ash wales cymru

action on smoking and health

A study into young people's e-cigarette awareness and usage in Wales - 2016

April 2016

Ross Goldstone, Research & Policy Intern, ASH Wales
Dr Steven Macey, Research & Policy Officer, ASH Wales
Suzanne Cass, Chief Executive Officer, ASH Wales

Contents

Acknowledgements

ASH Wales is grateful to Ross Goldstone for his contribution in analysing the results of the survey and writing this report.

ASH Wales would like to acknowledge the role of all the young people who gave up their time to complete the survey, plus we wish to thank all those who circulated the survey to the young people with whom they work.

Executive Summary

The aim of this report is to provide an insight into the awareness and use of electronic cigarettes (e-cigarettes) among young people aged under 18 living in Wales.

The survey was circulated over the period November 2015 to January 2016, and responses from 838 young people formed the basis of the results.

Findings showed that awareness of e-cigarettes was very high among the young people surveyed, with just over 90% of respondents reporting that they knew what an e-cigarette was prior to completing the survey. A variety of different sources informed this awareness, including, in particular, use by strangers/friends, shop advertisements, plus the media/social media and internet.

Use of e-cigarettes was far more prevalent among respondents who had previously smoked or currently smoke tobacco cigarettes. Of the 570 young people who had never smoked tobacco cigarettes just 11.1% (n = 63) had ever used an e-cigarette, with the majority of these individuals (n = 47) having tried an e-cigarette only once. Regular use of e-cigarettes (more than once a month) by never smokers was rare at 1.1% (n = 6). Respondents from the most deprived parts of Wales were far less likely to have never used an e-cigarette (48.6%) relative to respondents located in the least deprived areas of the country (75.4%). A number of reasons were provided for using e-cigarettes by survey participants, including an inquisitorial attitude to their taste and because friends were using them.

Of those respondents who reported using both e-cigarettes and tobacco cigarettes at some point (n = 175), 90% had first used tobacco cigarettes suggesting the absence of any gateway theory. The survey results however do suggest that e-cigarettes represent an effective smoking cessation device among respondents. For those study participants who had used both e-cigarettes and tobacco cigarettes, 25% (n = 43) smoked fewer tobacco cigarettes after first using an e-cigarette, with a further 34% of dual e-cigarette and tobacco cigarette users (n = 59) ceasing to smoke tobacco cigarettes altogether.

1. Background

E-cigarettes deliver nicotine without burning tobacco and most of these devices consist of three key components: a battery, an atomiser, and a replaceable nicotine cartridge. When a user inhales on the device the air-flow is detected, causing the liquid in the cartridge to be heated; thus prompting its evaporation. This process culminates in nicotine being delivered to the user – a process commonly termed 'vaping'.

The use of e-cigarettes has emerged as a growing trend in recent years, with ASH (2015) estimating that approximately 2.6 million people use e-cigarettes in Great Britain, representing an increase from the 700,000 users reported in 2010. Based on the most recent population data for Wales this equates to approximately 129,000 e-cigarette users in Wales (there is no precise figure for e-cigarette use in Wales. The estimate provided is an approximation based on the proportion of the Welsh population relative to the population of Great Britain applied to the number of e-cigarette users in Great Britain).

This growing use of e-cigarettes has provoked much debate in public health communities, the political realm and society in general. Opinion is split on these devices, with many adopting a cautious approach while others espouse a more positive perception of e-cigarettes.

A major concern relating to e-cigarettes surrounds the long-term health implications of use. Specifically with regards to young people, an issue often raised is that e-cigarettes could manifest as a gateway to conventional tobacco smoking, which would have detrimental health repercussions for the user. This concern has acquired greater relevance in recent years due to the growth of e-cigarette usage in young demographics (McGraw, 2015). Also, the aggressive marketing techniques adopted by private sector actors in marketing e-cigarettes have illuminated this issue further (De Andrade et al, 2013) alongside the abundance of different flavourings, which is heralded as a source of attraction for young people. An additional worry in relation to e-cigarette usage is that by enabling individuals to use e-cigarettes previous action on conventional tobacco smoking will become futile, as smoking behaviours would become renormalized.

E-cigarettes, however, are also considered by some to represent an effective smoking cessation device for those with previous conventional tobacco addictions. In addition, whilst there is some uncertainty regarding the long-term health implications of e-cigarettes they are overwhelmingly considered to be less harmful than tobacco cigarettes. Indeed, an independent review commissioned by Public Health England (PHE) concluded that e-cigarettes were approximately 95% less harmful than tobacco cigarettes; suggesting a potential positive of these devices (Public Health England, 2015).

1.1. Literature Review

Research into e-cigarettes is relatively novel compared to other areas of health and policy with the available research often offering conflicting evidence. It is clear that further research is necessary on e-cigarette usage; the effectiveness of e-cigarettes as a method of cessation; the possibility of e-cigarettes functioning as a gateway to future conventional tobacco usage; and the latent health repercussions, which e-cigarettes may provoke. Future research requires a longitudinal basis in order to address such questions and concerns.

Before presenting the findings of this research project, a review of existing literature is necessary to show previous findings relating to e-cigarette awareness/usage. Although this review isn't exhaustive of the available research, it is able to portray general findings in this area.

With regards to e-cigarette awareness/use among young people in Wales specifically there are three main sources of information available – the ASH Wales survey, the CHETS (Childhood Exposure to Environmental Tobacco Smoke) Wales 2 study, and the HBSC (Health Behaviour in School-aged Children) study. Previous research by ASH Wales (2015) ascertained that the vast majority of respondents, over 90% in total, were aware of e-cigarettes. Use of e-cigarettes was found to be far more prevalent among respondents who had previously smoked or currently smoke tobacco cigarettes. Regular use by never smokers was negligible at 0.16% (n=1). Of those respondents who reported using both e-cigarettes and tobacco cigarettes at some point (n=84), 98% had first used tobacco cigarettes suggesting the absence of any gateway theory. In a 2015 paper Moore et al (2015) provided evidence on two cross sectional surveys. Published in 2014, the CHETS Wales 2 study comprised of 1,601 participants and found 67% of the 10 and 11 year olds surveyed had heard of e-cigarettes. The prevalence of ever using e-cigarettes among these year-6 primary school children was 5.8% (n=87), with the majority (3.7%; n=55) reporting that they only used them once and only 2.1% (n=32) of respondents reporting using them more than once. This study did not report on regular use of e-cigarettes. Within the HBSC sample of 9,055 young people aged 11 to 16 the prevalence of e-cigarette use was 12.3%, and 1.5% of these young people reported using them regularly (at least once a month).

The only nationally representative survey of e-cigarette use among young people in the UK is the YouGov/ASH survey undertaken in March 2015. This survey, comprising of 2,291 teenagers aged 11-18, found that only 7% had not heard of e-cigarettes. 13% of those surveyed had tried e-cigarettes at least once. More young people (21%) had tried tobacco cigarettes than e-cigarettes and 64% of those using e-cigarettes had tried tobacco first. Regular use (once a month or more) was rare and largely among children who currently or

have previously smoked. 2.4% of respondents said they used e-cigarettes once a month or more, including 0.5% who used them weekly.

In other UK studies, Hughes et al (2015) conducted research on 14-17 year old students in North West England (n = 16,193) investigating the existence of a relationship between demographic variables and access to e-cigarettes, tobacco smoking behaviours, alcohol consumption, and methods of accessing both cigarettes and alcohol. 19.2% of participants reported accessing e-cigarettes. Prevalence was found to rise to 75.8% amongst individuals smoking more than 5 cigarettes per day. However, 15.8% of teenagers who reported accessing e-cigarettes had never smoked tobacco cigarettes beforehand. Access to e-cigarettes was associated with male gender, having parents/guardians who also smoked and students' alcohol usage. Such findings led to the conclusion that e-cigarettes were accessed more as a means to experiment rather than for cessation purposes.

To determine the awareness and use of e-cigarettes in Italy Gallus et al (2014) undertook a face-to-face survey of 3,000 individuals. 91.1% of respondents were aware of e-cigarettes. Ever e-cigarette use was 6.8% overall. Regular e-cigarette use was 1.2% overall, 1.5% among men, and 0.9% among women, and it was highest among young (2.4%) and current smokers (3.7%). Focusing on e-cigarette use among 482,179 California middle and high school students Bostean et al (2015) found 24.4% had ever used e-cigarettes (13.4% have never used tobacco and 11.0% have used tobacco), and 12.9% were current e-cigarette users (5.9% have never used tobacco).

One of the major concerns regarding the use of e-cigarettes among young people is whether they lead to subsequent tobacco smoking. Some study findings have emerged in recent years suggesting this may be the case but thus far there has been no evidence clearly signifying causation between e-cigarette use and smoking tobacco cigarettes. For instance, in a 2015 study of e-cigarette use among 14 year olds in Los Angeles, USA Leventhal et al reported that in never smokers, those that had used an e-cigarette (n=222) were more likely than those who hadn't to have tried tobacco products. However, it may be that other factors were common between trying e-cigarettes or tobacco that the authors did not adjust for, and as a result causation cannot be assumed from this association. Furthermore, this study only asked about ever/never use rather than frequency of use for both e-cigarette and tobacco use so it is not possible to know whether the students continued to become regular smokers or vapers.

There is also a great deal of uncertainty regarding the effectiveness of e-cigarettes as a smoking cessation tool for child/adolescent smokers. Additional research is required in this area since the majority of existing studies looking into the impact of e-cigarettes on smoking cessation focus primarily on adults as opposed to young people aged 18 and under.

This brief review of the literature shows that awareness of and experimentation with e-cigarettes is increasing among young people. Regular use of e-cigarettes continues to be rare and remains most common among those who currently smoke or have previously smoked. Despite this, some evidence is starting to emerge suggesting a link between e-cigarette use and subsequent tobacco smoking among some young never smokers. As of yet no clear causal association has been established but further longitudinal research is required to monitor this emerging trend.

2. Method

To ensure consistency and allow an analysis of trends the questions used in the survey on which this report is based were similar to both surveys previously conducted by ASH Wales in 2013/14 and 2014/15. Information was collected on the respondent's gender, age, location, smoking status, and awareness/use of e-cigarettes. However, some new questions were devised and added this year. Among them included a series of questions aimed at determining whether e-cigarettes were acting as a gateway to tobacco smoking among young people in Wales. For example, those respondents who answered that they started smoking tobacco cigarettes after using an e-cigarette for the first time were asked whether the e-cigarette made them more or less likely to smoke a tobacco cigarette. Respondents were also asked whether e-cigarettes contributed to them smoking fewer tobacco cigarettes in an attempt to determine the effectiveness of e-cigarettes as a smoking cessation aid. Furthermore, this year respondents were also asked to provide their postcodes, thereby making it possible to ascertain whether they live in a deprived part of Wales or not and thus providing the opportunity to determine whether the awareness/use of e-cigarettes varies according to the socioeconomic status of the respondent.

