



“MOST PEOPLE I KNOW HAVE GOT ONE”

YOUNG PEOPLE'S PERCEPTIONS AND
EXPERIENCES OF ELECTRONIC CIGARETTES

“Most people I know have got one”: Young people’s perceptions and experiences of electronic cigarettes.

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Summary and key findings

- Seven focus groups involving 45 young people aged 13-17 were held in youth groups and schools in Cheshire and Merseyside to gain insight into young people's views and experiences of e-cigarettes.
- Discussions identified that awareness and use of e-cigarettes is both common and increasing among teenagers in Cheshire and Merseyside.
- Although some older adolescents appeared to associate e-cigarette use with smoking cessation, generally young people viewed e-cigarettes as a product in their own right, suggesting that many young people use them simply for the sake of it, for fun, or to try something new.
- Participants reported that e-cigarette use is common among young people who have never smoked traditional tobacco cigarettes. This behaviour was criticised by both smokers and non-smokers.
- Rather than the potential health impacts of e-cigarettes or their use where smoking is prohibited, the main focus for young people was on the different flavours and designs of e-cigarettes and the opportunity for users to customise their devices and show individuality.
- Young people in this study showed a real uncertainty and lack of awareness of the potential risks and harms associated with e-cigarettes, current and proposed future regulation in the UK, and the actual chemical content and functional components of these devices.
- A current lack of suitable information for young people was identified by all participants. Young people suggested that they would like to receive information on the harms associated with e-cigarette use; their design and manufacture; the chemical content of devices; and current rules and regulations surrounding their use.
- In the absence of such information, young people appeared to be reliant on anecdotal evidence from friends and family members and stories and details presented on the internet to inform their understanding of e-cigarettes. There was no indication that young people questioned the reliability of these sources.
- Despite widespread print, visual and social media campaigns, the majority of participants reported that they had not seen any advertising for e-cigarettes and showed a lack of awareness of advertising and marketing strategies and approaches.
- Findings identify an urgent need for health information on e-cigarettes and for prevention activity to reduce teenage uptake of e-cigarettes among non-smokers.
- Guidance is also needed for teachers, youth workers and parents to support them in discussing e-cigarettes with teenagers and implementing appropriate rules regarding their use.

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1. Introduction

Recent years have seen a rapid rise in the global sale and use of electronic cigarettes (e-cigarettes) – battery operated devices that deliver nicotine via inhaled vapour and can mimic the physical and social aspects of tobacco smoking. Hailed as a healthier alternative to smoking tobacco cigarettes,¹ these devices are available in a range of retail outlets in the UK and are extensively marketed online and promoted on sites such as YouTube and Twitter.² With the emergence of a ‘vaping’ culture in which forums, online communities, interest groups and even some premises are specifically dedicated to the comfort, support and encouragement of e-cigarette users,^{3,4} public interest is at an all-time high. Evidence suggests that internet searches for e-cigarettes increased by over 5,000% between 2008 and 2010,⁵ eclipsing searches for more traditional nicotine replacement therapies.⁶ With supporters polarising against those who oppose these devices, e-cigarettes are widely discussed by the popular media and have received acclaim and celebrity endorsement.^{7,8}

Due to concerns around the potential impact of this rise in e-cigarettes on children, the Health Equalities Group commissioned the Centre for Public Health at Liverpool John Moores University to explore the topic of e-cigarettes with young people in Cheshire and Merseyside. The work aimed to provide insight into the prevalence of e-cigarette use among young people and their attitudes towards these devices. This report presents findings from a series of focus groups conducted with local young people aged 13-17 years. The report introduces some of the current issues around e-cigarettes and their use in young people (section 1), describes the study methodology (section 2) and presents a detailed account of the views and perceptions of participants (section 3). The discussion provides recommendations for the development of policy and practice and for future research. An accompanying publication* presents findings from an analysis of data from the 2013 North West Trading Standards survey on e-cigarette access and its relationships with smoking and drinking behaviours among 14-17 year old school children in Cheshire and Merseyside.

1.1 Current issues and concerns

The emergence and growth of the e-cigarette industry has been met with considerable concern as these devices currently evade classification as either tobacco products or medicine and are only regulated in the UK under general product safety regulations. Neither the safety nor efficacy of e-cigarettes has been thoroughly scientifically evaluated,⁹ although indications are that as many as half of young adults believe they are safer than traditional cigarettes.¹⁰ Although there is some evidence to suggest that e-cigarettes modestly reduce the desire to smoke cigarettes,¹¹⁻¹³ the World Health Organization has warned against their use, recognising that although they may be less harmful than tobacco smoking, they are almost certainly more dangerous than medicinal nicotine replacement products and may divert from effective cessation aids.¹⁴ With no standard definition for e-cigarettes and manufacturers’ use of different designs and ingredients, devices are often sold with ambiguous amounts of nicotine¹⁵ and traces of harmful toxic compounds have been detected in some cartridges.^{16, 17} Reports of cartridges leaking,¹⁵ along with the toxicity of high doses of nicotine if ingested⁹ have provided particular cause for concern. The long-term effects of e-cigarette use are unknown, although reported short term side effects include mouth and throat irritation, vertigo, headaches and nausea.¹⁰

*Hughes K, Hardcastle K, Bennett A, Ireland R, Sweeney S, and Pike K (2014). E-cigarette access among young people in Cheshire and Merseyside: findings from the 2013 North West Trading Standards survey. Liverpool: Centre for Public Health, Liverpool John Moores University

1.2 E-cigarette use in young people

With claims that e-cigarettes are widely advertised using youth-relevant appeals,⁸ and a lack of current legislation regarding the sale of these products to children, concerns have been raised that these devices may become widely used by young people and act as a gateway to cigarette smoking for previously non-smoking adolescents.^{1, 18-20} In the National Youth Tobacco Survey (2011-12) in the USA, 9.3% of self-identified e-cigarette users aged 11 to 18 years had never smoked tobacco cigarettes.²¹ In general, young people are more likely to try new things,²² particularly behaviours that involve an element of risk.²³ Adolescence is consistently identified as an important period of risk for the development of life long substance use behaviours^{24, 25} and figures suggest that around 66% of tobacco smokers begin smoking before the age of 18 years.²⁶ With their colourful designs and variety of flavours, e-cigarettes may provide a more accessible and appealing way for young people who may not like the taste or sensation of tobacco cigarettes to experiment with nicotine. In a recent study of US males aged 11-17, whilst less than 1% of respondents indicated that they had previously tried e-cigarettes, 18% suggested that they would be willing to if offered one by a close friend.²⁷

1.3 Research objectives

Although awareness of e-cigarettes is increasing, very little is known about use of and attitudes towards e-cigarettes among adolescents in the UK. Understanding the extent, causes and implications of e-cigarette use in young people and identifying their potential impact on tobacco smoking trajectories is therefore important in developing appropriate health and regulatory responses. Using a series of focus groups, this study aimed to gain insight into young people's views and experiences of e-cigarettes in Cheshire and Merseyside.

2. Methods

2.1 Sample

Focus groups (n=7) were held with adolescents from schools, youth groups and youth services in Cheshire and Merseyside (n=45). Table 1 summarises the location and setting of these groups. Participants ranged in age from 13 to 17 years, with a mean age of 14.8 years. Most participants identified themselves as White British (91.1%) and 66.7% were male. A total of 57.7% (n=26) of participants identified themselves as non-smokers (of tobacco cigarettes), 40.0% (n=18) as current smokers, and 2.2% (n=1) as ex-smokers. Overall, 42.2% (n=19) reported having ever used an e-cigarette. Of these, 63.2% (n=12) were also current tobacco cigarette smokers, 5.3% (n=1) were ex-smokers, and 31.6% (n=6) indicated they had never smoked a tobacco cigarette. Males made up the majority of both smokers and e-cigarette users (78.5% (n=15) and 73.7% (n=14) respectively).

