeing it as an opportunity to expand and deeper explore the areas that I talked about in the quantitative paper. I decided to expand on ACT as both a qualitative formulation tool as well as it being an intervention framework.

Signed by manager:

06.12.2021	• Systematic review identified papers matrix organised into outcome categories. • Clinical hypnotherapy client AM.	• After developing a deeper understanding of the literature on ACT and CHD I felt I was better able to come back to the systematic review I had already started. I think it was a good decision for me to focus my final research assignments on one core topic area as it has allowed me to specialise. I have always been a generalist when it comes to research and practice, however, this past year I have managed to carve out a research interest that is not only current and highly relevant to health psychology, but also highly applicable to my post-doctoral practice in my new role. • Session with AM was a beautiful experience. It felt good to provide compassionate space for a person who is incredibly stressed and lacking in self-belief and confidence. We did a visualisation of writing down all her ideas for her business in trance and when she shared them with me at the end of the session, both she and I were bursting with positivity.
13.12.2021	• Systematic review literature review. • Meeting with Supervisors. • Clinical Hypnotherapy client CB. • Clinical Hypnotherapy course week four.	• Working on systematic review and qual feedback once received. • In this hypnotherapy training session, I learned about nominalisations, and it made me recognise when and how people use them to communicate.

Signed by manager:

		Nominalisations are words that have subjective meaning for each individual and are usually a noun, such as love, peace, happiness, hate. In a specific example in action, I noticed that in the Strictly Come Dancing Final, the judges' comments consisted entirely of nominalisations and seeing the faces of the contestants it seemed to be subjectively interpreted and well received. It made me think about how I can use this in feedback with clients in session and how I can communicate better as a practitioner. • I delivered an online session with client CB today and she said it was the most relaxed she's felt for a long time, which felt good to have provided this opportunity for her. • I had my final meeting with my supervisors today before the Christmas break, but because of technical issues, it was just Tara and I on the call. We talked about what I will be working on over the Christmas break and I left the session feeling uplifted and positive about my progress over the year. I feel more and more competent as a trainee health psychologist.
20.12.2021	• Systematic review. • Final portfolio format.	• I received ethical approval today, which I could not be happier about. I'm absolutely thrilled. I feel like I

Signed by manager:

		can relax and enjoy the process from now on, as it's just a case of tying up the projects. • Despite my plans to work on the systematic review every day before Christmas on Saturday, I only managed to work on the systematic review once this week as I tested positive for COVID-19, and I was unwell with it. However, I managed to write a critical paragraph around an interesting piece of literature in the introduction section which was good enough progress for one day. • Furthermore, I decided to take a look at less cognitively taxing jobs such as the contents and formatting of my final portfolio document. I managed to write a couple of paragraphs on the abstract and content introductions. It feels so good to see it coming together.
27.12.2021	• Systematic review. • Qualitative feedback. • Final portfolio format and contents, additional introductions and reflections.	• This week I finished the contents, abstract, acknowledgements and content introductions which felt good. I am really excited to finish the whole doctorate now.
03.01.2022	• Mind your Heart study recruitment advertisement and promotion.	• This week I focused on creating social media content to promote my research study. I shared this across all

Signed by manager:

		of my platforms, Facebook, LinkedIn and Twitter and I pinned the posts to the top of my page. I also shared stories every day for the entire week which is known to boost exposure. I joined relevant groups such as 'Cardiac Rehabilitation Support UK' and built up my connections with the administrators of these groups. I also shared my study advertisement with all of my contacts on WhatsApp. Although relatives and friends cannot take part in the study, I still would have thought they would share or interact with the posts. I haven't got a great response for shares and likes from the people who are 'friends' on Facebook or even my relatives which is disappointing. I'm finding that strangers are more likely to share and support the study than people who I know which is disheartening. Emotions aside, I've made a great start to my study recruitment action plan. I have made a good foundation for the next steps, contacting the phase four groups. • It was important for me to do it in this order, post across my platforms first as an online professional portfolio, so that when the phase four CR group contacts connect with me on social media and view my profile, it will have more credibility that it is a real study, and it puts a face to a name. I have learned that this is important with any sort of marketing and

Signed by manager:

		promotion, because it's easier to ignore an anonymous request from an unknown source.
10.01.2022	• Mind your Heart study recruitment advertisement and promotion. • Systematic review full search.	• This week I have focused on contacting phase four community cardiac rehabilitation groups via email to share my study with their participants as gatekeepers. I'm so glad that this database of certified cardiac rehabilitation phase 4 community groups exists and what's more is, that they include specific contact details. It would have taken me a long time to firstly find the specific name of the group and their location, and secondly to find their contact details. I have contacted all areas in England and it's also great that I have been able to contact all groups in Scotland, Northern Ireland and Wales to ensure that my sample is representative to the UK population. I have already received emails with a positive response which makes me feel valued and connected. It makes me feel like what I'm doing is valid because of the helpfulness and interest people have shown already. • This week I am also performing the full searches again across all the identified databases for my systematic review. The studies included up to this point have been gathered through searching the literature this way, but I mistakenly forgot to capture

Signed by manager:

		all the excluded studies that show up in the searches and the specific exclusion process. It won't take long to do considering I've identified the terms; I know the studies that will fit all the criteria and I have EndNote to help me.
17.01.2022	• Systematic review data extraction and advanced searches and EndNote organisation.	• This week I focused on expanding my database searches and organising and filing the papers. This was a long and frustrating process, even with EndNote, as my computer was running slow. However, I persisted and took my time with each step so that I have a clear audit trail for my supervisors to review and verify the data extraction process. If I ever do a systematic review again, I will ensure to use a faster running computer so that it alleviates some of the frustration and speeds up the process.
24.01.2022	• Systematic review literature review, data matrix and results.	• This week I am aiming to get a first complete draft to my supervisors for feedback. I feel as though I have made a lot of progress and that I haven't go far to go towards submitting the first draft, but with all the setbacks including technology, recovering from COVID and Christmas break and the laborious processes of conducting a systematic review, I have also felt slowed down. Each time I panic about completing I remind myself of how far I have come in 12 months and how close I am to completing.