The survey was circulated in a similar fashion to previous years. This entailed the survey being disseminated to Healthy Schools co-ordinators, the Wales Tobacco Control Alliance (WTCA), the Wales Tobacco or Health Network (WTHN) and to a number of youth provisions across Wales. In an attempt to minimise contamination of results from e-cigarette supporters/critics distribution of the survey was not pursued by social media. One major difference from last year was that this year's survey was disseminated to young people under the age of 13, which was not previously done. The respondents were able to complete the survey online or by completing a paper-copy. When the paper-copy option was chosen, members of the ASH Wales research team inputted the completed responses manually. Surveys that were incomplete were not inputted into the dataset. The survey was circulated over the period November 2015 to January 2016.

3. Findings

3.1. Characteristics of survey respondents

In total, 838 surveys were completed with 50.6% done so by males and 49.4% by females. When stratifying by age, 10.4% of the respondents were aged under 13; 30.9% were aged between 13 and 14; 32.3% were aged between 15 and 16; and 26.4% were aged between 17 and 18. Responses were received from various parts of Wales but the distribution was not evenly spread with no respondents from the Isle of Anglesey, Gwynedd or Rhondda Cynon Taf. Other areas, such as Denbighshire, Flintshire, Powys, Blaenau Gwent and Newport all had 10 or less respondents. Larger samples were received from Conwy (3.9%), Wrexham (1.9%), Ceredigion (5.4%), Pembrokeshire (3.3%), Camarthenshire (12.3%), Swansea (2.5%), Neath Port Talbot (1.3%), Bridgend (23.4%), Vale of Glamorgan (12.3%), Cardiff (3.8%), Caerphilly (4.7%), Torfaen (18.6%) and Monmouthshire (1.6%).

In an attempt to ascertain the socioeconomic status of survey respondents we requested information on their postcode of residence. 590 respondents answered this question with a valid postcode. Based on the 2014 Welsh Index of Multiple Deprivation (WIMD) 12.2% (n = 72) of these respondents can be classed as from the most deprived parts of Wales, with 24.1% (n = 142) located in the least deprived areas (Table 1).

Table 1: Socioeconomic status classification of respondents (n = 590)

Socioeconomic class	n	%
1: Least deprived	142	24.1
2	114	19.3
3	111	18.8
4	151	25.6
5: Most deprived	72	12.2

Respondents were also asked about their smoking status (Figure 1) and the majority (68.0%) reported never having smoked a tobacco cigarette before. Following this; 13.1% of respondents had used a tobacco cigarette once; 5.7% had previously smoked sometimes but no longer do so; 4.1% of respondents currently smoke tobacco cigarettes but less than one per week; 1.7% claimed they smoked between one and six cigarettes per week; with 7.4% stating they usually smoke more than six cigarettes per week. This therefore shows that 86.9% of respondents either have never smoked previously or no longer smoke, with the remaining 13.2% currently smoking tobacco cigarettes at differential rates.

Figure 1: Smoking status of respondents (n = 838)

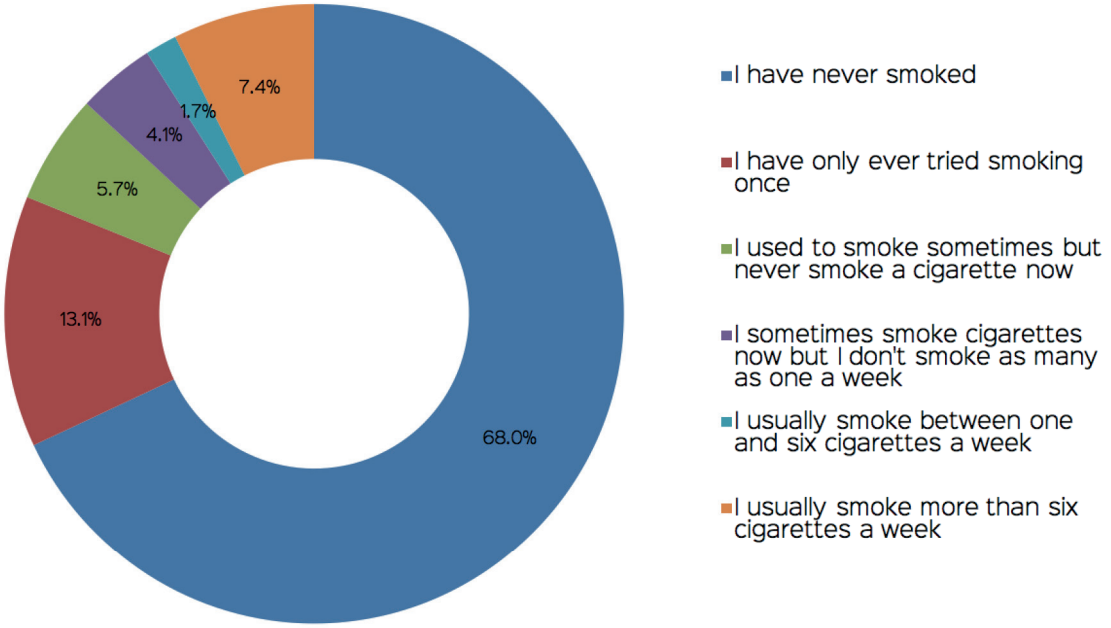


Figure 2: Smoking status by gender (n = 838)

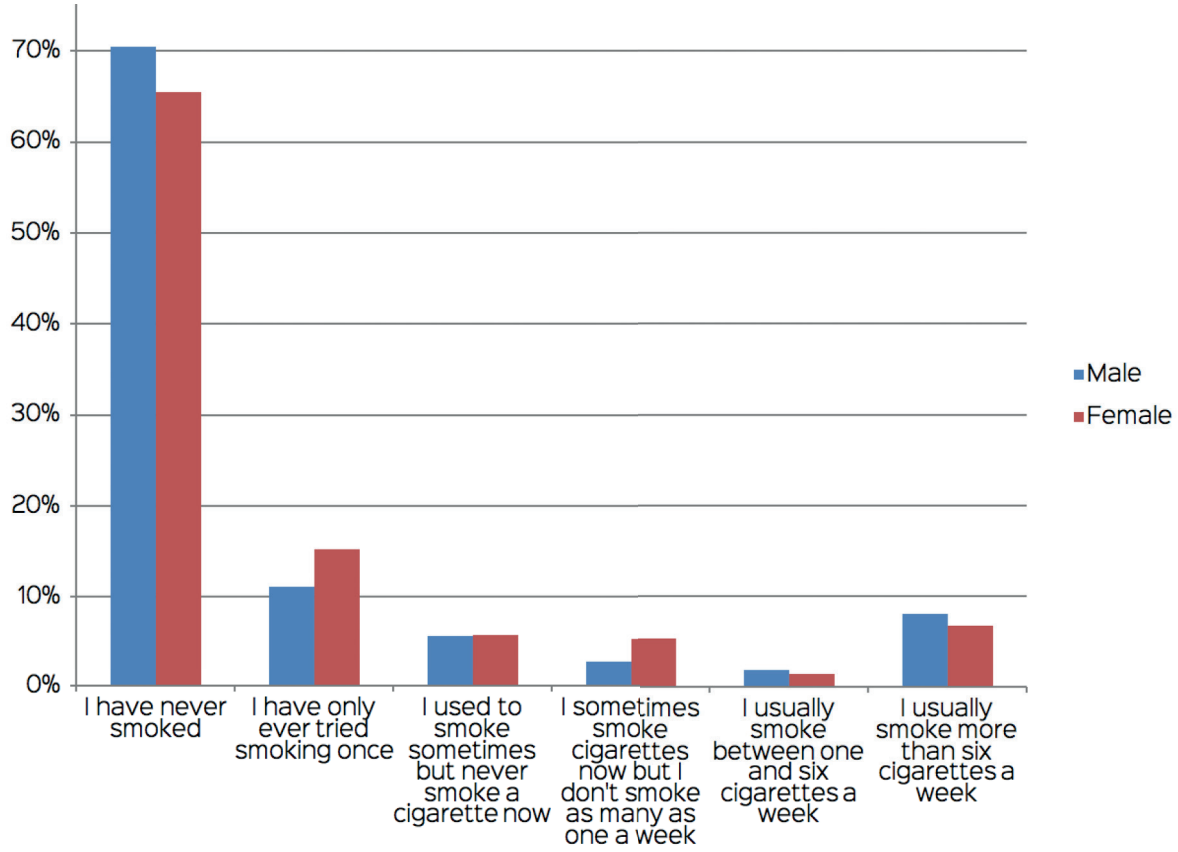
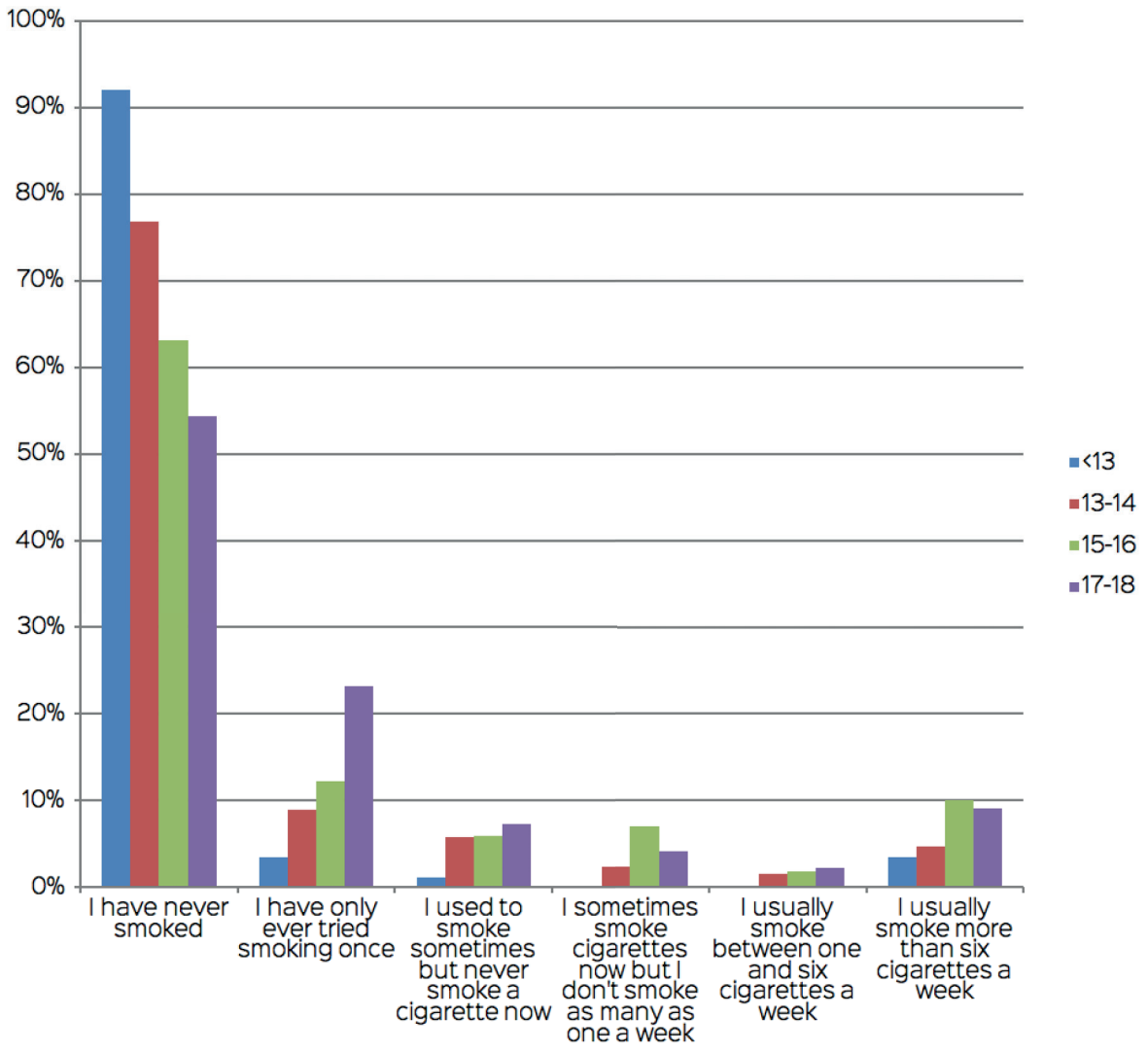