Table 1. Description of participant groups

Location	Setting	Participants (n)
Ellesmere Port	Small independent school foundation for young people excluded or at risk of exclusion from mainstream education	6
Halton	Social project for young people from deprived backgrounds	8
Knowsley	Drop in youth club & Young Advisors Group	6
Liverpool	Boys Catholic High School	9
St Helens	Youth Community Steering Group	4
Wallasey	Drop in youth club	5
Warrington	Drop in youth club	7

2.2 Study Procedure

Focus groups took the form of semi-structured group interviews involving between four and nine participants, in which the principal researcher posed open-ended questions exploring young people's use of and attitudes towards e-cigarettes. Focus groups typically lasted between 30 and 45 minutes and were held at a time and location that the groups would normally convene (i.e. during a school lesson or an evening when a youth club was in session). Participating organisations were recruited through existing local contacts and contacts provided by the Health Equalities Group and the Cheshire and Merseyside Tobacco Alliance.

Organisations that agreed to support the research identified a key contact within the service (e.g. a youth leader or teacher) who took responsibility for recruiting young people to the study. An information sheet was distributed to parents and guardians approximately two weeks prior to the scheduled session and parents/guardians were given the opportunity to opt their child out of the research. Before scheduled sessions began, young people were provided with important study information and reassured of their anonymity and confidentiality. Informed written consent and basic demographic information (age, gender and ethnicity) was obtained from all participants. All focus groups were audio recorded. Full ethical approval for the research was provided by Liverpool John Moores University's Research Ethics Committee.

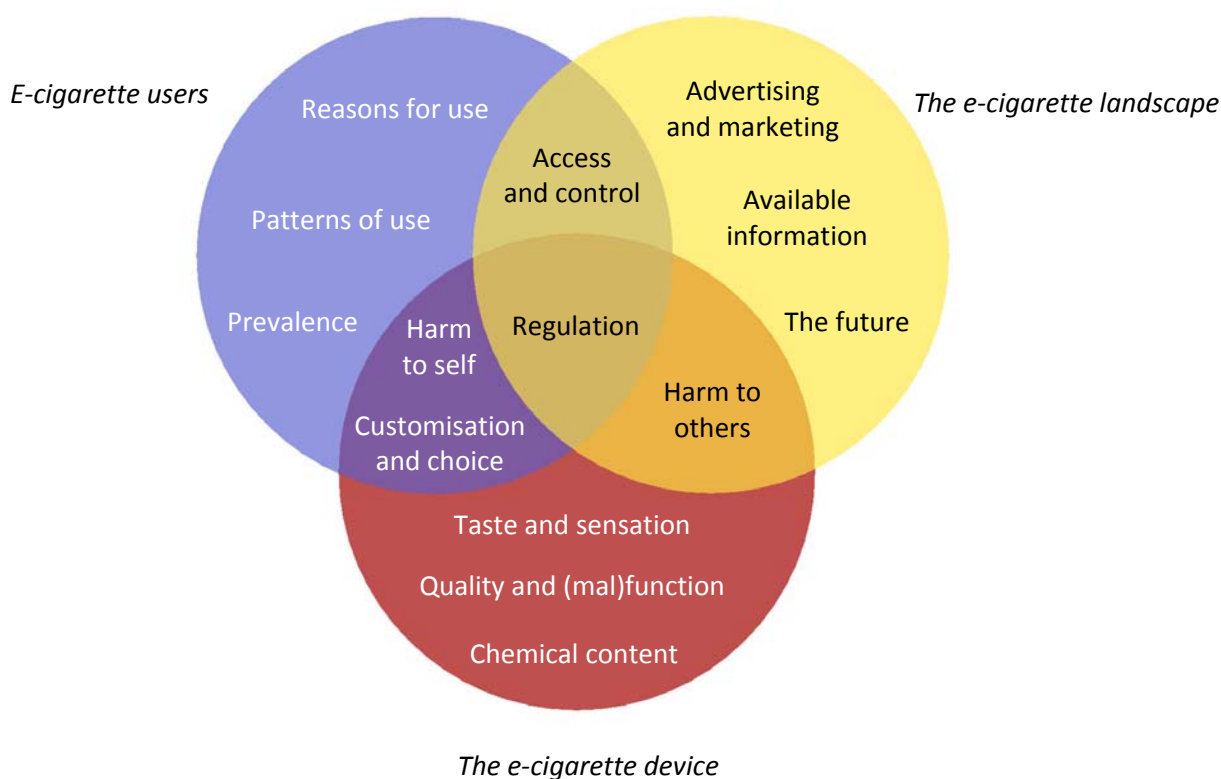
2.3 Data Analysis

Focus groups were transcribed verbatim, with any identifiable data relating directly to the interviewees anonymised (e.g. their own names, the names of family members or friends, references to their school or residential area). Transcriptions were initially analysed manually by two independent researchers, before being imported into NVivo (version 10) for coding and thematic analysis. Particular attention was paid to instances where young people were in disagreement and responses were compared and contrasted across the different focus groups. The emphasis on each theme was considered in light of how many groups provided data to that theme, how many people within each group contributed to the discussion of topics within that particular theme, and how much energy and enthusiasm was generated during these discussions.

3. Findings

In this study, young peoples' discussions of e-cigarettes were found to be focused around three general themes: the e-cigarette device and its features and properties; e-cigarette users and their motivations and experiences; and the wider e-cigarette landscape, including the regulatory environment and society's response to e-cigarettes. Various subthemes emerged within each of these themes, often crossing the boundaries between different general themes. The figure below (Figure 1) provides a visual representation of the relationships between these themes. In the following text, each sub-theme is discussed in detail.

Figure 1. Relationship between key themes and subthemes



3.1 Prevalence of e-cigarette use among young people

Generally participants reported that they knew lots of young people who use or have tried e-cigarettes, suggesting that they often see their friends and other members of their peer group with the devices in and around school, outside shops and around town centres. In some cases, reference was made to children as young as 10 years old using e-cigarettes and sharing them amongst their friends. Participants' perceptions of the prevalence of e-cigarette use among young people differed by both age and location however, with older participants (16-17 years old) more likely to frame e-cigarettes as smoking cessation aids and consequently less likely to see teenagers as common users, suggesting instead that they may only occasionally try them. E-cigarette use among young people was described as particularly prevalent in Warrington and St Helens, where use of e-cigarettes was

often associated with alcohol use and social gatherings. Across all focus groups, participants were happy to volunteer information on their experiences of trying or using e-cigarettes, but were much more reluctant to disclose whether or not they currently or have ever smoked tobacco cigarettes. As may be expected, e-cigarette users held different perceptions of prevalence to those who had never used the devices. Whilst almost all e-cigarette users reported common use within their friendship groups, one or two non-users had only family-based reference points for e-cigarette use. There were no participants who indicated that they had not heard of e-cigarettes or did not know what they were.

“Most people I know have got one” Male, aged 15, Ellesmere Port, smoker

“I’ve tried one. A friend’s. At a party when I was a bit drunk...There’s a lot in our school” Male, aged 15, St Helens, non-smoker, has tried an e-cigarette

“I do know of quite a lot of young people that are using them, but I also know a lot of older people who are using them as well” Male, aged 17, Halton, non-smoker, has tried an e-cigarette

3.2 Reasons for e-cigarette use

There was an overwhelming sense across all groups that the majority of young people who do use e-cigarettes do so not for the benefits proposed by those who produce and market these products (e.g. for health benefits, to save money, to allow users to intake nicotine in locations where tobacco smoking is prohibited), but simply “for the sake of it”, to fit in with or impress their peers, or to portray a certain desired image of themselves. Although participants did not indicate that their friends put any direct pressure on them to try the devices, it was certainly the case that they felt that a young person would be more likely to want to try an e-cigarette if they had friends that were using them. Friendship groups were considered very likely to share e-cigarettes and have collective experiences of their use.

