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Pastoral Care in Education

An International Journal of Personal, Social and Emotional Development

ISSN: 0264-3944 (Print) 1468-0122 (Online) Journal homepage: www.tandfonline.com/journals/rped20

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To cite this article: L. Smith, R. Fayette & D. Putwain (20 Oct 2026): Student's reflections of test anxiety interventions: a systematic review, Pastoral Care in Education, DOI: 10.1080/02643944.2026.2746441

To link to this article: https://doi.org/10.1080/02643944.2026.2746441

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Published online: 20 Oct 2026.

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PASTORAL CARE IN EDUCATION
https://doi.org/10.1080/02643944.2026.2746441

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Student's reflections of test anxiety interventions: a systematic review

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ABSTRACT

Students are facing increasing Social, Emotional and Mental Health needs, including coping with test anxiety. Despite research demonstrating the significant impact test anxiety can have upon young people in multiple ways, in many countries there is little support available for schools to better support young people with test anxiety. The purpose of the current review was to provide insight into young people's views of test anxiety interventions they participated in, to identify which aspects of the interventions are of most value and to understand the difficulties students may have accessing test anxiety interventions. Database searches were conducted and eight studies met the criteria for inclusion in this review. The findings highlighted the positive impact of interventions through enabling young people via cognitive reappraisal to develop strategies to cope with test anxiety. Interventions enabled pupils to improve their well-being and elicited positive emotions. The review identified the importance of practical planning considerations such as group composition and timing factors. The implications for future intervention development and implementation are also discussed.

ARTICLE HISTORY
Received 16 January 2026
Accepted 5 October 2026

KEYWORDS
Test anxiety; intervention; students; young people; reflections

Introduction

Young people in education are known to experience test anxiety which can have significant implications for their mental health and well-being (Hembree, 1988). Test anxiety is a situation-specific form of anxiety experienced in performance-evaluative settings and is characterised by panic and intrusive, worrisome thoughts typically centred on fears of failure and its consequences (Spielberger & Vagg, 1995). It is widely considered to comprise related but distinct cognitive (worries and cognitive interference) and affective-physiological (tension and perception of physiological arousal) dimensions (D. W. Putwain et al., 2021). Test anxiety contributes to poor student mental health, as it is associated with low self-esteem and reduced well-being (Albulescu et al., 2024; Hembree, 1988). These highlight the importance of understanding and addressing test anxiety as part of broader efforts to promote young people's' mental health, well-being and educational outcomes.

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Prevalence and impact of test anxiety

Test anxiety is particularly relevant within education systems in which young people are required to undertake high-stakes examinations. A number of studies have highlighted the concerning rates of test anxiety in young people. For example, in the UK D. Putwain and Daly (2014) found that 25% of female and 8% of male students aged 14–18 years reported high levels of test anxiety when preparing for high-stakes General Certificate of Secondary Education (GCSE)[1] and A-level exams.[2] Internationally, a prevalence rate of 39% was found in Canada (Gerwing et al., 2015), while 48% of students reported increased test anxiety in Turkey (Kavakci et al., 2014). Research has also highlighted that a greater proportion of young people undergoing high stakes exams are reporting high levels of test anxiety (D. Putwain, 2007; D. W. Putwain, 2020; D. Putwain & Daly, 2014). The prevalence of test anxiety, therefore, represents an important concern for schools, particularly given the challenges schools face in supporting students' mental health during examination periods. For example, a survey of secondary school teachers in England conducted by the Association of School and College Leaders following the 2015 central government reforms to GCSEs reported that 77% of respondents observed students experiencing mental health difficulties related to exam anxiety, and 65% had students who avoided school due to such anxiety (ASCL, 2024).

Test anxiety can have significant impacts upon young people's mental health and academic performance. Research consistently shows that heightened test anxiety is negatively associated with academic achievement (Hembree, 1988; Robson et al., 2023; Von der Embse et al., 2018) and with lower levels of well-being (Albulescu et al., 2024; Hembree, 1998; D. W. Putwain et al., 2021; Steinmayr et al., 2016). Test anxiety has also been linked to reduced self-esteem (Hembree, 1988; Nawaz et al., 2021; Sarı et al., 2018), which has been defined as a 'feeling of self-appreciation' (Hosogi et al., 2012). Test anxiety has also been associated with poorer physical health outcomes, including disrupted sleep, which in turn negatively affects academic performance (Hamilton et al., 2021). These findings underscore the importance of understanding and addressing test anxiety as part of broader efforts to promote mental health and well-being within schools.

Importance of addressing test anxiety in schools

The continued use of high-stakes examinations means that addressing test anxiety remains important for schools. Despite research evaluating the impact of high-stakes tests, governments continue to utilise high-stakes testing to evaluate learning and teaching. This has been conceptualised by Puttick (2025) through the concept of 'examification', whereby exams have become embedded within educational accountability systems and hold a role in shaping curriculum, pedagogy and definitions of success within education. Therefore, governments now find exams hard to replace, as exams provide a visible and politically acceptable method of regulating education standards (Puttick, 2025), as well as providing cost-effective and administrative appeal in processing large quantities of information (Moses & Nanna, 2007). Consequently, young people are likely to continue to encounter high-stakes examinations within many education systems, making it important that schools have appropriate resources and support to address test anxiety and its potential effects on young people's functioning.

Promoting the mental health and well-being of children and young people have become an increasing priority within schools (L. Fox et al., 2025). Educational settings play a pivotal role in fostering environments that support students' emotional, social, and cognitive development, as these factors are closely linked to academic success and lifelong well-being. This is reflected in the Every Child Matters programme (DfES, 2004), Every Child Achieving and Thriving (2026) and, internationally, the Mental Health in Schools: A manual (World Health Organisation, 2021) which highlight the role of schools in supporting students' mental health and well-being. However, access to support resources and interventions for test anxiety varies significantly across contexts and according to need. For example, countries with high-stakes exam cultures such as the UK or US tend not to have sufficient access to support in comparison with contexts such as Finland which place greater emphasis on student well-being with low-stakes assessments.

Supporting highly test anxious students

Previous research has examined the impact of interventions designed to reduce test anxiety, including systematic literature reviews evaluating a range of interventions for pupils (Soares & Woods, 2020; Von der Embse et al., 2013). This literature has predominantly assessed intervention outcomes using quantitative measures of test anxiety. However, changes in measured outcomes provide only partial insight into how interventions are experienced and implemented. This is particularly relevant given the evidence that school-based mental health interventions often produce small and short-term improvements, with longer-term benefits less consistently demonstrated (Foulkes & Stapley, 2022). Moreover, implementation can be affected by factors such as poor fidelity and logistical barriers (Gee et al., 2021). Qualitatively examining young people's experiences of interventions can therefore provide complementary evidence regarding the factors that facilitate or constrain engagement, and the extent to which intervention content and strategies are perceived as useful, accessible and relevant.

To reduce the impact of test anxiety on students' outcomes and mental health, schools require access to appropriate resources and interventions that equip young people with strategies for managing exam-related anxiety. Although some research has examined students' views of test anxiety interventions, there is currently a lack of systematic synthesis of their qualitative perspectives and experiences. Such perspectives can provide important insights into how interventions are experienced by young people and can inform their future development and implementation.

The importance of gathering young people's perspectives qualitatively

Young people's qualitative views of test anxiety interventions can provide insight into their lived experiences, including perceptions of the intervention's context, content, usefulness, and applicability. Synthesising these perspectives across studies and contexts can identify barriers to engagement, as well as valued intervention features, that may not be apparent from individual studies. Such evidence can inform the adaptation and development of interventions to improve accessibility, engagement and outcomes.

Effective intervention development should incorporate the perspectives of key stakeholders, including the young people for whom interventions are designed (National Institute for Health and Care Research, 2024). This is particularly relevant given evidence of barriers to engagement with test anxiety interventions. For example, D. Putwain et al. (2014) identified poor completion rates of self-help interventions as a limitation when evaluating intervention effectiveness. Understanding young people's perspectives may therefore help identify the factors that facilitate or hinder engagement and inform approaches to reducing barriers to accessing and completing interventions.

Young people's qualitative perspectives may also contribute to the development and refinement of test anxiety interventions by identifying elements they find useful, as well as aspects that could be improved. Neill et al. (2022), for example, used a co-production approach that incorporated school staff perspectives into intervention design and subsequently used students' feedback to inform further testing and modification. This approach was associated with participant engagement and enjoyment of the intervention (Neill et al., 2022). Such findings illustrate the potential value of incorporating young people's perspectives not only when evaluating existing interventions but also when developing interventions that are accessible, engaging and responsive to their experiences.

Review purpose and research questions

There is limited research investigating students' perceptions and experiences of participating in test anxiety interventions. Furthermore, the available qualitative findings have not yet been systematically synthesised. Bringing together this evidence can provide a broader understanding of young people's experiences of aspects of interventions that facilitated engagement and those that presented barriers or require further consideration. Such insights can inform the development and implementation of interventions that are more accessible, engaging, and responsive to young peoples' experiences. Therefore, this systematic literature review aimed to synthesise qualitative studies that explored young peoples' reflections on taking part in test anxiety interventions to answer the following question: what are students' reflections of taking part in a test anxiety intervention?

Method

Review strategy

We utilised an investigative approach to explore students' reflections on taking part in a test anxiety intervention, including exploring aspects of the intervention that were identified as most or least beneficial. This systematic literature review was completed using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) framework (Page et al., 2021).

Identification of studies

Searches were completed between August and December 2024 using three online databases: PsycINFO, Web of Science and Education Resources Information Center

(ERIC). The search terms used for each of these database searches were: (student* OR child* OR youth OR adolescent OR pupil* OR young people OR teen* OR 'high school' OR 'secondary school' OR 'school aged' OR 'primary school') AND (attitude* OR view OR experience* OR reflection* OR evaluation OR feedback) AND ('academic stress' OR 'exam stress' OR 'test anxiety' OR 'exam worries'). Additional searches on Google Scholar (first 5 pages) and a thesis repository were conducted to that ensure saturation was reached and that all relevant papers on test anxiety interventions have been identified. Reference harvesting was also conducted on the included studies to identify other potential papers that meet the inclusion criteria. Despite qualitative data being a key focus of the systematic literature review, the authors selected search terms relating to qualitative data such as 'reflection' rather than methodology-related search terms, as the possible methodologies for obtaining qualitative data can be so varied. This approach was intended to ensure that all possible studies were identified through the searches.

Database searches yielded 3439 potentially relevant articles, and one thesis was identified from the University of Manchester's thesis repository. Reference harvesting yielded 30 potentially relevant articles. Following the removal of 608 duplicates, 2862 articles were screened by title and abstract for relevance to the review. This then left 60 articles which were retrieved and screened against the following inclusion criteria:

(a) participants were school-aged children,
(b) gathered qualitative data of children and young people's views about test anxiety intervention(s),
(c) published between 2000–2024,
(d) focused on the implementation and/or evaluation of a manualised test anxiety intervention.

A total of 51 articles were excluded, with the most common reasons being that some had included adult participants, a lack of qualitative data on student views and/or not implementing and evaluating a manualised intervention approach. This resulted in nine articles being included within the systematic literature review (see PRISMA flow chart in Figure 1).

Quality assessment phase

The remaining nine articles were evaluated using Gough's (2007) framework for assessing methodological quality (Weight of Evidence A [WoE A]) and appropriateness of focus (WoE C). Methodological quality was assessed using the scoring frameworks developed by Woods (2020). Studies that scored between 0–6 were deemed to be of 'low methodological quality', 7–13 as 'medium methodological quality', and 14–20 as 'high methodological quality'. A Cohen's kappa inter-rater reliability score of 0.95 was achieved following independent scoring of three articles by R1 and R2. This increased to 0.97 for all the studies that gathered qualitative data and 0.91 for studies that also gathered quantitative data following moderation discussions between R1 and R2. This high level of inter-rater agreement meant the first author was able to proceed with scoring the remainder of the papers independently.

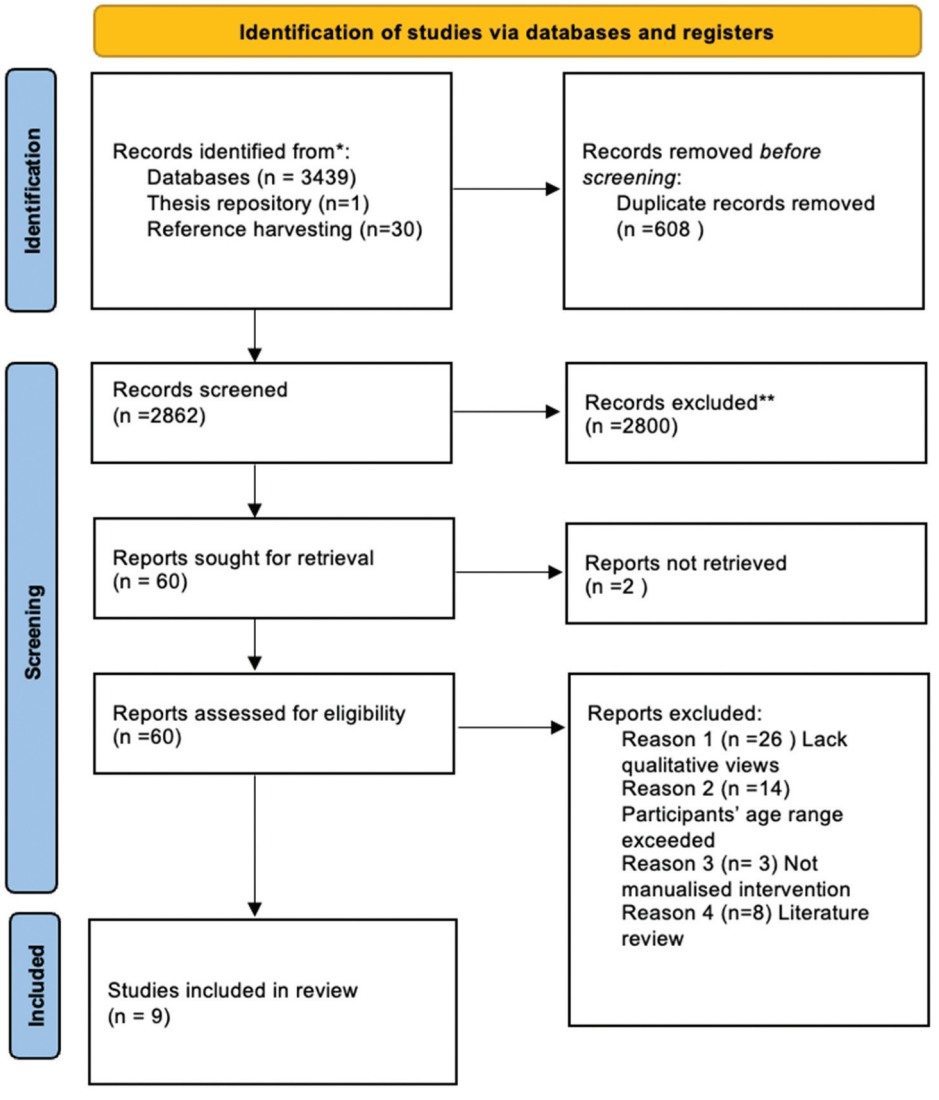


Figure 1. PRISMA flowchart.

Appropriateness of focus (WoE C) was assessed using the criteria developed by the lead authorin Table 1. Studies that scored between '0–1' were considered as having 'low appropriateness of focus', between '2–3' as 'medium appropriateness of focus', and '4' as 'high appropriateness of focus'. One study was deemed to have low appropriateness of focus and was therefore excluded from the systematic literature review at this stage, resulting in eight papers included in the literature review.

Data extraction and synthesis

In order to identify key themes in students' views of test anxiety interventions, the eight included papers were analysed using thematic synthesis (Thomas & Harden, 2008). The

Table 1. Woe C criteria.

Criteria	Score
Relevance of participants	
Qualitative data gathered only from children and young people (CYP).	2
Qualitative data gathered from CYP and other participant groups but sources of data are clearly stated.	1
Qualitative data gathered from CYP and other participant groups but sources of data are not clearly stated.	0
Exploration of positive and negative reflections of test anxiety interventions' efficacy	
Gathered data on CYP's positive and negative reflections in equal extents.	2
Gathered data on CYP's positive or negative reflections or did not explore both to an equal extent.	1
Did not gather CYP's reflections of test anxiety interventions' efficacy.	0

first author initially reviewed each paper, focusing on the findings sections in each paper, to code data regarding students' views inductively. Codes were then synthesised into inductive descriptive themes. The first author discussed the inductive themes with the other authors to ensure the accuracy of the themes.

Overview of studies

All eight studies were deemed eligible for the review and are summarised in Table 2 below. The studies were published between 2005 and 2024. Three studies were conducted in the United Kingdom (Brown, 2020; Gregor, 2005; Soares & Woods, 2022); two in the United States (Beauchemin et al., 2008; Tenenbaum, 2011); two in Norway (Dundas & Binder, 2024; Vestad & Tharaldsen, 2022) and one in Canada (McLeod & Boyes, 2021). Two of the studies used a qualitative design (Dundas & Binder, 2024; Vestad & Tharaldsen, 2022) whilst the rest used a mixed methods design. The data gathering methods included semi-structured interviews which were used by three studies (Brown, 2020; Dundas & Binder, 2024; McLeod & Boyes, 2021). Three studies also used focus groups (McLeod & Boyes, 2021; Soares & Woods, 2022; Vestad & Tharaldsen, 2022) and three studies also used questionnaires which gathered qualitative responses (Beauchemin et al., 2008; Gregor, 2005; Tenenbaum, 2011). Four studies were completed by practitioner Educational and School Psychologists and four were completed by researchers with backgrounds in psychology, social work and philosophy.

In total, approximately 267 students, ranging in age from eight to 18, drawn from four countries, employing varied methods (feedback forms with qualitative responses, interviews, focus groups), over a 20-year lifespan, reflected on their experiences of the interventions. Hence, this sample demonstrates considerable variation and diversity, strengthening the weight of the following findings.

Findings

The purpose of this systematic literature review is to explore students' reflections on taking part in a test anxiety intervention. The following section presents the three themes and related subthemes identified. The first main theme is 'Reduced stress', with subthemes of 'Building connections', 'I've learned a way to calm myself' and 'Enhanced wellbeing'. The second main theme is 'Cognitive reappraisal', with subthemes of 'Psychoeducation' and 'Sense of control'. The final main theme is 'Practical planning' with subthemes of 'Timing', 'Group compositions', 'Nature of activities' and

Table 2. Summary of included studies.

Title, author, date	Participants (number, age)	Method of view gathering	Key findings	WoE A	WoE C
A school-based intervention for third grade students experiencing test anxiety Tenenbaum 2012 USA	• 16 3rd grade children (aged 8–10 years) • 4 adult facilitators	Evaluation forms; 10 questions measuring acceptability (5 free response, 5 Likert scale)	Facilitators- (a) Positive feelings about session, enjoyed sessions and useful strategies. (b) Increased confidence after sessions (c) Practical/ hands on sessions were most enjoyed – incorporate novelty and hands on activities important factors for enjoyment Barriers- (a) Disliked sessions with less hands-on activities (b) Need for more time in sessions (c) Addition of more male participants	Medium (10.5)	Medium (3)
Examination anxiety: a school-based interventionSoares and Woods (2022) UK	• 7 female year 10 students (aged 14–17 years) • 7 female year 12 students (aged 16–17 years) • 2 SENDCo's	Focus group	Facilitators- (a) Benefit of group delivery for a sense of togetherness, connectedness and reassurance to develop. Students developed a sense of belonging. Complex factors- (a) Timings of sessions- after/ during school and time of year (b) Group composition	High (15.25)	Medium (3)
The effectiveness of social-emotional learning strategies and mindful breathing with biofeedback on the reduction of adolescent test anxiety McLeod and Boyes (2021) Canada	105 students, with 35 students selected to take part in the experimental group, the intervention, and 70 acting as controls from grades 9–12 (aged 14–17 years)	(1) individual semi- structured interviews, 10 pre-agreed questions, and a focus group completed at programme completion	Facilitators- (a) Developed strategies to manage test anxiety and improve performance (b) Students experienced a change in perception (c) Students have improved self-awareness and self-efficacy (d) Improved test-taking outlook (e) Heart focussed breathing with biofeedback decreases stress (f) Acquisition of new study/ test taking skills (g) Learned about heart-brain coherence (h) Course was useful/ would recommend Barriers- (a) Students worry about future social stress (b) Test anxiety lowers test performance (c) Students found tests to be stressful, anxiety provoking	Medium (11.75)	Medium (3)

(*Continued*)

Table 2. (Continued).

Title, author, date	Participants (number, age)	Method of view gathering	Key findings	WoE A	WoE C
Being able to think when caught in the maelstrom-How adolescents used mindfulness when facing examsDundas and Binder (2024) Norway	• 22 high school students completed intervention of which 20 completed interview high school students • 2 drop-out students interviewed.	Semi-structured interviews	Facilitators- (a) Noticing and attending to the attention- (b) Attending to the breath to copewith the maelstrom (breathing activities helped) (c) 'removing' and 'getting rid of' anxious thoughts (d) Being able to 'think' (e) awareness of more helpful thoughts (f) Agency and control (able to control thoughts and develop coping skills)	High (16.75)	Medium (3)
Building Social and Emotional Competencies for Coping with Academic Stress among Students in Lower Secondary SchoolVestad and Tharaldsen (2022) Norway	• 545 8th graders (aged 13–14 years). • 26 of these students took part in 3 focus groups	3 Focus groups	Supportive competencies and challenging competencies identified: Supportive competencies- (a) SEC's mindfulness, problem-solving and growth mindset was helpful for coping with academic stress (b) Mindful acceptance- to cope with stress (c) Making plans- learning a stepwise procedure to plan approach to work was useful (d) Strengthened motivation, growth mindset helped learn about connection of work, brain development and learning possibilities. -motivation for learning, making mistakes approaches. Challenging competencies- (a) Emotional regulation and relationship skills were hard to utilise. (b) Emotional regulation strategies were hard to use in academic stress (c) Difficulty of time and knowing group to share	Medium (12.75)	High (4)

(*Continued*)

Table 2. (Continued).

Title, author, date	Participants (number, age)	Method of view gathering	Key findings	WoE A	WoE C
Reducing Test Anxiety and Improving Student Well-Being at General Certificate of Secondary Education (GCSE) Level Brown (2020) UK	15 year 11 students	Semi-structured interviews	Facilitators- (a) Helpful to reduce anxiety- increased confidence, sense of control and competence. Feeling calmer and more in control of emotions (b) Increased academic attainment (c) More helpful thinking patterns- new sense of understanding/ control of thinking (d) Wider impacts (e) Opportunity to talk to peers/ adult about experiences of test anxiety (f) Combining a range of techniques is helpful (g) Use of having time, space and opportunity to try out different techniques (h) Opportunity to have a break and be calm (i) External intervention facilitator Complex- (a) Enjoyed small group approach but small group doing some activities such as guided discovery was difficult (b) Environment- must be calm and comfortable (c) Timings- 6 1 hr sessions worked but some hope for longer	High (15)	High (4)
Mindfulness meditation may lesson anxiety, promote social skills, and improve academic performance among adolescents with learning disabilities. Beauchemin et al. (2008).USA	• 34 high school students, (aged 13–18 years) • 2 teachers	Questionnaire with 3 Likert questions and 2 open-ended questions	Facilitators- (a) Positive feelings about the meditation and expressed that the meditation led to feelings of calm, quiet, relaxation, peacefulness, or better overall feelings Complex- (a) Timing- Some students wish for longer sessions, while others wish for shorter sessions	Medium (9.75)	Medium (3)

(*Continued*)

Table 2. (Continued).

Title, author, date	Participants (number, age)	Method of view gathering	Key findings	WoE A	WoE C
Examination Anxiety: Live with It, Control It or Make It Work for You? SchoolGregor (2005).UK	• 105 high school students (aged 16–17 years) • 3 teachers	Qualitative evaluative questionnaire	Facilitators- (a) Using strategies learnt and feeling more relaxed and motivated about other aspects of life too (b) Good to not be forced to take part in discussions Complex- (a) Differential reactions of students, how relevant they felt it was for them (b) Pupils did not always like what most useful for them	Medium (11.5)	Medium (3)

'Environments'. The quotes used within each theme are from the studies included within the systematic literature review to capture the young people's reflections of their experiences.

Reduced stress

Building connections

Students shared that taking part in group discussions supported their feelings of belonging and enabled them to create a shared understanding of exam anxiety (Gregor, 2005; Soares & Woods, 2022). Group discussions enabled young people to gain reassurance that anxiety is a normal experience; 'participants appreciated the normalising effect of honesty' (Brown, 2020, p. 63). These group discussions and reflections were helpful in improving individuals' confidence in the group and in sharing their own reflections (Soares & Woods, 2022).

'I've learned a way to calm myself'

Interventions which provided young people with the opportunity to learn and practice strategies were found to be 'enjoyable and beneficial' (Brown, 2020, p. 63). Young people highlighted the importance of having the 'time, space and opportunity to try out different techniques' (Brown, 2020, p. 63).

Practical strategies such as mindfulness (referring to relaxation techniques and mindfulness meditations) and breathing techniques were also cited as helpful in reducing anxiety and feeling calmer in relation to their exams, as well as schoolwork (Brown, 2020; Gregor, 2005). Mindfulness exercises were identified as supporting young people during stressful events in relation to schoolwork and tackling negative thoughts about new work or challenging learning (Vestad & Tharaldsen, 2022). Others discussed how strategies such as relocating attention or body scanning techniques helped to improve focus and be more present with their learning (Dundas & Binder, 2024).

Beyond academic benefits, mindfulness was also cited by the young people to support their well-being by helping them to identify their anxiety before overwhelming feelings 'take complete control' (Dundas & Binder, 2024, p. 6). Breathing techniques were identified as helpful by some young people; they found that using 'breath to decrease anxiety' gave pupils 'more control over their emotions with new tools' (McLeod & Boyes, 2021, p. 834). Students additionally identified that the use and practice of the strategies enabled greater self-awareness and understanding of when they would benefit from coping strategies (Brown, 2020). Young people also identified that strategies for learning, such as problem-solving strategies, enabled them to better understand how they appraised and coped with school-related tasks. Problem-solving and revision techniques gave young people a greater understanding of 'how to make plans and structures', supporting their ability to cope with exam stress (Vestad & Tharaldsen, 2022, p. 914).

Enhanced well-being

Students reflected upon the impact of the interventions on improving their well-being and emotional state. Studies highlighted the numerous positive emotions that the interventions elicited such as feelings of acceptance, calmness, relaxation and happiness. Young people shared that the interventions improved their well-being by enhancing

their sense of control over their emotions (Dundas & Binder, 2024). Interventions enabled young people to feel calmer and more relaxed in the lead-up to their exams. Negative thoughts were also reduced as a result of the interventions, enabling young people to foster a more positive mindset about exams (Brown, 2020; Vestad & Tharaldsen, 2022).

The importance of improved emotional well-being and reduced negative thoughts was also considered to lead to young peoples' increased ability to focus (Dundas & Binder, 2024). Through the improvement of emotional states, young people felt more equipped to tackle and cope with their exam and school-based pressure. As anxiety and negative thoughts were reduced, it was felt students had greater capacity to focus and concentrate, likely supporting improved academic outcomes for the young people.

In summary, this theme captures the experienced benefits of the intervention in relation to student wellbeing, as young people developed positive connections and a sense of belonging with their peers while learning strategies to cope with test anxiety. Hence, young people reported improved emotional states and wellbeing. This theme was captured from a diverse selection of studies and experienced by young people across the diverse sample.

Cognitive reappraisal

Psychoeducation

Some interventions provided young people with greater understanding of themselves and their mental health, through psychoeducation and learning (Brown, 2020; Tenenbaum, 2011; Soares & Woods, 2021). For example, one study taught the effects of heart rate and breathing (McLeod & Boyes, 2021). Students reported understanding 'that anxiety triggers a fast heart rate and that breathing can slow the stress down' and shared the usefulness of the 'use of heart rate focussed breathing whenever I am overwhelmed' (McLeod & Boyes, 2021, p. 836). Interventions that explicitly taught a range of strategies for learning and revision techniques also enabled young people to improve their approach to exams and develop their exam preparation skills. For example, one student shared that they learnt 'new memory techniques' to use on tests and reported their 'test grades have actually gone up now' that they've used them (McLeod & Boyes, 2021, p. 836). Techniques such as learning how to plan and structure their approach to work have also been useful, with students sharing: 'Before, I was stressed about doing homework, spending every minute of my time [on it]. Now, I prioritise . . . I've become better at structuring' and 'It makes it easier for me to make plans' regarding how to approach the different tasks they must complete (Vestad & Tharaldsen, 2022, p. 914). These changes in how the students approach exams and schoolwork have supported young people to feel that their workloads are more manageable and hence feel less pressured when faced with academic demands.

Sense of control

Interventions were reported to improve students test awareness. This means students felt more in control of their thoughts and able to focus on their exam preparation and hence reported feeling more able to make plans to cope with their anxiety (Vestad & Tharaldsen, 2022). Through greater ability for adaptive coping and planning, the students shared that they experienced more positive outlooks with regard to their exam and school-related stress (Brown, 2020).

This theme highlights how the interventions have been positively experienced by young people due to the opportunity for cognitive reappraisal that they provided. Through psychoeducation about test anxiety, young people gained a greater understanding of themselves and developed an improved sense of control over their anxiety and exams.

Practical planning

Timing

Students highlighted the importance of careful consideration of the timing of sessions, as young people's preferences varied, with some students preferring sessions during the school day while others preferred after school (Soares & Woods, 2022). It was also shared by young people that it is crucial to ensure that sessions do not interfere with lessons, as missing lessons can further increase their anxiety because they would have to 'find time to complete the work missed' or explain their absence to peers (Soares & Woods, 2022, p. 446).

Pupils also reflected that consideration is required regarding session timing within the academic school year, to 'maximise adherence to the programme' (Soares & Woods, 2022, p. 448). Pupils identified that they would benefit from accessing the interventions close to the start of the year (Soares & Woods, 2022). In addition to planning the intervention within the school year, students also reflected that it would be a useful intervention to receive earlier in their school career. This would allow them to develop the key coping skills before critical exam periods (Brown, 2020). Many participants suggested Year 10 or the start of GCSE assessments could be an optimum time for the interventions to take place (Brown, 2020).

Others identified contrasting views regarding the duration of the sessions and the importance of this in improving their ability to engage with the programme. For some young people, more time is required in the sessions (Brown, 2020). In Beauchemin's et al. (2008) study, 20% of young people reported they would make the mindfulness meditation sessions longer, compared with 16% who would make the sessions shorter.

Group compositions

Students discussed the importance of considering who the person delivering the intervention will be. Brown (2020) found that young people expressed a preference for the facilitator to be an external adult from the school setting where possible. Students shared that they felt more able to learn from someone new and felt an external adult enabled them to feel supported in a different way than a familiar teacher could. This highlights the importance of facilitator relationships in creating a safe atmosphere for the intervention to be effective and for young people to feel safe to engage.

Young people also highlighted the importance of group composition consideration in relation to the students taking part. Young people reflected that the group delivery was useful to 'see how other people cope with their anxiety' (Soares & Woods, 2022, p. 446). This highlights the importance of group selection to ensure positive rapport and facilitate a space in which people feel able to share. The gender composition of groups and group dynamics may be important factors to be considered when devising a group, as one male student in Tenenbaum's (2011) study expressed a desire for greater male participants to take part.

Nature of activities

The nature of session content and activities was also found to be a significant factor in improving student engagement and enjoyment of sessions. Students reflected on the benefits of sessions which enabled them to practice novel or hands-on activities such as progressive movement relaxation; these activities were interesting and more enjoyable (Tenenbaum, 2011).

Practical activities such as using art materials were endorsed by all students in Tenenbaum's (2011) study, and intervention sessions which included art activities were rated highly by young people. Content such as worksheet-based activities was not enjoyed by young people, with students sharing, 'some of the sheets were not useful … class discussions were more helpful' (Gregor, 2005, p. 628). This indicates that activities which fostered collaboration and active participation were more useful and engaging for young people.

Environments

Students reflected upon the importance of considerations regarding the environments in which the interventions take place. Young people shared that they preferred sessions to be completed in a 'comfy' space to support them to feel calmer and more able to share (Brown, 2020, p. 64). Students shared, for example, space such as libraries were nice as it created a calm and quiet environment.

This theme captures how practical planning of interventions impacted the young peoples' experiences of the interventions. Test anxiety interventions require careful and considered planning of logistical factors such as timing, group composition, the nature of activities and the intervention environment.

The papers identified key aspects of the interventions that young people valued including the emotional impact of interventions through improved well-being and coping strategies, as well as the cognitive impact of the interventions through an increased sense of control and psychoeducation. Practical and logistical factors were identified as key considerations such as timing, the nature of activities and group composition.

Discussion

This systematic literature review aimed to explore the reflections of young people taking part in a test anxiety intervention. The review considered eight papers and used thematic synthesis to identify shared themes across papers. This review captured a collective student voice through a number of diverse papers and research approaches; this holistic review and understanding has improved the weight of the findings of this paper.

This systematic literature review found that participants expressed positive feelings regarding their experience of and learning from test anxiety interventions. In the majority of studies, young people expressed that the interventions were useful experiences which provided them with opportunities to learn about test anxiety and develop effective coping strategies to support their approach to exams. Participants also valued the improvements interventions had on their well-being, through eliciting positive emotions and learning coping strategies. Interventions that taught strategies including mindfulness and revision techniques were reported to support students to find and plan effective

techniques for their exams. Research into the coproduction of a test anxiety intervention with students, similarly, found that increasing knowledge, understanding of anxiety, as well as providing advice on how to cope with anxiety and developing coping skills was valued (Neill et al., 2022, 2023). The cognitive and emotional impact of the intervention was highlighted as supportive for student well-being, through re-appraisal of how they perceive exams and learning. This enabled young people to develop growth mindsets in relation to exams and more helpful thinking patterns.

The participants in the included studies also reflected upon how test anxiety interventions could be developed in the future, to support student engagement and enjoyment. Young people provided helpful feedback through their reflections upon group dynamics and relationships in mental health interventions; therefore, improvements to future interventions may consider group dynamics and group facilitators. Previous research has also highlighted young people's feedback on interventions, which valued the importance of safety and group discussions to reflect and share experiences with mental health related to test anxiety, to reduce stigmatisation of mental health issues in schools (Neill et al., 2022, 2023). Consequently, the findings of this review highlighted the importance of careful consideration by future intervention developers when planning interventions to improve the utility of the intervention and improve outcomes.

Implications for practice

The findings of this review have several implications for practice, which are informed by the views of young people. First, schools and professionals must implement support for test and academic anxiety. Young people are experiencing increasing rates of mental health challenges due to increased perceived pressure on academic attainment. Hence, it will be important for schools to take action and create policies to ensure ongoing support for test anxiety, to promote well-being and better outcomes.

In line with Neill et al. (2023) research, young people felt that effective interventions for test anxiety must provide psychoeducation to support a greater understanding of the physiological, emotional and cognitive impact of their anxiety. It is important that educational professionals hold an awareness of the impact of test anxiety upon young people. Test anxiety interventions were regarded as valuable to students when they provided an opportunity for them to access, learn and practice a variety of coping strategies. This enables young people to find approaches which work best for them and to develop their ability to use these long-term to support their outcomes.

It will be important for intervention developers to consider several logistical factors to support engagement of young people. In particular, the important factor of facilitators' role in creating a sense of relatedness and belonging for effective outcomes. Intervention implementors will need to undertake careful planning of group dynamics to support a healthy and open space to be facilitated. It will also be important for the adults chosen to deliver the intervention to hold positive relationships with the young people. This will, in turn, improve students' engagement and enjoyment of the intervention and facilitate an open space to reflect upon their anxiety difficulties.

Another key logistical factor for developers will be consideration of the most useful time for the intervention to be completed, to support young people's engagement and long-term outcomes. Young people shared that they would have had greater benefit from

receiving the intervention earlier in their academic career, as they first approach exams. This early intervention will enable the students to develop adaptive coping strategies and reduce the impact of academic pressure on their well-being.

Limitations and implications for future research

There are two key limitations of this systematic literature review which require consideration. Firstly, very few of the studies included achieved a high weight of evidence in methodological quality and appropriateness of focus, with the majority gaining a medium weight of evidence. Hence, the quality of the studies held limitations. Secondly, it should also be considered that we were only able to include eight studies which gathered qualitative views of students regarding their experiences of interventions. The lack of qualitative research on test anxiety interventions may be due to a desire for quantitative research evaluating intervention effectiveness to support evidence-based practice.

It will be important for ongoing research into young people's reflections on taking part in interventions to support continuous evaluation and development of interventions for test anxiety (Foulkes & Stapley, 2022). Pupil feedback will support intervention developers' decision-making in the design of interventions, informed by collaboration between all stakeholders (Hawkins et al., 2017).

The current global education system is under significant strain and often facing pressure to obtain results through a shift to test-based accountability (Browes, 2021); hence it would be important to gather young people's lived experiences of different educational systems and how these contexts and pressures may be impacting upon their mental health, as well as what support young people feel is most helpful for them. Furthermore, schools are experiencing barriers to effective intervention implementation such as staff buy-in and support, poor intervention fidelity or logistical issues including a lack of resources (R. A. Fox et al., 2022; Gee et al., 2021). Hence, it will be important for these barriers to be explored to inform policies and procedures to reduce their impact on students reaching support.

Conclusion

In conclusion, this systematic literature review explored the reflections of young people upon completion of a test anxiety intervention across eight studies from a 20-year period, involving approximately 267 students. This diverse sample of young people shared positive experiences of taking part in test anxiety interventions and reflected upon the useful learning and coping skills that they gained from their experience. They also shared key evaluations of the interventions which will allow future development of intervention programmes based upon their views such as considerations of improving group relationships and feelings of safety within the interventions, as well as practical suggestions to improve engagement with the intervention through timing considerations and session delivery. These reflections will be useful to inform future intervention development, based upon young people's views.

Notes

1. General Certificate of Secondary Education (GCSE) exams are secondary school exit examinations taken in England, Wales, and Northern Ireland by students aged 15 to 16 years. In England and Wales, students typically follow the GCSE programme of study in Years 10 and 11 (the final 2 years of secondary education; Years 11 and 12 in Northern Ireland).
2. A-level exams are advanced-level qualifications, typically taken in the UK by students aged 17–18 years.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the England's Department for Education (DfE) National College for Teaching and Learning (NCTL) ITEP award [2023-2026].

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