Figure 2 stratifies smoking status by gender and shows that overall there wasn't a considerable variance by gender for responses to current smoking status. Males answered that they had never smoked previously slightly higher (70.5%) than females (65.5%). However, men had a higher response rate for the highest usage options, with 8.0% of males responding that they usually smoke more than six cigarettes a week compared to 6.8% of females.

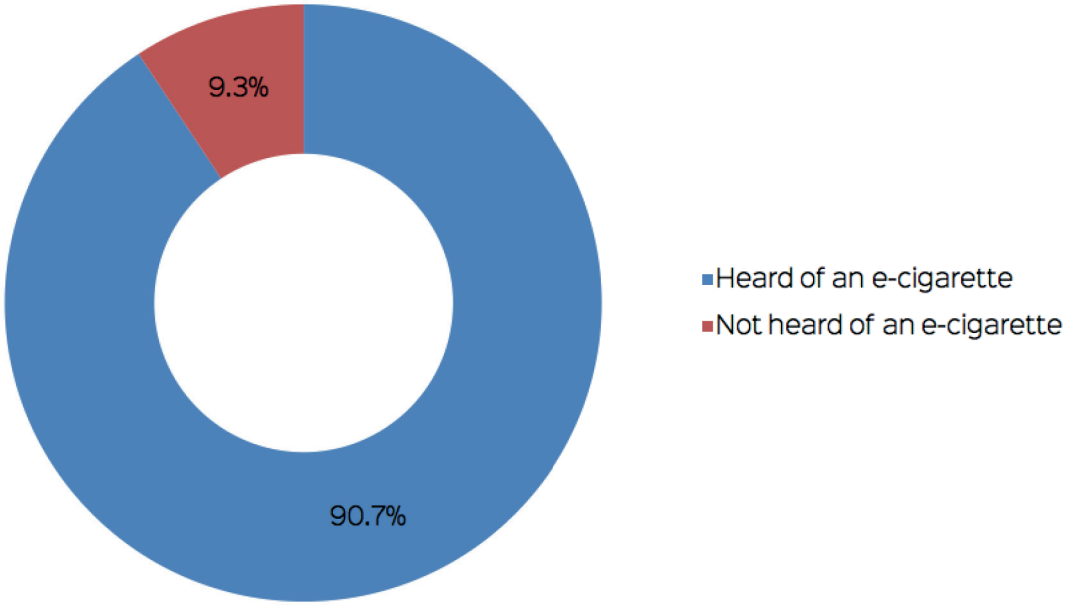
Figure 3: Smoking status by age (n = 838)



When stratifying smoking status by age the results show that in all age groups the majority of respondents had never smoked before, with the proportion choosing this option generally decreasing as age increased. 3.4% of respondents aged under 13 reported being current smokers, whilst this was the case for 8.5% of respondents aged 13-14, 18.8% of respondents aged 15-16, and 15.4% of respondents aged 17-18.

3.2. E-cigarette awareness

Figure 4: Awareness of e-cigarettes (n = 838)



A significant majority of respondents (90.7%) possessed a basic awareness of e-cigarettes. Figures 5 and 6 below signify that this was the case regardless of the gender and age of the respondent. Interestingly, 88.5% of those surveyed under the age of 13 were aware of what an e-cigarette is.

Figure 5: Awareness of e-cigarettes by gender (n = 838)

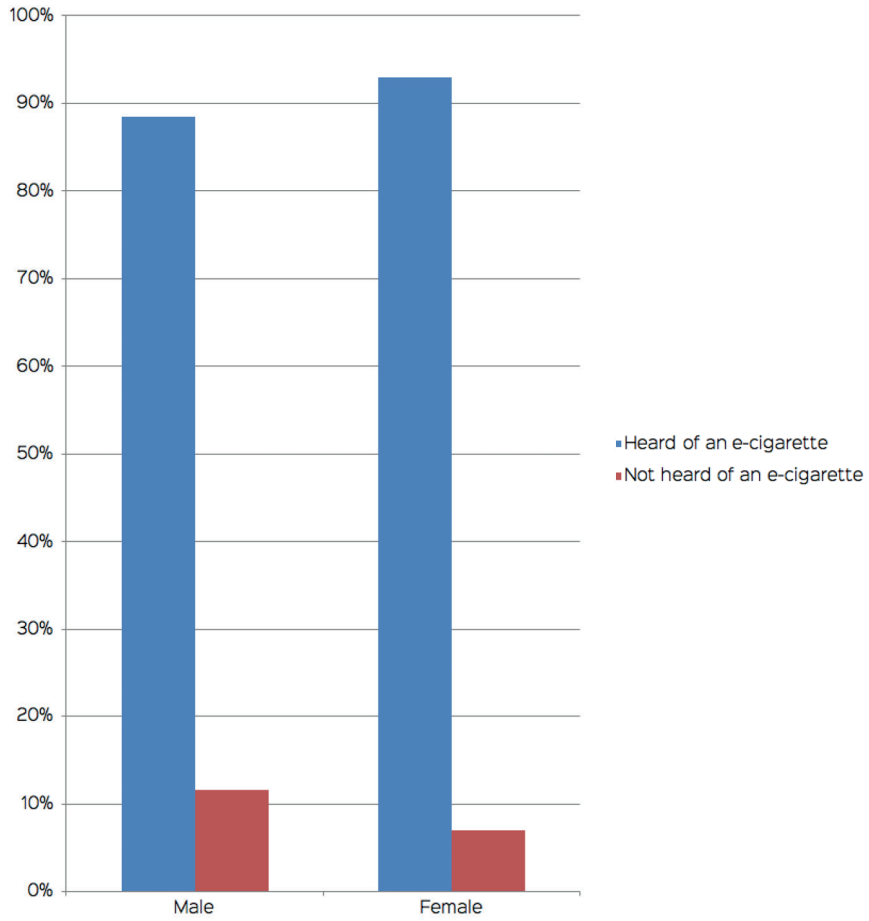


Figure 6: Awareness of e-cigarettes by age (n = 838)

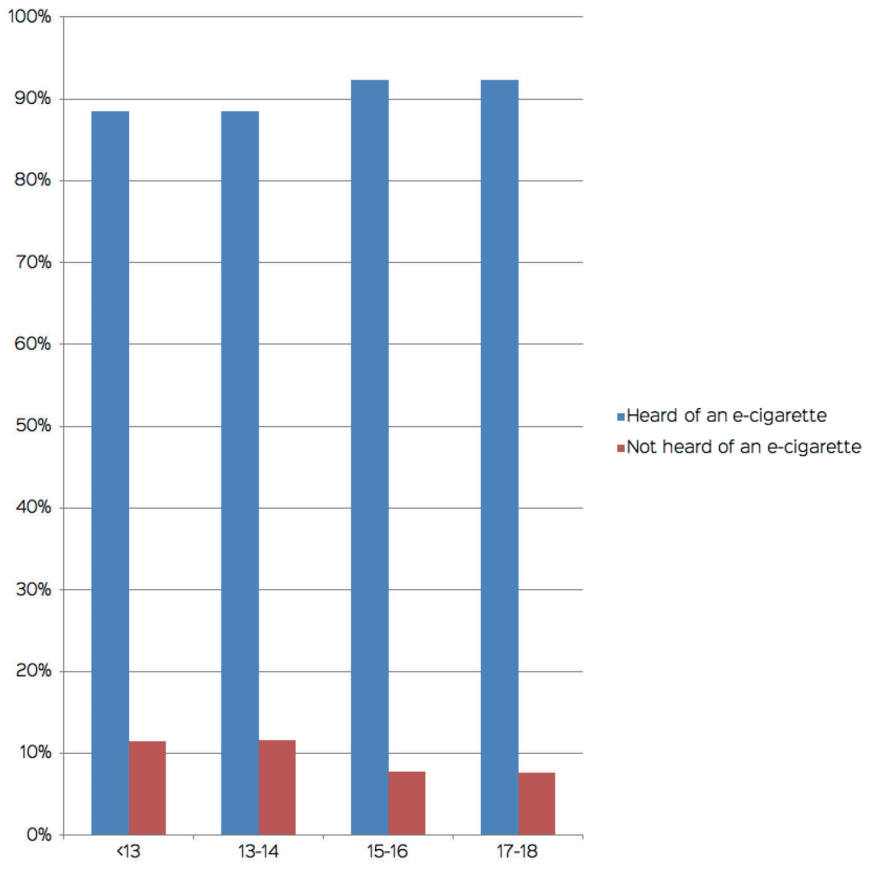


Figure 7: Sources of e-cigarette awareness (n = 760)

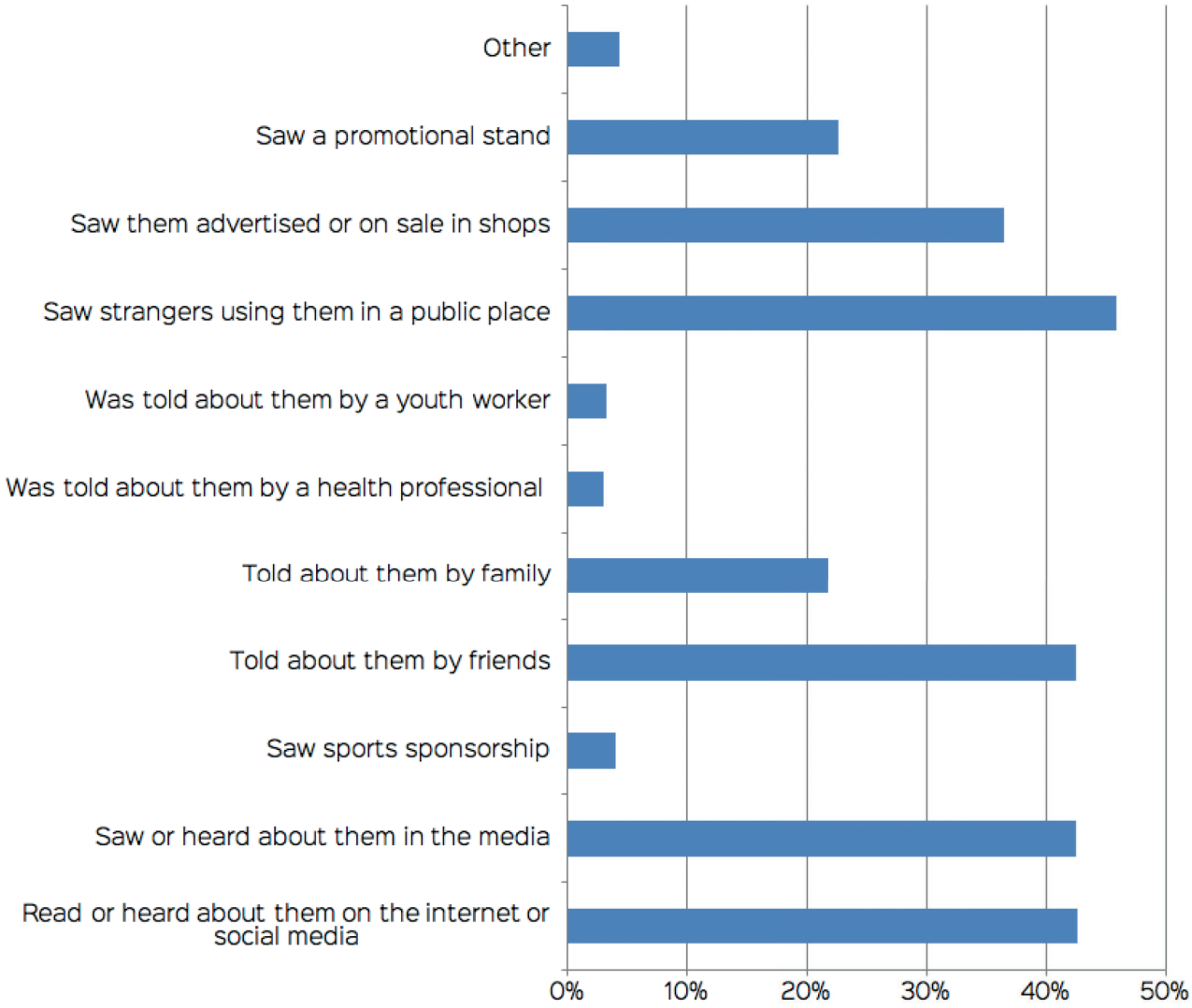


Figure 7 shows that the most frequently chosen source of awareness of e-cigarettes among respondents was observing others using the device in a public place (45.9%). This was closely followed by reading or hearing about them on the internet or social media (42.6%), being told about them by friends (42.5%) and seeing and/or hearing about them in the media (42.5%). Other responses also featuring as influential included; seeing them advertised or on sale in shops (36.5%); viewing a promotional stand (22.6%); and being told about them by family (21.8%). The sources of e-cigarette awareness with the lowest responses were saw sports sponsorship (4.0%), being told about them by a youth worker (3.3%) and being told about them by a health professional (3.0%).

Figure 8: Sources of e-cigarette awareness by gender (n = 760)

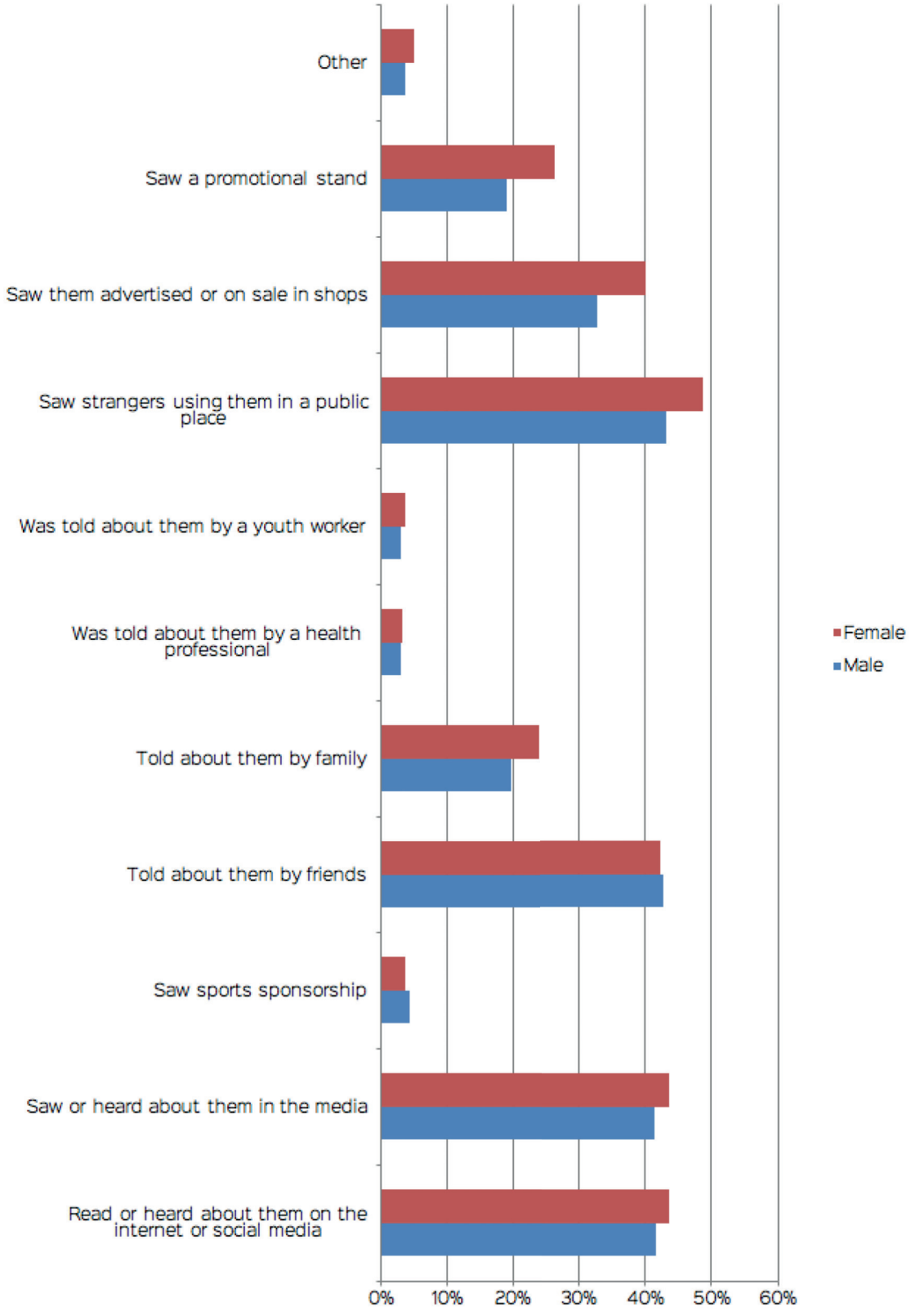
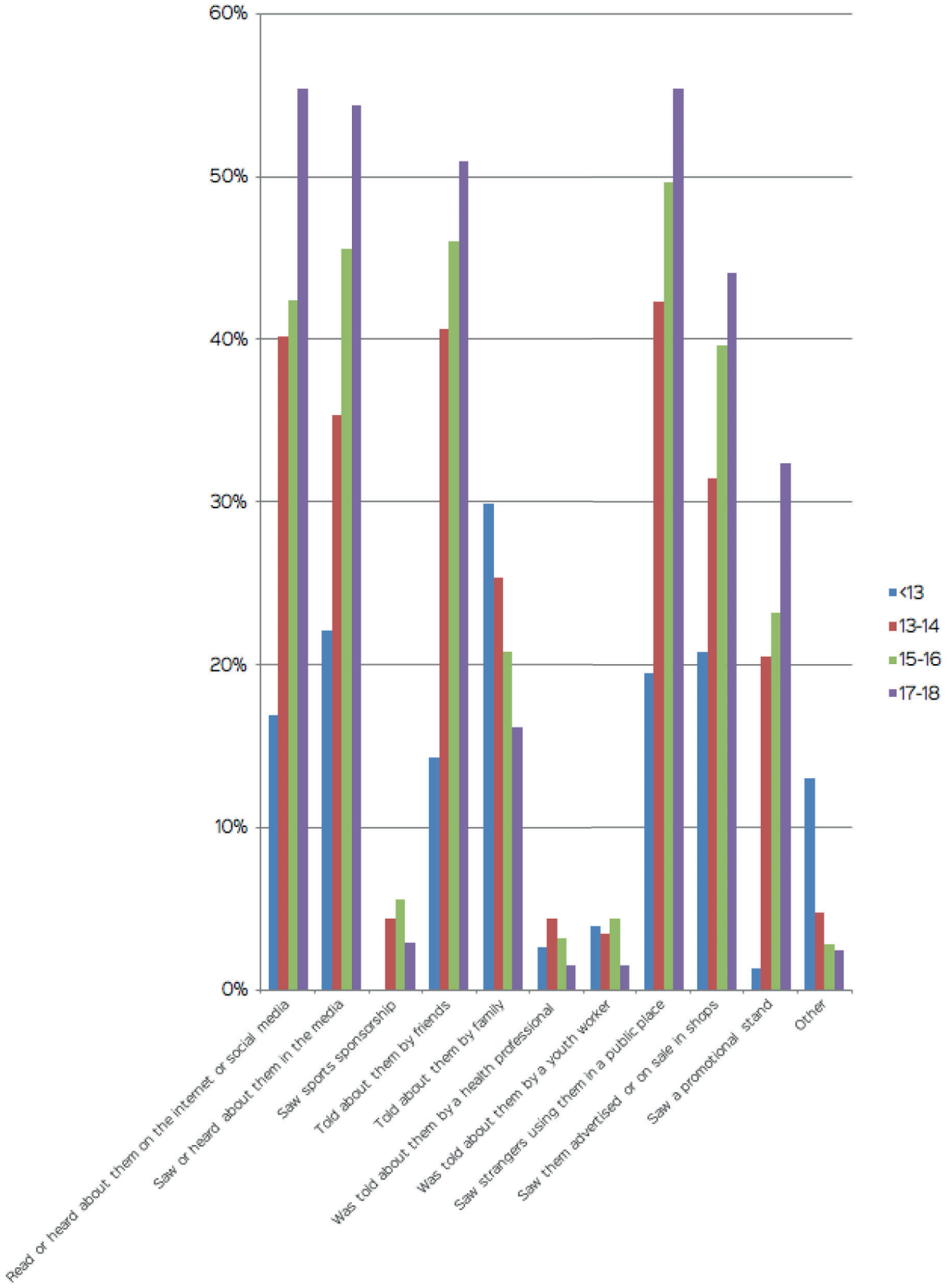


Figure 8 shows the sources of e-cigarette awareness stratified by gender. The findings show that there is not a huge disparity across the different sources listed. The largest gender differences was observed for 'saw them advertised or on sale in shops' (7.2% difference) and 'saw a promotional stand' (7.3% difference), with females more likely to become aware of e-cigarettes from these sources.

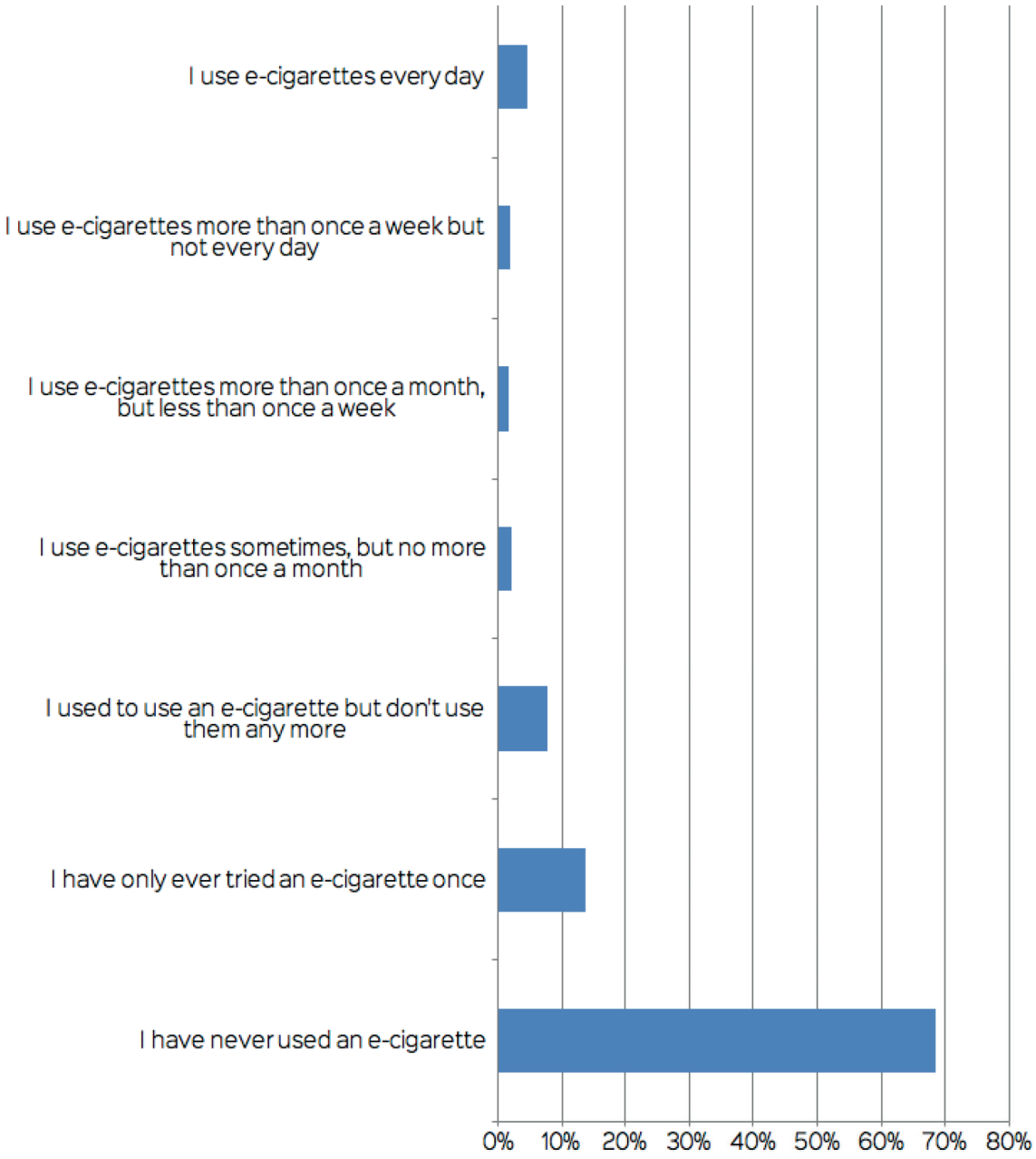
When stratifying by age (Figure 9) it is apparent that respondents aged under 13 are most likely to find out about e-cigarettes from their family (29.9%). For the other age groups observing strangers using e-cigarettes in a public place represented the most prominent source of information (13-14 year olds: 42.4%; 15-16 year olds: 49.6%; 17-18 year olds: 55.4%). In addition, for respondents aged 17-18 awareness of e-cigarettes was also commonly raised by reading or hearing about them on the internet or social media (55.4%), and seeing or hearing about them in the media (54.4%). Across all age groups relatively few respondents stated that they were made aware of e-cigarettes by a health professional or youth worker.

Figure 9: Sources of e-cigarette awareness by age (n = 760)



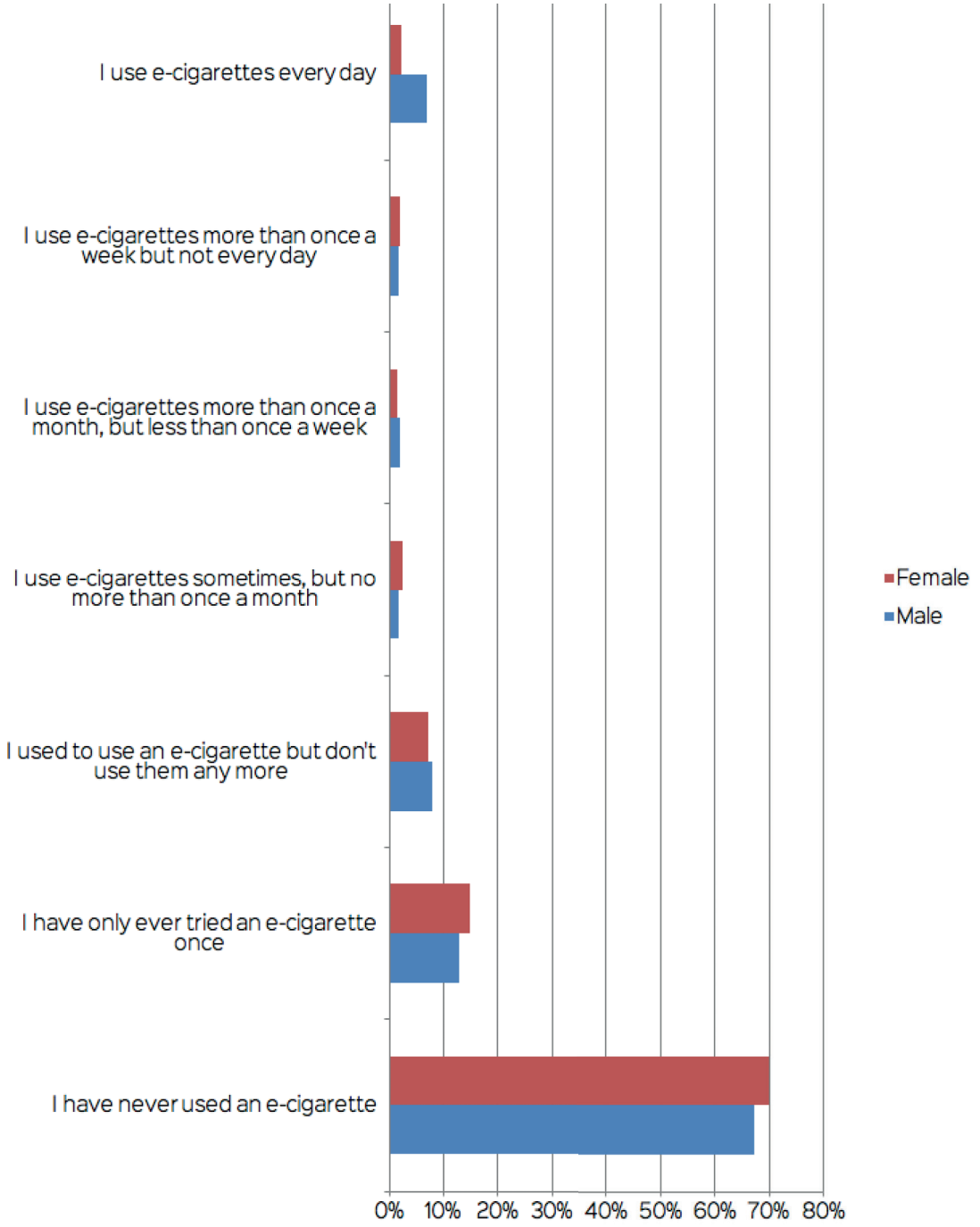
3.3. E-cigarette usage

Figure 10: Use of e-cigarettes (n = 838)



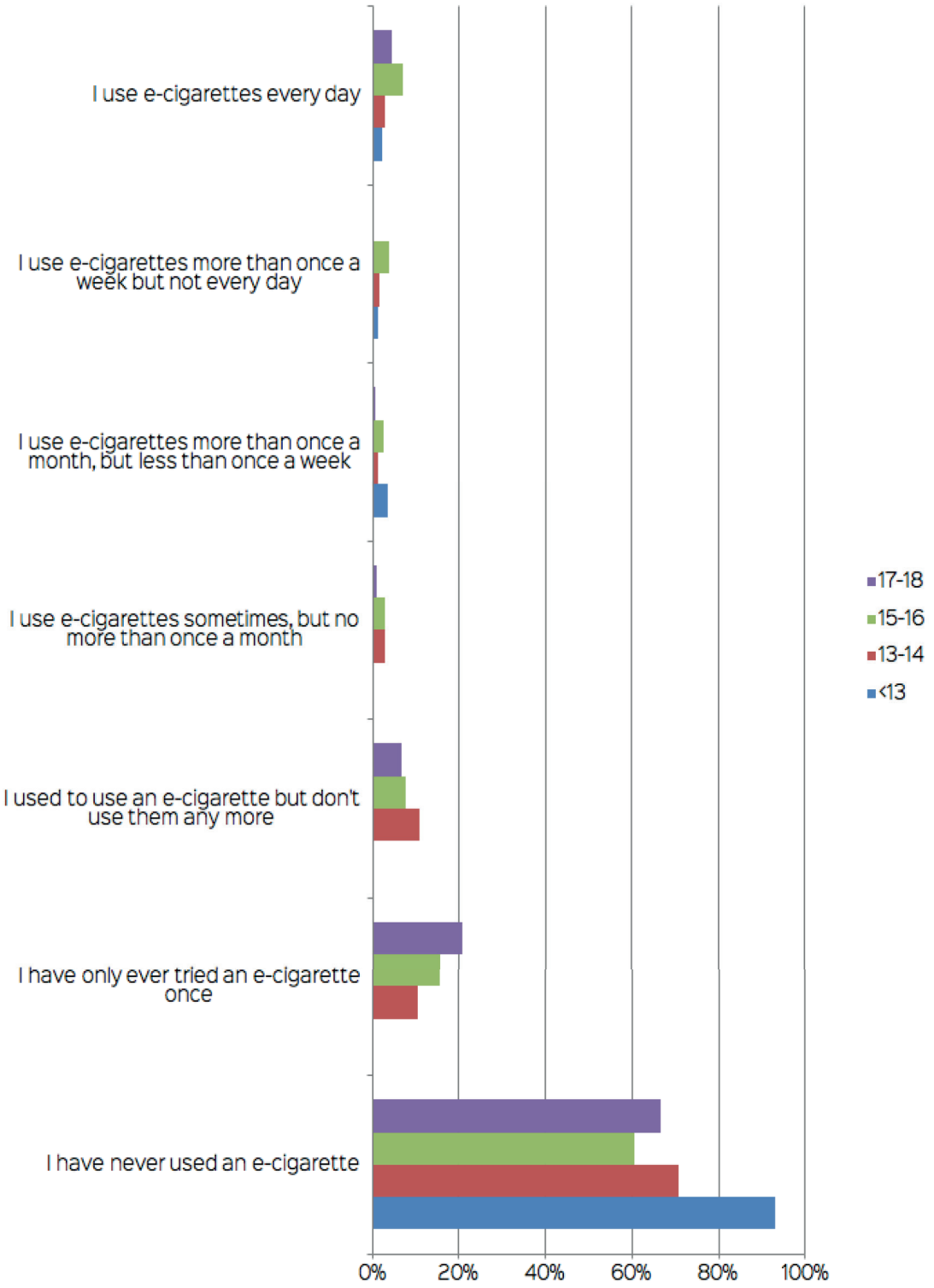
In terms of e-cigarette usage Figure 10 signifies that the majority of respondents (68.6%) had never used an e-cigarette before. Of the remainder, 13.7% of respondents had only used an e-cigarette once, with just 10% of respondents currently using an e-cigarette at the time of the survey.

Figure 11: Use of e-cigarettes by gender (n = 838)



As figure 11 shows, marginally more females (70.0%) stated they had never used an e-cigarette compared to males (67.2%). By contrast, a higher percentage of males reported currently using e-cigarettes every day (6.8%) relative to females (2.2%).

Figure 12: Use of e-cigarettes by age (n = 838)



When stratifying e-cigarette usage by age (Figure 12) respondents under the age of 13 were the age group most likely to have never used an e-cigarette (93.1%). Interestingly, those surveyed aged 15-16 were more likely to use e-cigarettes every day compared to those aged 17-18 (7.0% versus 4.5%).

Table 2 below signifies variation in e-cigarette use according to the socioeconomic status of the respondent. It is apparent that participants of our study resident in the most deprived parts of Wales were far less likely to have never used an e-cigarette (48.6%) relative to respondents located in the least deprived areas of the country (75.4%). Similarly, current e-cigarette use is higher among the most deprived individuals within our study population, with 15.3% of respondents living in the most deprived parts of Wales currently using e-cigarettes compared to just 6.3% of those from the least deprived areas.

Table 2: Use of e-cigarettes by socioeconomic status (n = 590)

	1: Least deprived	2	3	4	5: Most deprived
I have never used an e-cigarette	75.4%	78.1%	80.2%	66.9%	48.6%
I have only ever tried an e-cigarette once	14.1%	9.6%	9.0%	11.3%	23.6%
I used to use an e-cigarette but don't use them any more	4.2%	7.0%	5.4%	9.3%	12.5%
I use e-cigarettes sometimes, but no more than once a month	0.7%	0.9%	0.9%	2.0%	0.0%
I use e-cigarettes more than once a month, but less than once a week	0.0%	0.0%	0.0%	3.3%	4.2%
I use e-cigarettes more than once a week but not every day	4.2%	0.0%	0.9%	0.7%	4.2%
I use e-cigarettes every day	1.4%	4.4%	3.6%	6.6%	6.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 13: Use of e-cigarettes by smoking status (n = 838)

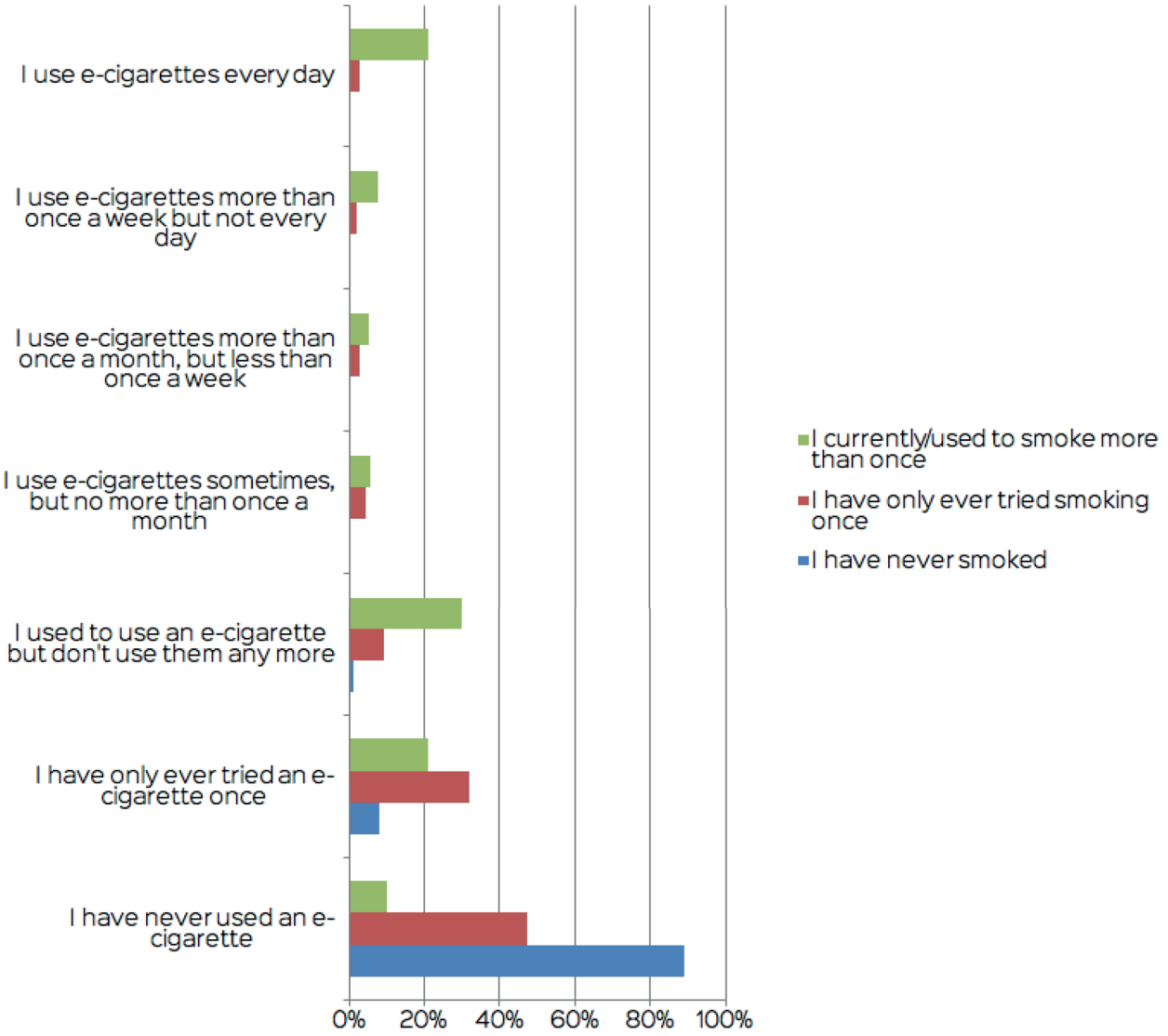


Figure 13 correlates e-cigarette usage with the smoking status of the respondent. When focusing on those who have never smoked before (n = 570) the vast majority (88.9%) have also never used an e-cigarette, with a further 8.2% only ever having tried an e-cigarette once. This leaves just 2.8% of never smokers in our study who have used an e-cigarette more than once, with just 0.6% of never smokers currently using e-cigarettes regularly (i.e. more than once a week). By contrast, of those respondents who currently/used to smoke (excluding those who have only smoked once) (n = 158) only 10.1% have never used an e-cigarette, with as many as 69% of respondents having used an e-cigarette more than once.

Figure 14: Reasons for using e-cigarettes (n = 267)

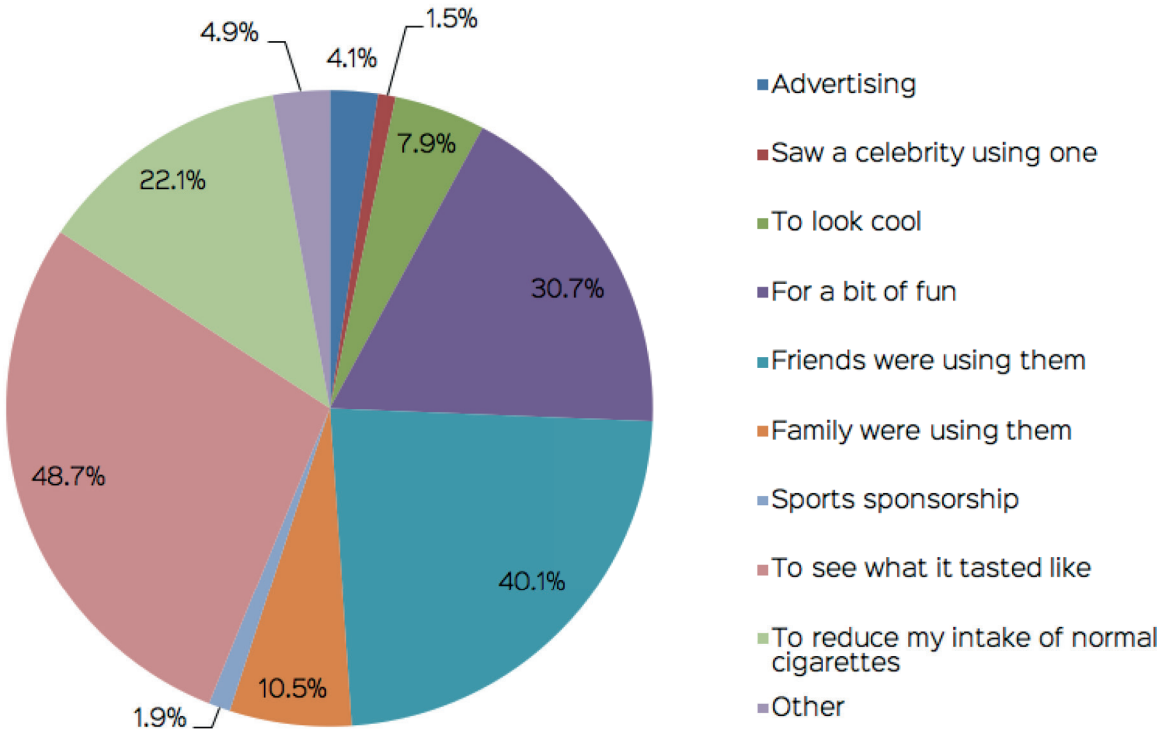
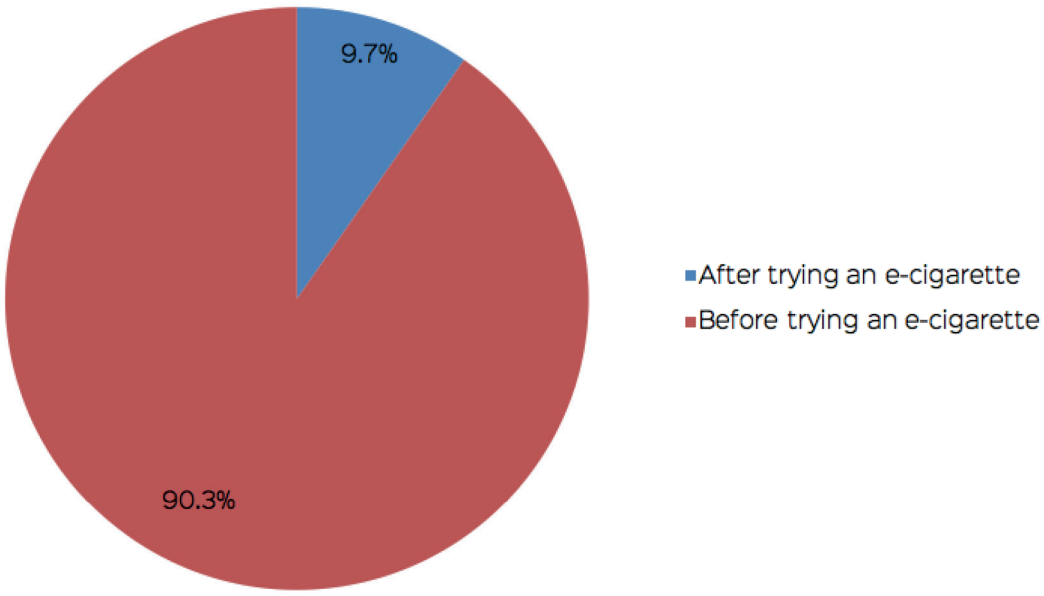


Figure 14 signifies the reasons for using e-cigarettes according to respondents of this survey. Respondents were able to opt for more than one choice when answering this question. The most popular reasons for using e-cigarettes were to see what it tasted like (48.7%); because friends were using them (40.1%); and for a bit of fun (30.7%). 22.1% of respondents cited the aim to reduce their intake of tobacco cigarettes as a reason for them using an e-cigarette for the first time.

3.4. E-cigarette: a cessation or gateway device?

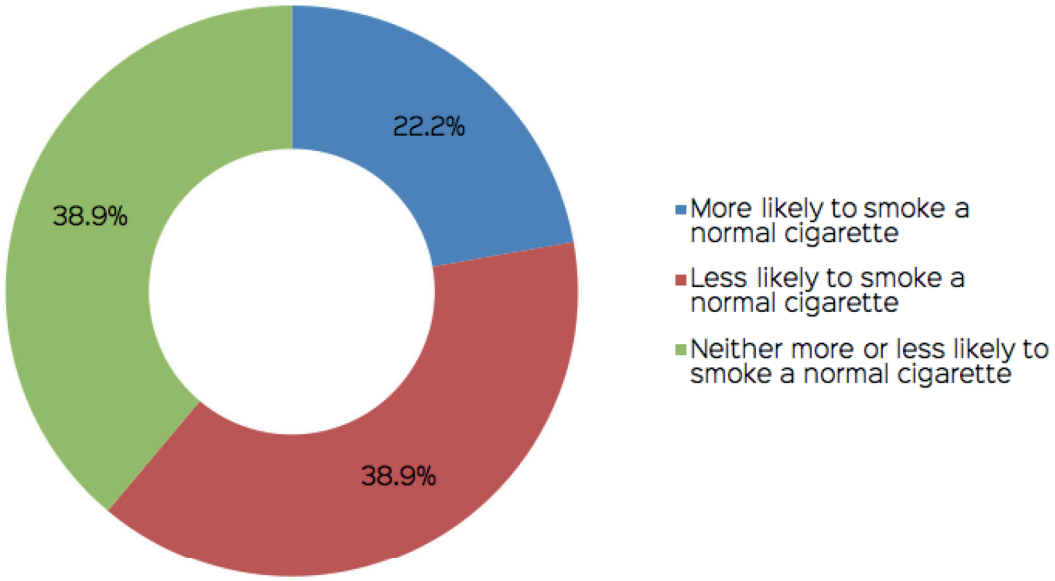
Figure 15: When respondents started smoking tobacco cigarettes (n = 175)



Respondents of the survey who reported that they had used e-cigarettes and tobacco cigarettes were asked when they had started smoking the latter for the first time (Figure 15); thus gauging whether e-cigarettes function as a 'gateway' device to conventional tobacco smoking. Of the 175 respondents this applied to, 90.3% answered that they first smoked tobacco cigarettes before using an e-cigarette.

The 18 respondents who reported using an e-cigarette before smoking a tobacco cigarette were then asked whether their e-cigarette use had any influence on their decision to start smoking.

Figure 17: Influence of e-cigarette usage on usage of tobacco cigarettes (n = 18)



Only 22.2% (n = 4) of respondents to which this question applied claimed that e-cigarettes had made them more likely to smoke tobacco cigarettes, meaning the remaining 77.8% (n = 14) claimed that they were either less likely to start smoking tobacco cigarettes following first using an e-cigarette or that e-cigarettes had no influence on them going on to smoke tobacco cigarettes. This study therefore shows that for the most part e-cigarettes did not manifest as a gateway device to further tobacco cigarette use among respondents. It must be noted, however, that given very few respondents used an e-cigarette prior to them smoking a tobacco cigarette (n = 18), this particular finding is based on very small numbers. Furthermore, in any case, due to the young age of the respondents, too great an emphasis should not be placed on their answers in relation to this specific question given the inherent difficulties associated with understanding whether one event causes another.

Figure 18: Impact of e-cigarettes on tobacco smoking behaviour (n = 172)

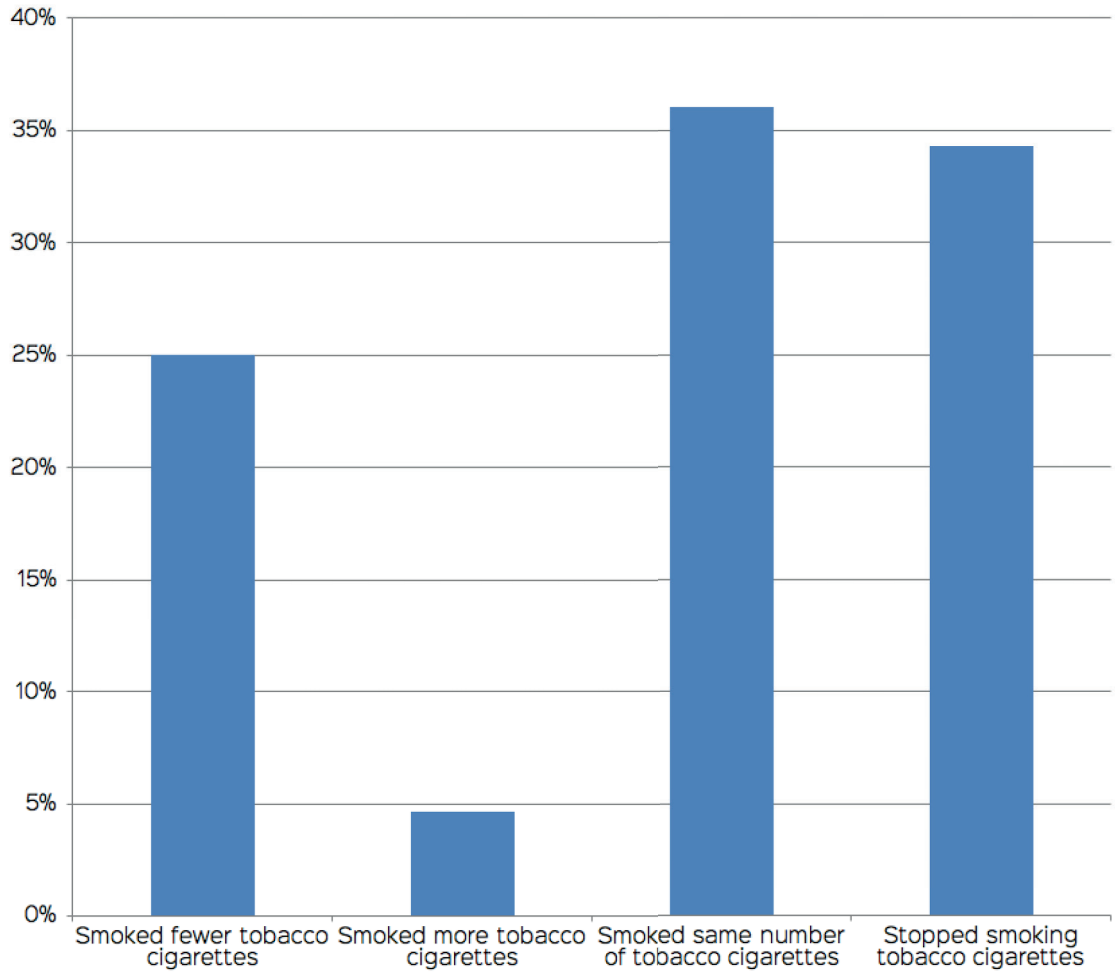


Figure 18 provides information on whether e-cigarettes were successfully used as a smoking cessation device by respondents in this study. This question in the survey was only applicable to those participants who had used e-cigarettes and smoked tobacco cigarettes at some point (n = 172). Results show that since starting to use e-cigarettes 25.0% of respondents (n = 43) smoked fewer tobacco cigarettes, with a further 34.3% of respondents (n = 59) ceasing to smoke tobacco cigarettes altogether. That is, for just under 60% of the respondents (n = 102) in this study e-cigarettes led to a positive smoking behaviour change. By contrast, just 4.7% of respondents (n = 8) reported that their e-cigarette use culminated in them smoking more tobacco cigarettes.