F4: “I think some people can use it to try and quit, and some people can use it just for the fun of it.”

F1: “Just to fit in. Like they’ve seen someone else use it, so oh why not. I’ve seen someone else so why not” Females, aged 16, Wallasey, smoker and e-cigarette user (F4) and non-smoker (F1)

“They use e-cigarettes because their friends use them and they want to be like everyone else. Plus it’s something new, so everyone wants to try it.” Female, aged 14, Warrington, non-smoker and e-cigarette user

“It’s a safer way of following the crowd really. If their friends are smoking, they can smoke but not harm themselves in any way either” Male, aged 15, St Helens, non-smoker, has tried an e-cigarette

“If the cool kids, like the firm and that, if they’re smoking them (e-cigarettes) then people are going to think maybe I’ll be cool if I get one.” Male, aged 15, Liverpool, smoker and e-cigarette user

Whilst a small minority of participants provided anecdotes of friends or relatives who had successfully given up smoking through the use of e-cigarettes, participants that had tried to use e-cigarettes as a cessation aid themselves reported that it only supported them in cutting down, not in stopping smoking entirely (n=3). Many participants held the belief that e-cigarettes do not work as an aid to stopping smoking as they simply substitute one problem for another and cannot retain a

smoker's interest in the long run, leading to a relapse to cigarette smoking. Times when individuals were consuming alcohol were highlighted as particular situational contexts in which e-cigarettes may not be a sufficient alternative for smokers who are using the devices in an attempt to cut down or quit. Reported beliefs about the (un)suitability of e-cigarettes to aid smoking reduction or cessation were similar for both e-cigarette users and non-users, although e-cigarette users who identified themselves as current or ex-smokers seemed to believe that even if the approach hadn't worked for others, e-cigarettes may still successfully help them to reduce their tobacco smoking in future.

"I only smoke (normal cigarettes) when I'm drinking. Or I have the odd one every now and again."

Female, aged 16, St Helens, smoker and e-cigarette user

M2: *"You know when you're drunk as well, say if you have a drink, you wanna smoke more."*

M5: *"You'd do that with fags though."*

M2: *"Yeah that's what I'm on about, when you're drunk you want fags."* Males, aged 15, Ellesmere Port, smoker and e-cigarette user (M2) and non-smoker (M5)

"I only bought mine to help me cut down. Not to like permanently quit, just to cut down...After people quit smoking they keep using the electric ciggy, so it's not really done that." Male, aged 17, Halton, smoker and e-cigarette user

3.3 Patterns of e-cigarette use – A gateway to smoking?

Across all focus groups, participants were emphatic in their accounts of e-cigarette use among young people who have never smoked tobacco cigarettes. For many current smokers, this issue was one that caused notable controversy. Although it was recognised that e-cigarettes may provide an opportunity for young people to try smoking and 'follow the crowd' in a way that is perhaps less harmful and a more pleasurable experience, many participants struggled to understand why a non-smoker would want to use a product that was designed as a substitute to smoking. In one group in particular, smokers conveyed a strong sense of annoyance and cynicism that non-smokers were using e-cigarettes to 'pretend' that they were smokers and portray a false image of themselves as members of the smoking community.

"Well you wouldn't be tempted, because it's not like the people who smoke cigarettes, they get addicted to the nicotine, and the action thing. But people who don't have that, why would they want to try an e-cig if they don't smoke?" Female, aged 14, Halton, non-smoker

F3: *"I don't get people that have never smoked in their lives but are smoking them!"*

F1: *"Because it's nicer than ciggies."*

F3: *"But they've never smoked a cigarette so how would they know!"* Females, aged 16, Wallasey, smoker (F3) and non-smoker (F1)

"There are people in my form that have no experience with smoking or nothing, and I was speaking about my pen (e-cigarette), and he went 'look at mine', and I was like I've never seen you smoke before. Now I'm noticing the people in school with these pens, they're on the rise" Male, aged 14, Liverpool, smoker and e-cigarette user

The idea that using e-cigarettes may act as a gateway to smoking tobacco cigarettes was a common theme throughout the focus groups and one of the topics that was presented with greater

homogeneity. Many participants felt that using e-cigarettes may introduce young people to tobacco smoking, as their positive experiences of e-cigarette use may result in them wanting to try a 'real' cigarette or developing a greater need for nicotine that cannot be satisfied by e-cigarette use alone. Some participants also suggested that common use of e-cigarettes (among both young people and adults) may result in younger children, who are unable to draw clear distinctions between e-cigarettes and tobacco cigarettes, normalising smoking behaviour, with the potential for these norms to influence their own attitudes towards, and likelihood of, smoking initiation. Young people that smoked in particular were acutely aware of these issues.

"Because if they get addicted to that (e-cigarette), they're going to eventually get bored of it, like normal smokers get bored of smoking and switch to e-cigarettes. It's going to be the opposite way round. Then kids are going to switch to smoking as they won't get the same kick out of it (e-cigarettes) anymore" Male, aged 15, Warrington, smoker and e-cigarette user

"It's like they're all saying oh it will taste like this, and then they get to the point where they finally buy real cigarettes and then think what have I done, I'm addicted to cigarettes!" Male, aged 16, Wallasey, smoker

"I reckon that would make you want to smoke more as well. If you've never smoked before and you try one of them (e-cigarettes), you might think oh I want to see what a cigarette tastes like" Male, aged 14, Liverpool, smoker

3.4 Quality and malfunction

Although e-cigarettes are often marketed as innovative, technological, and sleek or elegant in design, to participants they were more commonly seen as cheap and unreliable, and were referred to as more of a 'fad' product than an important or desirable possession. Many e-cigarette users described instances in which their devices had broken or were lost and not replaced. In direct contrast to the branding and promotion of some e-cigarettes, participants associated the devices with low quality products, discount retailers and, in one case, young people from lower socio-economic groups.

"Like I know loads of people who have bought them, had them for like a few months or something and then just got rid of them. They just buy them to see if they like them, but if it's no good, if it breaks they don't replace them." Male, 17, Knowsley, smoker and e-cigarette user

"There are people that are chavs in our school that use them a lot."* Male, aged 15, St Helens, smoker and has tried e-cigarettes

"Mine just dropped on the floor and it snapped. So I chucked it at a teacher." Male, aged 15, Ellesmere Port, smoker and e-cigarette user

During discussions, many e-cigarette users shared anecdotes or stories of instances in which e-cigarettes had malfunctioned, often with negative consequences for the user. These tales provided a source of entertainment for participants and typically did not seem to cause any apparent alarm or immediate concern. In some cases participants who had experience of using e-cigarettes suggested

* A young lower-class person typified by brash and loutish behaviour and the wearing of (real or imitation) designer clothes (Oxford English Dictionary definition)

that these occurrences might not be due to inherent problems with the device, but inappropriate actions by users.

"I had one that blew up. Well it disconnected, there was like the wires and there was the battery and I had to hold them together to get a puff, and then it just went pssshhh and set on fire so I threw it in the garden." Male, aged 14, Liverpool, e-cigarette user and ex-smoker

"My battery pack exploded on me two weeks ago and oh my god I thought I was going to die. Made the biggest bang...If you've got the tiniest loose wire you may as well throw it away. Mine like, where the button is that you push, mine was wobbly, and me thinking oh yeah it will be alright, just stick some tape on it. Shouldn't have done that. It exploded." Male, aged 17, Halton, smoker and e-cigarette user

3.5 The chemical content of e-cigarettes

Overall participants were very aware of the nicotine contained within e-cigarettes, with users and non-users of all ages commenting on the varying levels (mg) of nicotine available and the option of purchasing nicotine-free cartridges. Participants were, however, much more unsure as to what else may be contained within the liquid capsules, and viewed them with a certain amount of scepticism; although there was no clear indication that this limited their involvement with the devices. In one group, a heated discussion was sparked when a participant suggested that the devices contained tobacco. Across many focus groups, participants did not have the confidence to entirely dismiss claims such as this, even if they believed them to be false. Other chemicals that were mentioned as possibly being contained within the liquid cartridges included alcohol and 'car defroster'. All participants had seen or heard of alcohol or cannabis flavoured cartridges and concerns around whether these liquids actually contained alcohol and cannabis were paramount and discussed in all groups. In some cases, younger participants expressed concerns as to whether or not you could develop problems with alcohol or cannabis from using e-cigarettes in these flavours. This highlighted a lack of understanding of both the content of the liquid capsules and the nature of addiction to these substances.

"I don't know what's in them (e-cigarettes), but it's obviously something dodgy." Male, aged 15, Ellesmere Port, smoker and e-cigarette user

"The defroster. You know the car defroster that you use to thingy, they have them in it, and that's what makes the smoke." Male, aged 13, Warrington, smoker and e-cigarette user

M5: *"Doesn't affect your lungs as much."*

M2: *"It does, it still has tobacco in it."*

M1: *"How can it have tobacco in it! Tobacco is little brown stuff. It's got nicotine in it, not tobacco!"*
Males, aged 14 and 15, Liverpool, non-smoker (M5), smoker who has tried e-cigarettes (M2) and ex-smoker and e-cigarette user (M1)

"Alcoholics get addicted to drinking a lot, but say you get an alcohol flavour, then if you use it all the time then you get addicted to alcohol. So you become an alcoholic, the same with drugs."

Male, aged 13, Warrington, non-smoker, has tried an e-cigarette

3.6 Taste and sensation

Participants generally agreed that e-cigarettes provide a very different taste and sensation to that experienced when smoking tobacco cigarettes. The feeling of inhaled vapour on the back of the throat was described as both 'tickly' and 'raspy', and these feelings were often linked to the perception that e-cigarettes are actually more harsh on the throat than tobacco cigarettes. The sensation of smoking an e-cigarette was associated with unpleasant feelings of choking in accounts that participants gave both of their own experiences, and stories detailing the experiences of others. These experiences were often presented as humorous and participants were generally very flippant in their discussion of this potentially very unpleasant sensation.

"I tried a 24 (milligrams of nicotine) and thought my lungs just instantly dropped off. I tried an 18 and it was like choking to death. I stick to like an 8." Male, aged 17, Halton, smoker and e-cigarette user

"It's (the e-cigarette) harsher on your throat...My dad nearly died on it. Nearly choked to death." Male, aged 15, Ellesmere Port, smoker and e-cigarette user

Some participants reported having tried e-cigarettes but not enjoying the taste or feeling. In one group in particular, male participants related these experiences to smoking tobacco cigarettes.

"Yeah but to be honest with you, you know when you first try it, you don't like it do you...You carry on just because you can." Male, aged 14, Liverpool, ex-smoker and e-cigarette user

"Loads of people have gone on them and gone off them though, because they just don't taste nice." Male, aged 14, Liverpool, smoker, has tried e-cigarettes

3.7 Personalisation and choice – How e-cigarettes show individual style

Despite these negative reactions to the sensation of inhaling vapour from an e-cigarette, participants were very animated in their discussions of the different flavours available. In all focus groups, participants talked in detail about the flavours they had seen or tried, and this degree of choice was put forward as one of the most pervasive benefits or appeals of e-cigarettes by an overwhelming majority of participants. Young people discussed the range of different flavours they had encountered as if they had intentions to 'collect them all' or as if they were seen as badges of honour and could demonstrate that someone was a credible e-cigarette user. Discussions of flavours also seemed to represent the idea of e-cigarette use as a shared experience, with the peers of e-cigarette users often talking about the users' experiences of different flavours and brands as if they were their own experiences.

M2: "In this one I've got red bull, and grape. Mixed together. I've had blueberry, blackcurrant..."

M1: "Strawberry."

M4: "Red bull."

M2: "I've already said that."

M3: "Melon."

Males aged 15, Ellesmere Port, e-cigarette user (M2) in discussion with smokers

Participants discussed the opportunity that e-cigarettes provide for young people to make choices that show their individuality, both in terms of the flavours they choose but also the colours and accessories they select for their devices.

“The colours draw you in as well. So say you’re like ooh purple or something. Because mine is all different colours, which made me want to spend more money. It goes blue, then green.” Male, aged 14, Liverpool, ex-smoker and e-cigarette user

“Yeah it’s the idea that you can have your own, you can have a special unique pen, like colours and patterns and flavours. It can also be that idea of being able to build your own cigarette for yourself. So that could be appealing. Try more flavours and show individualism.” Male, aged 14, Liverpool, smoker, has tried e-cigarettes

“It’s like you can get them customised to your tastes really.” Female, aged 14, Knowsley, non-smoker

These aspects of choice did, however, also raise concerns as to the appeal that e-cigarettes may have for young children, as participants drew parallels between e-cigarette users wanting a certain flavour or brand and children wanting the latest toy. Here participants suggested that the design and flavours of e-cigarettes may appeal to children, but also that the way in which teenagers or adults covet these devices can be considered somewhat child-like in its impulsivity and immediacy. This belief was reflected in the discussions of both smokers and non-smokers, and those who had or had not used e-cigarettes.

“You can get them in different colours, so it’s like a kid seeing a new toy and being like I want that one, whereas it’s an adult or a teenager seeing it and saying I want this colour or that colour.” Female, aged 16, Wallasey, non-smoker

“That (flavour) is just making kids want it more because think about a kid that’s addicted to chocolate and he sees the chocolate flavour.” Male, aged 14, Warrington, smoker and e-cigarette user

3.8 Can e-cigarettes cause harm to users?

One of the biggest areas of uncertainty among participants was the potential for harm as a result of e-cigarette use – a topic that was discussed in detail in all focus groups and often divided opinion. Interestingly those young people who smoked, or who had used e-cigarettes, displayed no greater certainty. Age did however emerge as a relevant factor. In the three focus groups that contained predominantly 16 and 17 year olds, participants were generally more inclined to see e-cigarettes as a less harmful option (when compared with tobacco cigarettes), although in each of these groups there were also participants who believed that the harms were probably the same for both. Participants indicated that a lack of research around e-cigarettes might mean that the true extent to which they could cause harm is not yet known.

“I think they’re way less harmful, because in cigs, as well as tobacco, they put like cyanide in them, and rat poison, and some chemicals that treat the tobacco to make it burn for as long as it does. But an e-cig doesn’t really have half as much as what they have in one cig.” Male, aged 15, St Helens, non-smoker, has tried e-cigarettes

“I’ve got friends that use them and I don’t see the point in them, because you don’t know if they are actually safe or not because there’s not much background on them.” Male, aged 16, Wallasey, smoker

F1: “There isn’t really enough research, so how can we know they’re not harmful.”

F3: “They’re probably just as harmful as smoking cigarettes.”

F1: “Perhaps less harmful but still quite.”

Females, aged 14, Knowsley, non-smokers

“Yeah but no one knows what’s in them, it’s just, you put your liquid in, and how does it even work? That liquid like burns and what’s in the liquid, is it like chemicals, is it toxic?” Male, aged 14, Liverpool, smoker, has tried e-cigarettes

Some of the suggested harms that participants felt could result from e-cigarette use included (lung) cancer and respiratory diseases, a gathering of water in the lungs, and poisoning from the ingestion of the toxic liquid contained in e-cigarette cartridges. Participants’ ‘knowledge’ of these harms was largely drawn from anecdotes from friends or family members, or stories they had read on forums and wikis[†] on the internet. There was no real indication that participants felt cause to question the reliability of these sources, and information was generally taken at face value and relayed with a degree of certainty.

“If you take too much of it, it will fill your lungs with water...There was a picture and it explained what happened and what it had done to him. He’s been smoking it all day until the battery has gone dead, and his lungs have been filling up with water because of it. I thought how could you do that, but obviously it has somehow.” Male, aged 17, Halton, smoker and e-cigarette user

“Some girl is in hospital because of the electric cig. I don’t know her name, but one of my mates, one of her relatives she’s in hospital because of it. So there are some dangers to it. I think it’s because she had a faulty e-cig and the liquid came out and she kind of swallowed some of it.” Female, aged 16, St Helens, smoker and e-cigarette user

Participants were generally in agreement that the use of e-cigarettes could result in an addiction to nicotine, although they were often unsure as to whether the devices are more or less addictive than tobacco cigarettes. In two groups in particular, comments on the relative risk of developing an addiction to nicotine from using e-cigarettes prompted more in depth discussions about the nature of addiction itself, with young people conveying some scepticism as to the physiological impacts of addiction (something that may more commonly be thought of as dependence).

“To be honest with you I think they are addictive...When I hadn’t had my pen in 24 hours, I needed me pen. So I believe it is addictive.” Male, aged 14, Liverpool, smoker and e-cigarette user

“No, they’re not actually addictive, they’re mentally addictive. It’s like your mind telling you that you need it but you don’t actually need it.” Male, aged 15, Warrington, non-smoker, has tried e-cigarettes

[†] A website or database developed collaboratively by a community of users, allowing any user to add and edit content (Oxford English Dictionary definition)

3.9 Harm to others – Is second hand vapour a problem?

A further issue that clearly divided opinion among young people and highlighted a significant lack of suitable information and understanding was the potential for e-cigarettes to cause harm to others, specifically through the inhalation of second hand smoke. Some young people were confident that the emission from an e-cigarette is simply steam, causes no harm to other people and is therefore one of the key benefits of e-cigarettes over tobacco cigarettes. Participants in one group suggested that this may, in fact, make e-cigarettes more acceptable to parents when there are other young children in the family that would otherwise risk exposure to harm. Alternatively, many participants surmised that there may be effects on others, just to a lesser extent than the effects of passive tobacco smoking. Further participants had an entirely different understanding and argued that the risks of second hand smoke were equally as relevant when considering e-cigarette use. In some cases, participating boys recalled experiences of having experimented with e-cigarettes in an attempt to breathe in the vapour that had been exhaled by somebody else.

“I don’t think there’s any problem with them really because it’s not smoke, it’s just like steam really or water.” Male, aged 14, Liverpool, non-smoker

“I don’t think it would affect you as much as the real ones. But it might do a little bit, the nicotine might still come out.” Female, aged 13, Halton, non-smoker

“It still counts as passive smoking as it’s still got a bit of nicotine in it. Plus is still has that smoke or steam, so if people breathe that in, they’ll still be getting bits of nicotine.” Male, 17, Halton, smoker and e-cigarette user

“My mate was trying to breathe in the smoke after I blew it out and he was having none of it, so I don’t think it really works.” Male, aged 14, Liverpool, ex-smoker and e-cigarette user

3.10 Access to and control of e-cigarettes

There was consensus among participants that it is very easy for young people to access e-cigarettes and many participants reported having purchased e-cigarettes from markets, stalls and shops without being asked to provide age identification. Typically participants felt that as shop owners were simply out to make money, they would serve any young person without question. There was, however, also a sense that it is easy for young people to make themselves look and appear older to secure age-restricted purchases from even the more conscientious of vendors. As well as having family members or older friends provide them with e-cigarettes (as many participants who regularly used e-cigarettes reported they did), participants also identified proxy purchasing through approaching strangers outside of shops as a reliable strategy for access. Young people felt that the cheap disposable e-cigarettes that are available from single-price retailers were the most accessible and provided an opportunity for young people to try something at a lower cost that may then persuade them to spend more money sourcing the ‘real thing’.

“There’s loads of shops that will serve kids isn’t there. You just have to go in and find out. They say no, they say no. Try the next one.” Male, aged 14, Liverpool, smoker, has tried e-cigarettes

“They are easy to get hold of. Like we’ve got loads of 13 or 14 year olds now smoking, like they could easily get hold of one. Because people now these days look a lot older than what they actually are. So it would be easier for them.” Female, aged 16, St Helens, smoker and e-cigarette user

“Because it’s not only shops that are selling them. Say like, our local mobile shop, they sell them there as well. So if they’re not like familiar with the kid on the estate, and they think oh he looks about 16, then they could probably get away with it couldn’t they.” Male, aged 17, Halton, non-smoker, has tried an e-cigarette

“A lot of people ask older people to buy them for them. And a lot of people nowadays have a lot of people older than them that will already buy them drinks.” Male, aged 13, Warrington, smoker and e-cigarette user

“Stand outside the shop. Sit there for about 10 minutes and wait for someone to come and just say to like everyone that goes past, will you go in there and get me such and such or whatever they want.” Male, aged 14, Liverpool, smoker, has tried e-cigarettes

In many cases, participants reported deceiving their parents to acquire money to spend on e-cigarettes and their accessories. Purchasing the starter kits and associated products was considered initially quite expensive, and some participants who had tried but did not regularly use e-cigarettes suggested that they would buy a device in future if they could afford it. Once a good brand had been purchased, the fact that e-cigarettes are cheaper in the longer-term was suggested as a key benefit and something that may make them appealing to young people who do not have much expendable income. There was still, however, some disagreement that the frequency with which e-cigarettes break and would need to be replaced would result in users spending more money than intended. Although considered more cost effective by non-users, many e-cigarette users seemed to object to the premise that their devices were cheaper than cigarettes, perhaps wishing to avoid the associations with single-price retailers and low quality products that were discussed previously.

“No right coz I’ve got a friend and she’s really addicted to them and she got the first one, she had a go of her mum’s while she was out. Then she decided will you help me save up my dinner money, and she saved up her dinner money to get one and then she sent her cousin, who’s in year 11 to go get her one.” Female, aged 14, Warrington, non-smoker, has tried e-cigarettes

M3: “Just say you’re going to the cinema. Go into town and buy one.”

M1: “Say Mum can I have some money. Go to your Nan’s. Nan have you got any money, my mum never gave me any. Normally works.”

M3: “I got the two of mine in town. Like when I said to my mum I’m going to town. I got money to go to town and I bought what I wanted then bought two of them. Some people’s Mums will buy them for them.”

M1: “My Mum bought me one.”

Males, aged 14, Liverpool, ex-smoker and e-cigarette user (M1) and smoker who has tried e-cigarettes (M3)

Participants who used e-cigarettes suggested that another key benefit of these devices was that they were more discrete and could be used at home or at school with much lower risk of detection than tobacco cigarettes. The school context was one that raised particular debate and divided many of the focus groups as some young people believed that e-cigarettes were actually allowed in school,

and others felt that teachers were just more inclined to look the other way so as not to be seen to be discouraging something that could be used as an aid to stop smoking.

“They’re easier to conceal, even if they see you with them, they don’t know what it is, because they come in different shapes and sizes and designs anyway.” Male, aged 15, St Helens, non-smoker, has tried e-cigarettes

“In school, under the desk you can do it. But you can’t spark up a real bifta can you.” Male, aged 15, Ellesmere Port, smoker and e-cigarette user

“I don’t think the teacher’s gone oh we’re going to allow these, I think someone’s just used them, explained the situation like oh they’re not harmful to anyone else and the teacher has probably said to them its ok just don’t use it as often. That’s all that’s probably been said.” Female, aged 16, Wallasey, non-smoker

3.11 E-cigarette regulation

Participants’ discussions revealed a general lack of clarity around whether or not age restrictions are imposed on the sale of e-cigarettes. Although many participants identified retailers who stated that you must be aged 18 and over to purchase e-cigarettes from them, very few felt that these restrictions were actually adhered to. Interestingly, in two groups, participants expressed uncertainty as to the actual laws surrounding the sale of e-cigarettes to young people but reasoned that if retailers say you must be 18, that this must, in fact, be the law in the UK. There was, however, some variation in presumed age restrictions, with participants in some cases reporting beliefs that young people must be at least 16 years old to buy e-cigarettes, and in other cases asserting that challenge 21 schemes are in place. Participants who had never smoked or never tried e-cigarettes knew very little of the age restrictions for either product.

“You have to be sixteen to buy them. But I still went with my mum anyway, just in case.” Female, aged 16, St Helens, smoker and e-cigarette user

“You’re allowed to smoke e-cigarettes at sixteen but you can’t buy them until you’re eighteen. If your parents wanted you to stop smoking, they could go and buy them for you.” Male, aged 17, Knowsley, smoker and e-cigarette user

“There’s a shop in town, that shop that he was talking about, they used to sell them for people over the age of twelve, but now they’ve put it up to sixteen.” Male, aged 13, Warrington, smoker and e-cigarette user

Participants were aware of bans and restrictions on e-cigarette use in a number of places, including on public transport, at youth clubs, in cinemas and shops, and inside some bars, pubs and restaurants. Although they reported on the presence of signs on some buses, generally this understanding was taken from word of mouth. Uncertainty in one focus group sparked a debate as to whether or not e-cigarettes could be used on aeroplanes and overall a real lack of clarity over current regulation was identified.

Participants raised concerns that a lack of regulation could place e-cigarette users at greater risk of harm as e-cigarettes may not be tested or approved and therefore may not be safe to use or may

contain unknown amounts of nicotine. Some participants, however, indicated a belief or faith in the systems that they felt were usually in place to protect consumers by suggesting that e-cigarettes must have been tested in order for them to be sold as widely as they currently are.

"It could be really bad for you because they're not approved are they." Male, aged 14, Liverpool, smoker, has tried e-cigarettes

"Obviously they have done tests. They can't sell them without having tests done. There's no way that could be allowed." Female, aged 16, Wallasey, non-smoker

Young people expressed overwhelming support for the development of more detailed regulations for e-cigarettes, although diverse motivations for this support were identified. On the one hand, some participants felt there should be a clear set of rules specifically for e-cigarettes as they are not the same as tobacco products and do not carry the same risks. On the other hand, a large number of participants felt that as e-cigarettes are an 'associated product' of tobacco cigarettes, the same rules should apply to both. Some participants suggested that allowing e-cigarette use in certain places (e.g. on buses or in bars) may give smokers the incorrect impression that they too should be able to smoke anywhere. They also raised concerns that widespread e-cigarette use in family-oriented environments such as restaurants may encourage young children to see this behaviour as normal. Without exception, participants agreed that e-cigarettes should be banned in eating establishments.

"I think they should be allowed indoors because they are not harmful to other people." Female, aged 16, St Helens, smoker and e-cigarette user

"The same rules should apply because they're the same thing aren't they. They've both got nicotine in them." Male, aged 17, Knowsley, smoker and e-cigarette user

"There's goods and bads as to why they should be banned in places. Because if they were allowed in public places, then more people might be attracted to doing it, and it might encourage people more. People who shouldn't, like kids." Male, aged 14, Liverpool, smoker, has tried e-cigarettes

"They say that it's the safer option for indoors but I don't know. If smoking is not allowed then it's like a sub-class of smoking, so I reckon that just shouldn't be allowed in doors anyway because it will give people ideas that they can smoke them so they will go and get them and waste money." Male, aged 16, Wallasey, smoker

Generally young people were concerned over what they perceived to be a sense of fairness and equity. Whilst participants who used e-cigarettes often felt that tighter controls would be unfair as e-cigarette use does not affect others, many participants who identified themselves as smokers were keen to see e-cigarette users treated the same as themselves. Some non-smokers also expressed concerns that the presence of someone smoking an e-cigarette may be unfair on smokers who may experience stronger cravings as a result of seeing that person using the e-cigarette whilst being unable to smoke themselves. Some participants did, however, recognise that the freedom to use them in areas in which traditional smoking is prohibited may be one of the key benefits or appeals of e-cigarettes.

“I wouldn’t mind someone using an e-cig next to me, but it would probably affect people that smoke normal ciggies. I know people who just smoke normal ciggies and they get cravings really easily. If they see someone next to them even just doing the action of smoking, it could like torment them or make their cravings even worse.” Male, aged 15, Halton, non-smoker

“I think it gives a bigger incentive for people to stop smoking or turn to the electric cig anyway. As well as being healthier, you can smoke it pretty much anywhere, apart from places like in some shops. It’s just still pretty much water vapour that comes out after they’ve smoked it, so it doesn’t do any harm to anyone else.” Male, aged 15, St Helens, non-smoker, has tried e-cigarettes

“That’s the selling point of e-cigarettes, you can smoke them inside...For people that smoke its really inconvenient if you’re sat somewhere and you know you’re not allowed to smoke.” Female, aged 16, Wallasey, smoker

3.12 Available information – What do we know about e-cigarettes?

Although participants who had used e-cigarettes were able to describe some of the information provided when these devices are purchased, this information was almost exclusively instructional and provided little or no insight into what is in the liquid cartridges and what inhalation of this liquid can do to the body.

“When you buy them from the proper shop the man like sits you down and tells you about it, like what to do with it. He tells you (as a user) how much he’s saving on them and how he feels better off with them now.” Male, aged 17, Knowsley, smoker and e-cigarette user

“When you go and buy them he tells you like put it on charge, when it goes green you take it off, if it gets hot don’t smoke it, leave it for a bit. Stuff like that.” Male, aged 15, Ellesmere Port, smoker and e-cigarette user

“There’s not a lot of information. There’s information about them, but there’s not a lot of information about what’s in them, what they do, and how they can help you stop (smoking).” Female, aged 16, Wallasey, smoker and e-cigarette user

Perhaps due to the ubiquity of smoke-free messages and health warnings relating to tobacco cigarette smoking, young people expressed surprise at the lack of information around e-cigarettes and felt that this absence was cause to be suspicious. Interestingly, in one case when information on the potential side effects of e-cigarette use was provided, the user herself was somewhat dismissive of the issues presented, much to the apparent consternation of her peers.

F4: “In the shop I went to in the market, there was side effects on erm the thing, it was just like drowsiness and all that. It wasn’t anything major.”

F1: “So you still thought you’d buy that?”

F4: “Yeah.”

F1: “Even though it said it can cause that?”

F4: “It’s not anything, it’s nothing major...”

F1: “Its minor, but it’s still a side effect...”

F4: “If it makes you a bit sleepy than that’s fine, it’s not like a proper drug.”

Females, aged 16, Wallasey, smoker and e-cigarette use (F4) and non-smoker (F1)

Box 1 provides a summary of the information that young people suggested they would want to know about e-cigarettes. Whether or not e-cigarettes can cause cancer was a particular cause for concern.

Box 1. Information that young people would like on e-cigarettes

- What can e-cigarettes do to you / what are the harms associated with their use?
- What chemicals do e-cigarettes contain?
- What makes e-cigarettes flavoured?
- Where and how are e-cigarettes made and who or what were they tested on?
- Why were e-cigarettes first introduced?
- What are the current rules on e-cigarettes / where are you allowed to smoke them?

3.13 Advertising and marketing

Although young people reported seeing some advertising for e-cigarettes in shops, on television and at football matches, these were typically isolated sightings and only a fraction of participants showed any awareness of what are currently quite widespread advertising and marketing campaigns. Even among those who did identify particular posters, retail displays or television adverts, recall was not very strong and participants were only able to discuss these media in imprecise detail. Participants did not discuss or report seeing online advertising (including through social media) or identify any instances of product placement or celebrity endorsement. Generally participants' discussions showed very limited awareness of advertising and marketing strategies which may suggest that the young people in this sample were not very informed or sophisticated consumers of the various forms of advertising. In one group, participants believed that advertising for e-cigarettes was not seen as it was actually not allowed.

"You're not allowed to advertise cigarettes on the telly, so you wouldn't be allowed to advertise electronic ones. I reckon that's why you don't see them." Female, aged 16, Wallasey, smoker

When asked whether or not they thought e-cigarettes should be advertised, young people were generally unsure. A few participants did, however, suggest that e-cigarette advertising should only be targeted at adults and should therefore only appear on television at certain times of day (i.e. after the watershed). Participants also saw advertising as an opportunity to convey more information on the content of e-cigarettes.

"Probably stick to magazines that are more appropriate for people who are over 18, like TV magazines and stuff like that. Not even posters. I don't think they need advertising because everyone knows where they are and what they are." Male, aged 16, Wallasey, smoker

"It should be advertised, but not in the way that it is, because it's being advertised now saying they're good, you should smoke them. But what it should say instead in, instead of saying they're good for you, they should say what's in them and that." Male, aged 14, Liverpool, smoker, has tried e-cigarettes

3.14 The future of e-cigarettes

When thinking about the e-cigarette landscape of the future, participants reflected on the idea that e-cigarettes are just a fad or a phase and will not necessarily be a valued product in years to come. As well as the idea that tighter regulations will be brought in that will reduce the appeal of these devices, young people also suggested that at some point, once more is known about the risks associated with their use, e-cigarettes will be found to be harmful and removed from UK markets altogether. In discussing what might happen in the future, participants often drew parallels with the way in which public opinion and understanding, norms and social acceptance of smoking has changed over time.

M1: "I reckon they'll end up saying that you get mouth cancer."

M6: "I think they'll end up taking them out of the shops...I reckon it will just go. It's just a bit of a phase that's going on."

Males, aged 15, Ellesmere Port, non-smoker (M1) and smoker (M6)

F2: "Smoking was glamorised in the 1920s and that's what caused everyone to smoke. There used to be like telly adverts which promoted smoking saying it wasn't bad for you and it was good for your health and stuff like that. That's basically what's happening with e-ciggies now, so it's just repeating itself."

F4: "I think that is what's going to happen. Like no one knows much about what's in it and the side effects and all that. But later when they discover that there is, then it will be banned probably."

Females, aged 16, Wallasey, smokers (both) and e-cigarette user (F4)

4. Discussion

This study aimed to provide preliminary insight into the views of young people in Cheshire and Merseyside on the use, appeals, benefits, and risks or potential harms of e-cigarettes. Their awareness of e-cigarette advertising, the current regulatory frameworks and existing research and information in the public domain was also explored in an attempt to better understand how relevant these devices are in contemporary youth culture and how well-informed local young people are about the controversies that surround them. Participants showed a great deal of interest in the topic of e-cigarettes and presented with a willingness to discuss their personal experiences and opinions. Although young people may not have previously been asked about their perceptions of e-cigarettes in a formal setting (such as for research purposes), it was evident that discussions around these devices and experiences of their use form part of the social milieu of young people, with a dynamic vocabulary to support these conversations. Young peoples' willingness to discuss their experiences with e-cigarettes is an interesting contrast to the reluctance they showed in talking about their experiences of smoking tobacco cigarettes. This may reflect the general anti-smoking climate in the UK.

Discussions with participants provide a strong indication that awareness and use of e-cigarettes is both common and increasing among this population. At least two participants in every focus group reported that they use or had tried e-cigarettes, and in one particular group these participants made up a majority. As well as participants that had tried e-cigarettes on isolated occasions by borrowing

devices from friends or family members, or perhaps purchasing cheap disposable products from single-price retailers, some participants were regular e-cigarette users who were able to discuss their patterns of use, purchasing habits, and brand preferences at great lengths. Existing data on the prevalence of e-cigarette use among young people elsewhere in the world provides a picture in which a notable number of young people are aware of these devices and some, particularly smokers, have tried them.²⁷⁻²⁹ However, findings from this study and the accompanying analysis of Trading Standards North West survey data - showing that one in eight (12.7%) 14-17 year old schoolchildren from Cheshire and Merseyside reported having accessed e-cigarettes³⁰ - suggest that e-cigarette use may actually be more common among young people in England than has previously been thought, particularly as interest among non-smokers continues to grow.

The opportunity for e-cigarettes to act as a gateway product and introduce young people who have never smoked to nicotine and subsequently tobacco smoking has been raised as a concern by health professionals.^{18, 20, 31} This is a claim that e-cigarette companies dispute, stating that their products are targeted at adult smokers. Evidence from the USA suggests that one in eleven e-cigarette users have never smoked conventional cigarettes,²¹ while a survey from France places this figure closer to a third.³² UK figures from 2013 provided by Action on Smoking and Health (ASH) suggested that e-cigarette use in young people was confined to those who currently smoke or have previously smoked, with only 1% of young people who have never smoked reporting having tried an e-cigarette.³³ In the Trading Standards North West survey data analysis, 2.4% of Cheshire and Merseyside respondents that had never smoked tobacco cigarettes had accessed e-cigarettes; however as most survey participants were non-smokers these individuals accounted for one in eight (12.3%) of all those that had accessed the devices.³⁰ Participants in the focus groups considered the gateway effect of e-cigarettes as being a very real concern, citing numerous cases of their friends or people from their schools trying and owning e-cigarettes when they have never before smoked a tobacco cigarette. This was a common theme across all focus groups and something that was raised by smokers, e-cigarette users who were also previous or current smokers, and non-smokers alike.

Although some older participants did clearly associate e-cigarette use with trying to cut down or give up smoking, generally young people in this sample did not seem to frame e-cigarettes as a cessation device, but more as a product in their own right. Typically participants felt that young people used e-cigarettes just for the sake of it or for fun. As debate as to the effectiveness of e-cigarettes as a smoking cessation aid continues,^{11, 13, 34} it seems that these concerns are not as relevant to young people as concerns about the safety of devices and the potential for harm to others through second hand smoke. Although e-cigarettes can be thought of as having a mimetic relationship with tobacco cigarettes that maintains the prominent visual cue of smoke, for most participants the main emphasis of their discussions around e-cigarettes seemed to be about the different flavours and designs available, features that clearly separate e-cigarettes from traditional tobacco cigarettes.

In contrast to their understanding of the health and social impacts of tobacco smoking, young people showed a real uncertainty and lack of awareness around the potential risks and harms associated with e-cigarettes, current and proposed regulation in the UK, and the chemical content and functional components of these devices. Similar findings have been reported among young adults in the USA where, although there were some key differences in the way e-cigarettes were viewed (the devices were perceived as “high tech” and modern in this sample), there was uncertainty surrounding the harmfulness of e-cigarettes compared with tobacco cigarettes and a reported lack of information and understanding about the ingredients and health impacts.¹⁹

Concerns have also been expressed about the poor quality of devices,^{15, 35} something that participants in this study discussed at length, while little is known about the impact of e-cigarette vapour on others,³⁶⁻³⁸ and young people were polarised in their opinions of this potential for harm. Unlike the conventional wisdom that surrounds public opinion and awareness of tobacco smoking,³⁹ the uncertainties outlined by young people in Cheshire and Merseyside are, in many cases, reflective of uncertainties held by other young people, lay adults, and even those working in health, research and policy-related fields. Specifically, from discussions with teachers and other contacts that supported the research team in arranging focus groups, it was apparent that many individuals who work with young people do not feel adequately equipped to discuss the risks or benefits of e-cigarette use and lack precedent for implementing policy to control young people's use of these devices in schools, youth groups and other settings. A wider lack of understanding and information on e-cigarettes among society as a whole was recognised by all participants and seemed to provide cause for concern.

In most cases, participants appeared to be reliant on a combination of hearsay, stories and anecdotes to inform their understanding and opinions of e-cigarettes. They often recalled stories they had heard from friends or family members, particularly referencing incidents in which e-cigarettes had malfunctioned or caused harm to users. Many young people also discussed information that they had seen on the internet, typically presented in wikis or discussed in blogs or specialist forums. The internet, friends and advertisements have been identified as the main sources of awareness in previous research,^{3, 40, 41} with evidence from internet search query surveillance suggesting that e-cigarettes are a popular search term.^{5, 6} All information was seemingly approached with a certain degree of naivety, in that participants generally appeared to take this information at face value and were willing to accept and relay details without cause to question the reliability of the information or its source. Participants who were users themselves and retold stories of people who had suffered negative health effects as a result of their e-cigarette use commonly suggested that the harms experienced were not due to an inherent problem with e-cigarettes themselves, but due to their improper use by certain individuals. A particular naivety was also highlighted by comments and discussions that suggested an overriding confidence in the systems that participants believed were in place to protect and support people's health and wellbeing, such as age restrictions or rigorous testing.

With their range of colours and flavours, fashionable imagery and celebrity endorsement, concerns have been raised that e-cigarette are being widely advertised using youth-relevant appeals.²⁸ For example, a television advert for e-cigarettes that has been recently aired in the UK has come under fire for its overt sexualisation⁴² and controversy has surrounded the televised coverage of an American awards ceremony that showed well-known celebrities using the devices during the event.⁴³ Perhaps surprisingly however, participants' lack of awareness appeared to extend to the advertising and marketing of e-cigarettes, with the majority of participants reporting that they had not seen any advertising for the devices. Although participants specifically reported that they had not seen advertisements on television for e-cigarettes, many did comment on presentation stands within retail outlets and signs or posters outside such premises, but did not seem to identify that these were also forms of advertising. Participants expressed beliefs that there was simply no need to advertise e-cigarettes as everybody already knows they exist, suggesting a critical lack of awareness of advertising and marketing strategies. Clearly participants felt that they were not being influenced by e-cigarette advertising. This appears to contradict evidence that suggests young people's purchasing intentions and behaviours are heavily influenced by advertising.⁴⁴ For example, studies

with young people have demonstrated an association between alcohol advertising and marketing exposure and subsequent alcohol drinking behaviour.^{45, 46} With the current pervasiveness of e-cigarette advertising, it will be important to establish the real extent of advertising exposure among youths and the impact of this media content on their purchasing behaviours.

Despite their confusion over regulations that currently govern the sale and use of e-cigarettes, participants were clear and concordant in the view that e-cigarettes can be easily accessed by young people. This was largely attributed to irresponsible vendors and the success of deploying approaches that have previously been used to circumvent age restrictions on tobacco and alcohol products. For conventional smoking, perceived ease of accessibility is thought to increase the risk of smoking initiation in adolescents,⁴⁷ suggesting that young people may also be more inclined to take up e-cigarette use if they believe they can readily purchase these devices, even when underage. A strong global evidence base also supports the association between tobacco retail outlet density and cigarette use in young people, particularly when outlets are in close proximity to schools.⁴⁸⁻⁵⁰ With participants suggesting that e-cigarettes are appearing everywhere and are readily available in local shops, markets and petrol stations, it will be important to establish if such an association exists for e-cigarette use in this population.

Finally, along with ease of access, young people's susceptibility to smoking has been shown to be associated with lower parental monitoring or involvement and relaxed parental attitudes towards smoking.⁵¹⁻⁵³ Participants in this study felt that, compared with traditional cigarettes, use of e-cigarettes was not only more acceptable to those in positions of authority (i.e. parents and teachers), but also easier to conceal, thus allowing young people greater freedom over their own use. Although it has been suggested that youth disclosure is actually more instrumental in parent's knowledge of teens' activities than active monitoring efforts by parents,⁵⁴ these findings may suggest that e-cigarette use could develop in young people with relatively little parental knowledge or control. This may carry important implications for efforts to equip parents with the knowledge and skills to talk to their children about e-cigarette use and its effects.

4.1 Limitations

It is important to acknowledge that participants self-selected for this study by turning up to take part in focus group sessions, potentially introducing bias in the sense that groups comprised young people who had already shown a basic understanding of e-cigarettes and a willingness to take part in discussions about them. However, participants did, in many cases, demonstrate a range of different opinions and beliefs that were often in contrast to their peers, suggesting that participation in the study appealed to a diverse range of young people. Inherently the nature of the focus groups introduces the possibility for other sources of bias, either as a result of existing or arising relationships between group members, or a bias introduced by the physical presence of the researcher. For the former, efforts were made to create safe environments for the focus groups in which all participants were given the opportunity to contribute, without fear of being singled out or criticised by peers. Participants were also reminded of the confidentiality of the sessions. In the case of the latter, clear steps were taken both during the focus groups and during the analysis to reduce the likelihood of researcher bias. This included: using open-ended or semi-structured questions that allowed participants to lead the discussions rather than being led by the researcher; having codes and themes developed by two independent reviewers; actively seeking out diversity across opinions;

and quantifying the importance of different themes through an assessment of the frequency with which they were discussed, both within and between groups.

Focus groups began almost exclusively with a discussion of the prevalence of e-cigarette use among young people, with participants commenting on how common they felt e-cigarette use was among their peers and who they thought a typical e-cigarette user might be. A picture emerged from these discussions of many young people owning and regularly using e-cigarettes, and many more trying and experimenting with the devices. It has, however, previously been suggested that for adolescent smoking and drinking behaviours, young people typically overestimate or exaggerate peer involvement.^{55,56} Thus it may be the case that participants were misperceiving group norms within their friendship groups, schools or communities, as well as perhaps embellishing stories of their own use as a way of showing off to or entertaining peers.

Based on the small scale of this research study, efforts have been made to prevent the generalisation of findings beyond the limits of the data. What these data do provide, however, is useful insight into the perceptions of young people, and a starting point from which to develop more detailed research into the causal factors and trajectories for e-cigarette use in this population.

5. Conclusions and Recommendations

Findings from this study suggest that e-cigarettes are a prominent part of youth culture in Cheshire and Merseyside; discussed, tried and used by many young people, often in an attempt to fit in with a particular group or form a certain social identity. Although many have had experiences with e-cigarettes, there is a clear lack of understanding among young people as to the health implications of e-cigarette use, both for users themselves and for those around them. Uncertainties also surround the safety of these devices and their efficacy as smoking cessation aids.

Based on findings from this study and the accompanying analysis of Trading Standards North West survey data, the following recommendations are made:

- Information should be developed for young people on the potential risks and harms associated with e-cigarette use; the chemical content of e-cigarettes; e-cigarette testing, including safety and quality issues; and current and proposed regulations surrounding their sale and use.
- Interventions that aim to challenge young people's views that everyone is using e-cigarettes may be useful. While use is high in some population groups, overall seven out of eight young people had never accessed e-cigarettes.
- Prevention work addressing the uptake of e-cigarettes by non-smoking young people should be considered a priority.
- Wider educational approaches should be used to provide young people with the skills they need to critically appraise information that is presented online or in the press, and become more informed media consumers.
- Guidance should be developed for schools and youth services to provide them with the tools they need to talk to young people about e-cigarette use and advice on developing policies addressing their use.
- Guidance and information should also be developed for parents and carers who can support e-cigarette education with young people in the home.
- With age restrictions on the sale of e-cigarettes to under-18s imminent, it will be important to ensure that parents and other adults are aware of any related legislation regarding proxy purchasing. Parents, other family members and proxy purchasers recruited outside shops are already key sources of access to e-cigarettes for young people.
- Future implementation of the Trading Standards survey should consider collecting further information on e-cigarette use, identifying use and purchasing of e-cigarettes separately and identifying whether e-cigarettes were used before or after tobacco cigarettes.
- In addition to survey data, school and community based stop smoking services should consider developing data collection systems to identify the role of e-cigarettes in young people's uptake and quitting of tobacco cigarettes.

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