Signed by manager:

31.01.2022	• Systematic review results, discussion and conclusion. • Qualitative data collection. • Quantitative literature review amendments.	• It felt good to finish off my first draft of my systematic review and I feel like I have learned a lot from this process. Although, it's been long and arduous I feel like I could do it more efficiently next time. I have learned a lot about the current literature on the subject of ACT and CHD and I'm pleased that my other research papers are contributing to this area. Interestingly, all papers were conducted in Iran within Health Psychology departments, so it looks like it's a really popular discipline over there. Also, it highlighted the lack of behavioural outcome measures for this behavioural intervention. I also found it so strange that none of the studies included psychological flexibility measures, which would be the first measure that would come to mind when delivering ACT because it was made to measure the efficacy of an ACT intervention. I am really proud of this piece of work. • I also had my first two qualitative participant interviews this week. I used an auto transcription software on the Teams call and it has made life so much easier, I can't believe it exists. I re-listened to the two interviews and made corrections on words that it had misheard, and it took me all of two-hours each to go over the two scripts which has saved a significant amount of time. By the end of the week, I had two fully transcribed transcripts waiting to be analysed. I was dreading the qualitative process because of the task of typing the interview up

Signed by manager:

		afterwards, but this has just taken a lot of stress away and I can actually focus more on the research aims. • This weekend I revisited my quantitative literature review and report to ensure that it flowed and included more references for papers I have come across from the systematic review. I focused my energy on getting this paper as ready as I could for the data analysis phase which I estimate will be at the end of February. I have some ideas as to how I will analyse the hypotheses set for this research and I will make an appointment with my supervisors to check if what I intend is correct and fits the data collected, because I still don't know how it's going to look. I improved my statistics skills a lot from conducting my BCI reports last year so with that in mind, I think what I have provisionally planned may be okay. For example, I am planning on a one-way between-subjects ANOVAs on the six post measures between the intervention and control group. In addition, I will conduct separate one-way within subjects ANOVA on all six measures for pre and post data. I'm also potentially planning either a post-hoc analysis or a regression on to see if the 4 constructs of illness identity are related to psychological flexibility. Again, I don't know if this is correct, and I am awaiting clarification on this from my supervisors.

Signed by manager:

07.02.2022	• Qualitative feedback amendments. • Qualitative data collection.	• This week I focused on making amendments to the literature review and methodology of my qualitative report. It's interesting to see how much my writing has improved from just a short time before Christmas when I wrote the original draft. It seems that every paper I write is experiential learning that naturally feeds into other work. It's good to feel progress and I am happy that it seems to be effortlessly consistent across my work without me being actively aware until I reflect. I see my writing progress as a one-way tube with a back stop, almost like veins with anti-backflow values. It's easy to feel like in life you take one step forwards and ten steps backwards, and I have really been downtrodden with pressures of life lately, but with my recent writing I have felt a confidence in knowing that I can only improve on a standard that is already quite good. It is a small win that I am holding onto to get me through to the finish line. • Having completed my first draft of my systematic review and being quite proud of the quality, I received feedback from one of my supervisors confirming that it was as good as I had thought. I have learned to pay attention to when a written project feels right and to continue to work towards it if it does not. I spent a lot of time on my systematic review revising and editing areas which I felt

Signed by manager:

		that both my supervisors would comment on, and I have become accustomed to their ways of working over the years, so I now have a good idea about what they require. Also, having recently taken up golf in the past year I learned that it's best to play with excellent golfers, despite trepidations, because it really does improve your game. Same goes for academia. • This week I have conducted three qualitative interviews and I have learned a lot about listening skills and effective interviewing. I have reflected in more detail on this process in the research commentary. Overall, I feel uplifted and have learned a lot already about working with people with heart disease. • I will use the weekend to clean up the transcripts that were automatically transcribed via Teams. The process to find out how to do this was frustrating and I had several failed attempts. However, I eventually got it to work and I'm so glad I persevered because has saved a lot of time. However, there are inaccuracies that I need to correct, but overall, it's pretty good. And, it has been a good for motivation because there's a text document already created and so I don't feel as though I'm starting from scratch with each participant's interview. Once I get into the task of transcribing it's fine, but I do find the thought of it tedious, and I tend to procrastinate. The auto

Signed by manager:

		transcription has overcome this barrier to motivation, and I will use it again in the future.
14.02.2022	• Systematic review amendments. • Qualitative data interviews. • Qualitative data analysis and findings write up.	• This week I collected another 2 interviews for my qualitative research. Having transcribed and coded the other 5 participant interviews and hearing recurring themes, I feel that this is enough to write about in my findings. I will collect more if anyone else signs up, but there are only a few people left to finish post measures for the quantitative, so it's unlikely. However, I won't say no to anyone who would like to participate after this point. Themes of psychological adjustment, personal independence, and the MI as being a traumatic experience are surfacing and also people's unique qualities and characteristics are emerging. • I am finally starting my new job next week and I feel happy with the progress I have made between now and when I was interviewed in October 2021. I keep working towards the finish line to submit the entire doctorate. I'm hoping by June 2022 so I can put my new skills into practice as a fully qualified Health Psychologist.

Signed by manager:

Signed by manager: