An Investigation of Factors Encouraging and Deterring EC use: A Thematic Analysis of Accounts from UK Adults

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RUNNING HEAD: INTERVIEWS EXPLORING E-CIGARETTE ACCOUNTS

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Abstract

Objective: This study aimed to explore E-cigarette (EC) accounts from a small sample of UK adults with varied smoking/EC experiences. This was to contribute to existing knowledge of adult perceptions and understand the factors that encourage or deter use to inform health messaging aimed at professionals, policy makers and the general public.

Design: Twelve participants, five men and seven women aged 23-55 years (mean age 32.43) with mixed smoking/EC backgrounds took part in face-to-face interviews, analysed using semantic-level inductive thematic analysis.

Results: The analysis identified three key themes. *Social influence* (1) relates to the understanding of the social representations of ECs. *Representation and knowledge* (2) captures the impact of varied EC related communication on perception. *Aspects of addiction* (3) conveys aspects of nicotine addiction and how this influences EC use.

Conclusion: ECs were generally perceived as more socially acceptable than cigarettes by non-smokers, although there were varying levels of acceptability depending on the type of EC device used. There was also unanimity concerning uncertainty surrounding the devices. Behavioural/sensory elements and personal enjoyment of ECs were consistent elements that encouraged or deterred use. Although non-smokers/vapers did not use the devices, they expressed similar apprehensions to those who did.

Key Words: E-cigarettes; Semi-structured interviews; Thematic Analysis; Smokers; Non-smokers; Dual Users

Introduction

ECs are electronic devices that use battery powered heating elements to heat a nicotine containing liquid solution that is vapourised into an aerosol or 'vapour' that can be inhaled (Mathur and Dempsey, 2018). They emerged in 2003 as smoking cessation devices (Hartman-Boyce et al., 2018) and from the available evidence, Public Health England (PHE) state that they are 95% less harmful than cigarettes (PHE, 2018). Equally, some contest these figures, Eissenberg et al. (2020) stated that the 95% safer claim is a "factoid" and that these figures are biased as they are from UK organisations that are pro ECs.

Due to these contesting statements, ECs are often a topic of controversy. Hyperbolic media stories on either side have also polarised views and intensified what has always been a divisive debate. Dispute is often focused on the unknown long-term health risks (Pisinger and Døssing, 2014), their efficacy as a cessation device (Leduc and Quiox, 2015), use by never-smokers and/or minors (Etter, 2017; Farsalinos, 2018), the role of flavours (Farsalinos, 2018) and the effect of the second-hand vapour on bystanders (Czogala et al., 2014). Alternative concerns about ECs are often linked to the risks of long-term addiction to nicotine which reflects the misconceptions regarding the risks of nicotine alone versus the risks of nicotine in a cigarette (Benowitz, 2009). Despite growing acceptance that combustion is the major harm from tobacco (Etter, 2018), the controversies surrounding tobacco harm reduction (THR) and ECs in particular have become progressively fraught.

Around 3.2 million adults currently use ECs in the UK, and there are now more ex-smokers (just under 2 million) using ECs than current smokers (2.5 million; ASH, 2020). Reasons for use are well-documented and are often related to smoking cessation and reducing cigarette consumption for health-related reasons (Dawkins et al., 2013; Sussan et al., 2017; ASH, 2020). Continued EC use is dependent on hedonic and functional factors, as well as EC product characteristics (Kim et al., 2017). Ambiguity and fluctuating guidelines, combined with an abundance of conflicting information on regulations, brands, flavours, and models have led to public uncertainty, distrust and misunderstanding of ECs (Vasconcelos and Gilbert, 2018). It appears the ambiguity around ECs in public health debates is reflected in the positions and

concerns of the general public (Rooke et al., 2016). Qualitative research exploring how adults understand ECs have found a continuum of opinions exist, framed by personal experience and history (Rooke et al., 2016; Simmons et al., 2016; Wadsworth et al., 2016; Kim et al., 2017). Individual narratives are therefore multifaceted and far from homogenous (Kim et al., 2017). One large scale qualitative study conducted by the authors identified that the factors that influence EC behaviour and opinion in adult smokers and non-smokers are shaped by social context, informative sources, practical aspects and health implications (Wilson et al., 2020)

The current study provides an opportunity to further contribute to the understanding of adult perceptions of ECs, with a particular focus on expanding on the existing large scale qualitative study (Wilson et al., 2020) by exploring in more depth the thematic outcomes using semi-structured interviews. The aim was to explore encouraging and deterring factors from a diverse range of participants with varied smoking/EC statuses accessing participants from the same groups as the previously mentioned study. Contributing to existing knowledge of adult perceptions could also strengthen health messaging aimed at professionals, policy makers and the general public. This study therefore aims to explore the research question: *What are the key factors that encourage and deter EC use in adult smokers and non-smokers?*

Method

Design

Semi-structured interviews were conducted in the North of England to provide an in-depth insight into the key factors that encourage and deter EC use. This form of interviewing covers pre-set topics but also allows space for unexpected issues to be covered as part of the interview process (Willig, 2008). It allows the interviewer to re-arrange the questions, ask for specific information depending on participant answers, whilst also asking for confirmation on whether their interpretation/understanding of participant answers are correct (Rubin and Rubin, 2005). Therefore, providing an insight into EC perception that would not be captured using quantitative methods. The interviews probed individual experience of EC use, encouraging

self-reflection on EC experience. This was considered a particularly important step in developing a coherent in-depth narrative of EC accounts.

Recruitment

Participants were recruited using opportunity sampling (Jupp, 2006), which recruits participants from the target population who are available at the time and willing to take part. Advertisements for the study were placed in suitable locations including EC shops, chemists, libraries, community centres, and university campuses, the research team also asked their contacts to distribute study adverts. The first author also held recruitment events at Manchester Metropolitan University.

Participants

Twelve English speaking respondents, five men, and seven women were recruited. Ages ranged between 23-55 with a mean of 32.45 years. Table 1 illustrates the demographic characteristics of the participants [insert Table 1 here]. The sample consisted of participants who were diverse in terms of their smoking/EC status to capture a range of accounts. These groups were purposefully chosen as this study aimed to expand on the results of the existing larger scale qualitative research study which explored factors that influence EC behaviour and opinion in adult smokers' and non-smokers', using the same participant groups (Wilson et al., 2020). Three participants self-reported successfully quitting smoking using an EC; three self-reported failing to quit smoking using an EC; two were self-reported dual users; one was a self-reported smoker who had tried ECs; one was a self-reported EC user with no smoking history and two were self-reported non-smokers/vapers. Full details of participants are displayed in Table 2 [insert Table 2 here]. Participants were English speaking, due to the research relying on qualitative analysis, language, and interpretation.

Procedure

Ethical approval was first obtained through Manchester Metropolitan University's ethics committee. The advertisement for the study contained the first author's email address for participants to contact if interested in taking part. Following pilot work to test validity, structure and efficacy of the question list, the research team decided that all original questions should remain. All participants gave informed consent before the interviews. The interviews occurred face-to-face, lasted approximately 30-60 minutes each and were

recorded using a dictaphone. The interview schedule (Appendix 1) was developed from thematic outcomes of previous work (Wilson et al., 2020). The topic list was not designed to be prescriptive, but to ensure that important areas of investigation were not overlooked during the interview, and to also provide a framework around which participants could discuss their experience and attitudes toward ECs. Follow-up questions were used to allow participants to expand on areas of experience that were particularly salient to them. It is important to note that whilst the interview schedule included prompts, it was not possible to pre-empt what may have formed participant experiences. Expansive questions as well as probing techniques were frequently used throughout each interview, combined with appropriate rapport building and joining (Creswell, 2014). At the end of the interview, participants were thanked, debriefed and informed of their right to withdraw. They were also given the email of the first author for any queries.

Data Analysis

This study aimed to capture a broad understanding of people's views on ECs rather than focusing on individual differences in experiences; therefore, a thematic analysis (Braun and Clarke, 2006) was deemed more suitable than other forms of qualitative analysis. All interviews and transcription were undertaken by the first author. Braun and Clarke's (2006) semantic-level inductive thematic analysis approach, illustrated below in Figure 1, was employed to identify themes and allowed an in-depth analysis of the data. The focus was on the explicit or surface meanings of the data, progressing from the identification of patterns in semantic content to consider broader meanings and implications relating to previous literature (Willig, 2008). [Insert Figure 1 here]

Although participants were chosen purposively because they had varied smoking/EC experiences, the intention was not to compare groups by reaching theoretical saturation for each group. Instead, the intention of the analysis was to produce a thematic model that accounted for all 12 accounts. Recent work by Braun and Clarke (2019) suggests that meaning is generated from interpretation rather than the number of data items, and therefore when to stop data collection is subjective and cannot be fully determined prior to data analysis. Guest et al. (2020) similarly advocates for flexibility and transparency in assessing and reporting

on saturation in thematic analysis. The stopping point for an inductive study, such as the current study, can be determined by the judgement and experience of the researchers. Therefore, data collection stopped when saturation was reached across the whole data set and no new codes were identified.

To ensure a rigorous analysis, the framework recommended by Nowell et al. (2017) was followed which emphasises that interpretivist research is obligated to satisfy the criteria for trustworthiness, which includes: credibility (validity); transferability (generalisability); dependability, and confirmability (Lincoln and Guba, 1985; Shenton, 2004). A sample of transcripts was sent the third author (SG) for coder reliability checks which were conducted in face to face meetings and by e-mail. Coding checks were iterative and acted as a step-by-step refining process. The final codes and themes were revised and validated by all authors. A thematic map [Figure 2] was produced demonstrating the overall conceptualization of the data patterns and their relationships (Braun and Clarke, 2006). Following interview transcription, data were described, summarised, and then interpreted concerning broader implications. [Insert Figure 2 here].

Results and Discussion

The analysis identified three key themes evidenced across participant responses: (1) Social influence (2) Representation and knowledge, and (3) Aspects of addiction. In the extracts below participants have been given pseudonyms to protect their anonymity.

Theme 1: Social Influence

Participants provided explicit accounts of their EC experiences which included their social motivations for using them. Approval from friends, family, and society impacted decision making. For one participant, EC initiation was related to the '*creeping social pressure'* (Debbie [76]) to quit smoking. For many participants, a family member introduced them to ECs, as they '*were very keen to stop me smoking'* (Tom [171]).

> Paul (ex-smoker) [92-95]: [...] my brother was a former smoker and used to smoke 20 to 25 a day and he said 'well look Paul, well y'know if you look what I've done I've quit and I'm on the e-cigarette now [...] you don't get the poisonousness tar going through your blood stream and all the

> chemicals in cigarette than you would in a vape' so he introduced me to one, so I never really looked back [...]

Alternative qualitative studies have also highlighted that being advised and/or supported by peers and family to use ECs as a cessation device, is influential in initiating use (Coleman et al., 2016; Wadsworth et al., 2016). Perception of increased social standing has been noted as an important component of EC use among adults in general (Hershberger et al., 2017), this was noticed in Daniel's case:

> Daniel (dual) [106-112]: [...] when I first decided to get one it was somebody at work had one, coz' of the job, it's at a solicitors, the kind of perception its – not perception but if somebody was coming into the office – coz' I noticed it myself on a friend who did smoke you could really smell the cigarettes on them when they came in [...]

Social relationships have been shown to influence an individual's likelihood of engaging in a health risk or promoting behaviour such as smoking cessation (Gough et al., 2009); therefore, social reactions pertaining to EC acceptability may promote or discourage use.

> Bob (non-smoker/vaper) [97-98]: [..] it's for other reasons isn't it? It's for social you know [...]

Alternative research has discussed the social influence and norms surrounding cigarette use (Alamar and Glantz, 2006; Brown et al., 2009) and more recently, EC use (Coleman et al., 2016). For Tom, the social elements were an important aspect of the experience, and ECs could never truly mirror this, which may potentially be why he relapsed back to cigarettes.

> Tom (smoker) [147-150]: [...] it's [ECs] not the same and the more time you miss - not the physical but more so the habitual - you miss going down with your friends at break time, you miss everyone

> else in your group going out for a fag when you're in the pub or in the nightclub and your sat there thinking this [EC] doesn't feel like a cigarette [...]

This opposes alternative findings whereby social facilitation was described as an advantage of ECs, as users were able to participate in social events related to cigarettes and felt vaping was more socially acceptable than traditional smoking (Harrell et al., 2019).The discussion of social acceptance brought up dialogues about current regulations.

> Daniel (dual) [258-259/260-261]: [...] I think that it should be more lax like I know theres people in my work - coz theres people that sit at the desk and sneakily have a puff [...] if that was allowed or there was a little area where it was like 'oh you can use your e-cig in here if you want' I think that would be really good, I think some people wouldn't probably smoke if there was more public places where you were allowed them [...]

Decision-making regarding EC use is affected by contexts where smoking is forbidden by law, policy, or perceived social norms (Vandrevala et al., 2017). Even within the realm of the devices themselves, regardless of cigarettes, there seemed to be varying levels of acceptability, relating to device characteristics such as the size of the device and the amount of second-hand vapour (SHV) they produce.

> Eve (smoker) [159-160]: [...] do you know when it just looks massive and theres a big thing coming out the end of it and you just think 'you look like a d*ckhead', so it was just like, mine was dead little [...]

This requires further exploration as it provides a unique insight into the typology of ECs irrespective of cigarettes.

Theme 2: Representation and Knowledge

Participant accounts explicitly identified the impact of EC representation through varied media outlets and how this constructs knowledge.

> Debbie (ex-smoker) [217-219]: [...] the news annoys me because they report it as being unsafe and you think it's because you haven't encouraged it or licensed it so people have to buy things form china that are perhaps not as safe and not as regulated [...]

> Rose (dual) [292-296] : [...] b'coz manufacturers have a invested interest, Facebook, all them places, that type of thing is fabricated but people believe it, and things like, Wikipedia, I just wouldn't believe anything [...]

> Eve (smoker) [267-269]: [...] in the news there's loads of stuff about the flavours getting the younger generations addicted [...]

One participant who had never previously smoked was introduced to ECs as part of a social media influencing promotion party:

> Beth (non-smoker, vaper) [7-10]:[...] I went to a party and it was a vape party at Menagerie in Manchester, it was Henry Holland the designer, he had released a vape line, so I went, tried it there and actually really enjoyed it, and obviously because it's got tobacco in I think it gave me a head rush, so I think that's probably how it started and then subsequently I'm probably addicted to it now [...]

Social media platforms have often promoted ECs as lifestyle products (Bauld et al., 2014). The unregulated and widespread marketing of EC on social media has often been described as troublesome due to the potential to attract non-smokers (Vandewater et al., 2018), evidenced in Beth's case.

> Beth (non-smoker, vaper) [182-185]: [...] I mean I don't think it was great they were promoting it in this Instagram influencer party, so yeah I mean it's not great is it? I mean they obviously target that market for a reason [...]

Tom expressed that the fears surrounding the side effects of the use of new technology:

> Tom (smoker) [302-306]: [...] I remember when mobile phones were first a thing and people were like 'oh it gives you cancer in your brain – its radio waves in your head' and all that, and like you could get like little things that you put over the speakers that were like magnetic or had like tinfoil or something that's supposed to block the radio waves – and that turned out to be nothing, y'know it was nothing and we now know it's just not physically possible, so I assume now it's just the same thing, it's just like a public fear because it's a new technology [...]

These comments echo concepts from the diffusion of innovations theory (Rodgers, 1983), which claims that media is important in making people aware of technological innovations as well as shaping their perceptions on them (Rooke and Amos, 2013). The media in this sense do not simply provide information, they contribute to constructive interpretive frameworks that shape how ECs are understood. Equally, a regional educational advertising campaign in England showed that using mass media to communicate accurate information about the relative harms of ECs compared with smoking, may be an effective strategy in increasing smokers' motivation to quit (Tattan-Birch et al., 2020). This demonstrates the importance of media outlets using accurate information.

Perceived risk can affect the motivation to perform a particular behaviour (e.g. Health Belief Model; Rosenstock, 1974), so it is likely that the degree to which individuals believe ECs to be a less harmful alternative to cigarettes will affect the prevalence of their use. There was a consensus that ECs were '*safer overall'* (Tom [316]) and understood as '*a lot better than cigarettes at this moment in time'* (Daniel [325]):

> Bob (non-smoker/vaper) [204-205]: [...] I think it's a probably healthier than normal cigarettes, but I mean it's still not good is it, it's still a gust of second hand steam flying off in to the air – in to your face – it's probably better but it's still considerably worse than nothing [...]

However, some participants said they were often presented with opposing information regarding ECs safety:

> Carol (smoker) [300-302]: [...] well you hear all different things like vaping is no good, vaping is better than smoking like what is it? Is it no good or is it better than smoking? I think that's the question coz' you hear different things, one-minute vaping is ok the next minute vaping is not ok, so it's like is it? Or isn't it? [...]

Ambiguity was amplified by the limited available longitudinal research, this has been previously discussed as a deterring factor of ECs (Farrimond, 2016; Wilson et al., 2020).

> Michael (non-smoker/vaper) [271-272]: Yeah, and I think they are no real long-term studies about it...are there? do you know?

These apprehensions reflect past misconceptions in harm reduction strategies such as the 'light cigarette' which has understandably led to some public mistrust of harm reduction tobacco products (Farrimond, 2016).

> Paul (ex-smoker) [304-307]: I feel like this generation of e-cigarettes are the generation of smoking in the 1950's and 60's in America where little was known about the effects of cigarettes and it took until the 80s until we realised that cigarettes caused cancer, so I feel like with e-cigarettes, generation Y are the smoking generation in the sense that we don't know the long-term effects [...]

The problematic history of tobacco control has resulted in taboo around working with harm reduction prospects and moved toward an abstinence model, with a resistance toward working with the industry (Farrimond, 2016).

The data also conveys the importance of education due to the specialised knowledge required to use the devices. For some, this concept could be viewed as overwhelming and potentially act as a barrier to use.

> Paul (ex-smoker) [138-140]: [...] if you're a newbie to vaping you walk in to a conventional vape shop and they have all these coils and devices you're almost blown away with all the mod cons and how to fill the devices up and the coils so its I think it definitely puts people off [...]

Farrimond (2016) also noted the complexity of EC technology and that 'newbies' may find it difficult to start. Debbie, an ex-smoker who claims ECs facilitated her ability to quit cigarettes, discussed initial complications and concluded that perseverance was required to develop competence.

> Debbie (ex-smoker) [250-252]: [...] I think a lot of people over use the coils and just continue to use them when the coil burnt – and they don't know enough about the flavour thing 'oh my coils burnt' I need to change it and they just continue to use it [...]

Although not all participants had this determination:

> Eve (smoker) [162-164]: [...] I felt like at the start I used to get a lot of smoke from it but toward the end I wasn't getting a lot, it's stupid, I don't know why like that effected it but not getting as much smoke from it made me not want to use it [...]

The complexity and in some ways, specialised knowledge that is associated with using these devices, and the someway 'cliquey' character of vaping culture have been previously noted as a deterring factor of EC

use (McKegnaey and Dickinson, 2017). Previous research has discussed the importance of the delivery of information and advice from other users, particularly online spaces and forums (Emery et al., 2014):

> Debbie (ex-smoker) [157-165]: [...]: YouTube channels and shows and networks and things so they'd be reviews of course, and it would show you how to make coils or what to buy they'd have politics on and there were just lots of people on it was like a real community thing and it wasn't a particular niche of people – so you'd have like middle aged women and really trendy young blokes and just all sorts of people would just be together saying 'this is made a fabulous difference to my life', it was just a really supportive nice atmosphere [...] they'd tell you where to get your wire from and which cotton wool was the best [...] so it was just like it was just like a real community feel to it [...]

The sharing of knowledge from more experienced users appeared to facilitate Debbie's quit attempt. From this, it could be suggested that psychoeducation and peer support networks could be incorporated into cessation interventions using ECs, whereby experienced users share knowledge with non-experienced users. Social learning theory (SLT: Bandura, 1977) emphasises the importance of observational learning and modelling in behaviour. The self-efficacy construct of the HBM (Rosenstock, 1974) could also be considered in this instance, as from a Public Health perspective, those contemplating vaping for cessation need encouragement, training and support to become competent.

Theme 3: Aspects of Addiction

Participant accounts identified aspects of (cigarette/nicotine) addiction and how this influences EC use. Those that were using (or had used) ECs as a cessation device discussed certain '*mindsets'* (Leanne C2 [50/75/216/222) and '*willpower'* (Carol C2 [52/102]) and their relevance for a successful quit attempt. It appeared that these smoking 'mindsets' were considered when contemplating reducing EC use:

> Tracey (ex-smoker) [132-135]: [...] I've thought about it while I was been on holiday recently and I thought I do really need to get out of it and I need to get in the mindset that I'm not, and I don't want to have that [ECs] in my hand indefinitely, so it's just figuring it out, the best way for me to do it [...]

There is a need for research exploring how smokers who have managed to quit smoking using an EC can discontinue using their device, so professional advice can then be given about their 'next steps'. The Health Belief Model (Rosenstock, 1974) suggests that people's beliefs about the barriers and benefits of changing their behaviour ultimately determines whether they can successfully change. Exploring mindsets regarding addiction may shed some new light on a specific barrier of changing behaviour.

The data also identified that EC usage involves a similar '*hand-mouth'* (Rose [157]) movement and visible exhalation as cigarette smoking, which was deemed important by some participants in terms of creating a recognisable, familiar smoking experience for (ex) smokers.

> Paul (ex-smoker) [183-185]: [...] they offer an alternative to smokers in the sense that a lot of people like me they like the mouth-to-hand contact, they like that instant rush of nicotine, they like how it feels in their hands [...]

The behavioural-sensory similarities between cigarette and EC are heavily discussed in the literature (Etter and Bullen, 2011; Dawkins et al., 2013; Cox and Jakes, 2017). Even the non-smokers were aware of this element:

> Bob (non-smoker/vaper) [84-85]: [...] the fact people who smoke are used to fidgeting with their hands and that's one of the big reasons you actually need cigarette isn't it [...]

As well as mimicking the behavioural-sensory elements, unlike other forms of Nicotine Replacement Therapies (NRT), ECs can deliver nicotine to the brain at a similar speed as cigarettes (Cox and Jakes,

2017). The speed of nicotine delivery was important to users and one participant chose a specific device because of this:

> Paul (ex-smoker) [111-114]: [...] I buy Juul [...] and one of the things that makes it really stand out is that it has a substance called nicotine salt which is this new form of liquid that enters your bloodstream quicker and gives you more of a nicotine hit [...]

Some participants felt that ECs had increased their nicotine dependency:

> Daniel (dual) [135-137]: [...] I know that's wrong now especially because of how much I'm using my e-cigarette at the moment, but I'm always saying I don't actually need it, I don't want it, but if it's there I'll have it [...]

Beth, who had never previously smoked, discussed how she now believes she is addicted to nicotine:

> Beth (non-smoker, vaper) [28-30]: [...] the option whether they wanted to try it with nicotine or without so I think initially I tried one of my friends but I got one of the ones without [nicotine] for myself and I tried my friends and hers had nicotine in and I noticed the difference, like getting the head rush [...] I guess probably I am addicted because I wouldn't choose to use a non-nicotine one [...]

This raises the issue of ECs providing a gateway to cigarette smoking. EC use acting as a gateway to smoking is commonly raised as a concern for adolescents (Chatterjee et al., 2016; Lee et al., 2019), but this suggests that the gateway potential should be explored further with adults.

Paul felt that although the device may prevent smoking cigarettes, some devices cannot possibly reduce nicotine dependency:

> Paul (ex-smoker) [156-158] : [...] I have in the past always remained on 18mg but b'coz I'm trying to cut down the strength of my mg I only buy 12, the issue is with some leading vape companies is that they only have them in set amount of mg, Juul for instance only has them in 18 and I think y'know for a person wanting to reduce the amount of nicotine that they are getting its very hard [...]

Tracey who had been on 0mg nicotine for '*10-11 months'* (Tracey [147]) expressed her apprehensions about discontinuing EC use, even though she used a non-nicotine e-liquid:

> Tracey (ex-smoker) [141-144]: [...] I don't want to – to have another cigarette, do you know what I mean? I just don't want to have one but, the worry is, like you say, would I go back on to real cigarettes rather than on to an E, d'ya know what I mean? So that's something I'm kind of psyching myself up for, b'coz it needs to be gone, its served me a great purpose and its done what I want it to do but the habits there and I need to break that habit and put that in the bin [...]

This reiterates the importance of considering 'the next steps' for those that have managed quit smoking cigarettes and how they eventually stop using their EC device. Personal enjoyment of cigarettes was often discussed in relation to how effective ECs were as cessation devices. Individual narratives regarding the features of ECs that were enjoyable or not were varied:

> Tom (smoker) [236-237]: [...] I tried to move to the e-cigs it didn't feel like they were strong enough, they weren't satisfying the nicotine, there wasn't as much nicotine in them [...]

The absence or marginalisation of the 'pleasure' discourse in public accounts of drugs has been noted previously (Farrimond, 2016). It has been suggested that this is often due to the current dominance of the medical model of risk assessing health consequences of drugs, with no place for accounts of pleasure, emotion, or desire (Moore, 2008). This is an important consideration about quitting, as one participant who

successfully quit claimed '*if I had tried it and I hadn't of liked it I wouldn't of...I wouldn't of persevered with it'* (Debbie [292]).

Strengths and Limitations

This research allowed new insights into the encouraging and deterring factors of ECs for participants with diverse smoking/EC experiences. A rich understanding was also gained from the personal interaction, participants were detailed in their responses, sharing a large amount of information, and the flexible structure allowed for expansion on issues participants felt to be important. Although the sample was diverse, it was not representative and patterns and experiences of the participants in this study require further exploration with a larger sample before they can be generalised. The diversity of the sample in terms of smoking/EC statuses could also be seen as a weakness due to the relatively small number of participants in group, as this likely impacts the conclusions and meaningfulness of this study. Participants were all from the same geographical location (North England) and were all white. Future research may gain more varied insights by including individuals from a wider variety of locations. Likewise, socioeconomic status (SES) and gender were also not explored in this study, which is limiting, as previous research has demonstrated SES and gender differences has been linked to differences in perceptions of ECs (Piñeiro et al., 2016; Hartwell et al., 2017).

Reflexive Analysis

We have tried to present participant accounts honestly and impartially. The first author is a Ph.D. student in Psychology, and the other authors are the supervisory team which consisted of five academics, two from health psychology and three from public health. The authors also have mixed smoking backgrounds, which provided further balance and a triangulation of opinions. It was taken into consideration that the academic roles of the research team and their varied smoking backgrounds may have influenced the analysis and interpretation of data, although we believe the range of perspectives was beneficial.

Conclusion

This study explored the perspectives of adults with diverse smoking EC statuses on encouraging and deterring use of ECs, expanding on an existing study (Wilson et al., 2020), with the aim of contributing to

the existing knowledge base and strengthening existing health messaging. Outcomes suggest that key factors that encourage and deter EC use in adult smokers and non-smokers are related to (1) social influence; (2) representation and knowledge; (3) aspects of addiction. External social factors influence decision-making about ECs. The devices themselves were generally perceived as more socially acceptable which encouraged use, even by non-smokers. EC device characteristics such as size of device and amount of SHV produced impacted perceived acceptability irrespective of cigarette use. Internalised comprehension of ECs is shaped by external mass media. There was unanimity concerning uncertainty, which highlighted the need for educational interventions. The behavioural sensory-elements and personal enjoyment were consistent elements that encouraged or deterred use. Although non-smokers/vapers did not use the devices, they expressed similar apprehensions as those who did.

Key Implications

The varying levels of social acceptability between EC products, depending on device characteristics such as size and amount of SHV produced, irrespective of cigarette use, could be explored to provide a unique insight into the typology of ECs. There is a need for media outlets to use accurate evidence-based information when discussing ECs, remaining truthful and accessible. However, informative agendas are more complex than health education alone. Future research could be conducted to understand the most effective ways of delivering this information and how to improve general media literacy within the general public. The promotion of EC psychoeducation combined with peer support networks could be used to enhance Stop Smoking Services, as shared peer-to-peer knowledge between users can facilitate quit attempts and overcome some functionality difficulties. Evidence-based guidance on the ‘next step’ for ex-smokers who are looking to eventually discontinue their EC is important. Measures are required to prevent nicotine addiction among never-smoking adults who start using ECs, as well as preventing an increase in nicotine dependency for those who already use nicotine regularly. The acknowledgment of the pleasure discourse also needs to be more widely understood and reflected on when considering addiction, particularly EC use.

Disclosure of Interest

The authors report no conflict of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author GLW upon reasonable request. The data are not publicly available as they contain information that could compromise the privacy of the research participants.

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Table 1

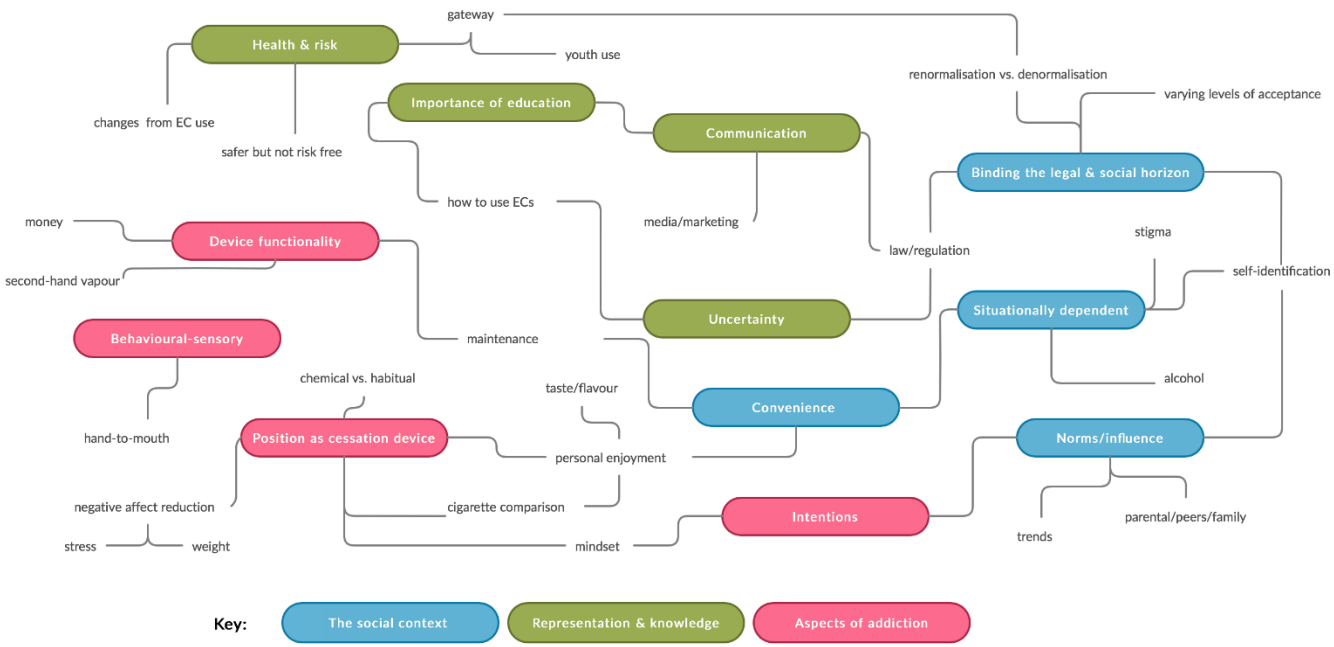
Demographic Characteristics of Participants

Demographic Variable	**Number of Participants**	**Percentage of Participants**
Age (in years)		
Median: 32.45		
Range: 23-55		
Gender		
Male	5	41.66%
Female	7	58.33%

Table 2

Participant Demographics and Category

Pseudonym	Age	Gender	Category
Michael	25	Male	(6)I have never smoked conventional cigarettes or used an E-cigarette
Bob	30	Male	(6)I have never smoked conventional cigarettes or used an E-cigarette
Beth	27	Female	(5) I have never been a conventional smoker but I use E-cigarettes regularly
Eve	23	Female	(4) I am a smoker who has tried E-cigarettes but has no intention to quit
Rose	54	Female	(3) I am a smoker who uses E-cigarettes regularly but has no intention to quit [Dual User]
Daniel	25	Male	(3) I am a smoker who uses E-cigarettes regularly but has no intention to quit [Dual User]
Leanne	31	Female	(2) I am a smoker who has tried to quit smoking using an E-cigarette but has failed to quit
Carol	50	Female	(2) I am a smoker who has tried to quit smoking using an E-cigarette but has failed to quit
Tom	35	Male	(2) I am a smoker who has tried to quit smoking using an E-cigarette but has failed to quit
Paul	22	Male	(1)I have successfully used an E-cigarette to quit smoking
Tracey	55	Female	(1)I have successfully used an E-cigarette to quit smoking
Debbie	45	Female	(1)I have successfully used an E-cigarette to quit smoking


gateway
Health & risk
youth use
changes from EC use
safer but not risk free
renormalisation vs. denormalisation
varying levels of acceptance
Importance of education
Communication
Binding the legal & social horizon
how to use ECs
media/marketing
money
Device functionality
second-hand vapour
law/regulation
stigma
self-identification
Uncertainty
Situationally dependent
Behavioural-sensory
maintenance
alcohol
chemical vs. habitual
taste/flavour
Convenience
hand-to-mouth
Position as cessation device
personal enjoyment
Norms/influence
negative affect reduction
cigarette comparison
Intentions
parental/peers/family
stress
weight
mindset
trends
Key:
The social context
Representation & knowledge
Aspects of addiction