4. Principal Findings

- In terms of awareness of e-cigarettes, a large majority of respondents (90.7%) were aware of e-cigarettes. When stratified by age and gender the awareness of e-cigarettes remained extremely high. As many as 88.5% of respondents under the age of 13 were aware of what an e-cigarette is.

- The most common sources of finding out about e-cigarettes were: seeing strangers using them in public (45.9%), reading or hearing about them on the internet or social media (42.6%), being told about them by friends (42.5%), and seeing them or hearing about them in the media (42.5%). By contrast only a very small proportion of respondents found out about e-cigarettes from a youth worker (3.3%) or health professional (3.0%).

- The majority of respondents (68.6%) have never used an e-cigarette, with 13.7% only using an e-cigarette once and just 10% currently using an e-cigarette. A higher percentage of males reported currently using e-cigarettes every day (6.8%) relative to females (2.2%).

- Respondents from the most deprived parts of Wales were far less likely to have never used an e-cigarette (48.6%) relative to respondents located in the least deprived areas of the country (75.4%).

- The vast majority of never smokers have also never used an e-cigarette (88.9%), with a further 8.2% only ever having tried an e-cigarette once. Just 0.6% of never smokers currently use e-cigarettes regularly (i.e. more than once a week).

- The main reasons for using e-cigarettes for the first time were to see what they tasted like (48.7%), because friends were using them (40.1%), and for a bit of fun (30.7%). 22.1% of respondents cited using e-cigarettes to reduce their intake of tobacco cigarettes.

- The vast majority of respondents (90.3%) who had used e-cigarettes and smoked tobacco cigarettes reported starting to smoke tobacco cigarettes first.

- Of the respondents who had used e-cigarettes and smoked tobacco cigarettes at some point (n = 172) 25.0% smoked fewer tobacco cigarettes since starting to use e-cigarettes, with 34.3% of respondents ceasing to smoke tobacco cigarettes altogether.

5. Discussion

The findings presented in this report show awareness of e-cigarettes is very high among young people aged 18 and under living in Wales. Friends represented a major source of finding out about e-cigarettes, which is an indication of the influence of an individual's social circle. Another common source of finding out about e-cigarettes was the internet and media outlets such as newspapers, magazines, television and radio, thereby signifying the importance of controlling advertising in these areas. Young people in Wales were also commonly aware of e-cigarettes as a result of seeing them being used by strangers and due to them being promoted/on sale in shops, suggesting that making e-cigarettes less visible in everyday life represents an important factor in reducing the awareness of e-cigarettes among young non-smokers. Very few respondents became aware of e-cigarettes from a youth worker or health professional. This may reflect uncertainty from these individuals with regards to the relative merits of e-cigarettes. This may present problems should a young smoker be seeking advice on using e-cigarettes as a smoking cessation aid.

Approximately 31.5% of young people surveyed had previously used or still use e-cigarettes. Among the most prevalent reasons for e-cigarette usage were to see what it tasted like and for a bit of fun, thereby suggesting that both experimentation and an adventurous attitude play a role in e-cigarette usage, as well as the novelty of e-cigarettes. This hypothesis is borne out by the fact that as many as 13.7% of respondents had only ever tried an e-cigarette once. Another common reason cited for using e-cigarettes was because friends were using them illustrating the importance of the role of an individual's friendship group and willingness to imitate peer behaviours.

The results of the survey add weight to the argument that e-cigarettes have the potential to be an effective smoking cessation tool, given just over 22% of the young people surveyed claimed they used e-cigarettes for the first time to reduce their intake of tobacco cigarettes. Moreover, of the respondents who had used e-cigarettes and smoked tobacco cigarettes at some point 25% smoked fewer tobacco cigarettes since starting to use e-cigarettes, with 34% of respondents ceasing to smoke tobacco cigarettes altogether.

The findings of this report provide no evidence of regular e-cigarette use among young people who have never smoked, with just 2.8% of never smokers having tried an e-cigarette more than once and only 0.6% of never smokers using e-cigarettes more than once a week. Furthermore, there is no indication that e-cigarettes are acting as a gateway into smoking tobacco cigarettes among young people in Wales. Of those respondents who reported having used both e-cigarettes and tobacco cigarettes at some point, just over 90% had first used tobacco cigarettes.

5.1. Comparison with 2013/14 and 2014/15 Survey

This is the third survey run by ASH Wales looking into the awareness/use of e-cigarettes among young people in Wales. The previous surveys were run over the periods 2013/14 and 2014/15, involving 671 and 952 respondents respectively. This compares with the 838 young people who answered this year's survey.

Awareness of e-cigarettes increased from just under 80% in 2013/14 to just over 90% in 2014/15 and 2015/16. Across each of the surveys friends/family and the internet/media represented major sources of information about e-cigarettes, however awareness of e-cigarettes from seeing strangers using them in a public place and viewing them in a shop was highest among respondents of the surveys in 2014/15 and 2015/16.

In terms of e-cigarette use a higher percentage of respondents to the 2013/14 survey reported never having used an e-cigarette (78.4%) compared to those who answered the surveys in 2014/15 (65.4%) and 2015/16 (68.6%), suggesting e-cigarettes have become more popular over time. Use of e-cigarettes as a smoking cessation device was very high in 2013/14 and 2014/15, with 46.5% and 41.8% of respondents respectively claiming they used e-cigarettes to cut down on the number of tobacco cigarettes they smoke or to stop smoking altogether. In the 2015/16 survey 22.1% of respondents reported using e-cigarettes to reduce their intake of tobacco cigarettes. It is worth noting however that the lower percentage observed in 2015/16 may be a reflection of the fact that the survey in this year combined cutting down e-cigarettes and stopping e-cigarettes altogether into a single option, whereas in the earlier surveys respondents were able to choose both options separately.

Of those who answered that they had never smoked a tobacco cigarette in 2013/14 96% had also never used an e-cigarette. This figure fell to just under 90% of respondents in 2014/15 and 2015/16. Given the importance of identifying e-cigarette use among young never smokers it is important to monitor this trend closely.

In 2014/15 and 2015/16 the vast majority of respondents who had used e-cigarettes and smoked tobacco cigarettes reported starting to smoke tobacco cigarettes first, although the observed percentage has dropped from 98% in 2014/15 to 90% in 2015/16. Again, given the importance of identifying whether young people are first using e-cigarettes and then going on to start smoking tobacco cigarettes it is very important to monitor this trend closely.

5.2. Limitations of the study

- There is a potential for sample bias to have influenced the results attained from this survey. Many of the respondents were part of organisations and schools which form the Healthy Schools Network and thus there is a possibility that this impacted on the results acquired. For instance, pupils at these schools may have been more aware of the topics investigated, through educational programs and talks, etc. This means that the responses provided may not be generalizable and representative of all young people in Wales, as pupils who attend schools not affiliated to the Healthy Schools Network may produce very different results to those obtained in this study.

- Additionally, with schools being a key distribution source the likelihood that the surveys were completed within these educational settings is very high. Due to this, although surveys did not refer to the respondent's name, it is likely that responses may not be completely sincere. This is because students may have felt pressure to answer in a certain way due to the presence of teachers/authority figures and also to conceal this information from others.

- The results of this survey are not representative of the whole of Wales. Very few responses, and at times none at all, were received from certain parts of the country, including the Isle of Anglesey, Gwynedd, Rhondda Cynon Taf. Denbighshire, Flintshire, Powys, Blaenau Gwent and Newport.

- Inherent in using opportunistic, non-probability sampling methods to acquire a sample is the inability of the sample to represent all areas appropriately. This is because not all areas had even samples and the demographic constitution was not matched for the areas sampled.

- An additional limitation associated with this research relates to its practicality in conducting longitudinal research. The respondents used in this survey are not necessarily the same as the respondents used in the previous ASH Wales e-cigarette surveys. Therefore, it is difficult to make concrete longitudinal claims on certain topics, for instance, changes in e-cigarette awareness and usage.

5.3. Recommendations for future research

The findings of this survey suggest a number of areas for future research are required to make an evidence-based contribution to the on-going policy debate around the use of e-cigarettes by young people. Propositions for future research include:

- Longitudinal research investigating usage of e-cigarettes, which could establish whether e-cigarettes are indeed functioning as a gateway to future tobacco cigarette usage. Moreover, longitudinal research can also establish the potential long-term health implications of e-cigarette use.

- Future research on the efficacy of e-cigarettes as smoking cessation devices. By providing this research UK and Welsh Government policy on e-cigarette access and usage can be evidence-based and more effective.

- Focus groups could be a logical addition to the surveys conducted in previous years. Such qualitative research would make it possible to derive a more fruitful and rich account of the issues raised by young people in relation to their awareness/use of e-cigarettes.

- Incorporating additional schools/youth provisions from across all of Wales that are not part of the Healthy Schools Network will enhance the representativeness and generalisability of the results obtained.

6. References

ASH. 2015. Use of electronic cigarettes among children in Great Britain [Online]. Available at: http://www.ash.org.uk/files/documents/ASH_959.pdf.

ASH Wales. 2015. Young people and the use of e-cigarettes in Wales. ASH Wales.

Bostean, G., Trinidad, D.R., and McCarthy, W.J. 2015. E-Cigarette Use Among Never-Smoking California Students. American Journal of Public Health, 106:12, pp. 2423-5.

De Angrade, M., Hastings, G. and Angus, K. 2013. Promotion of electronic cigarettes: tobacco marketing reinvented?. British Medical Journal, 2013.

Gallus, S., Lugo, A., Pacifici, R., Pichini, S., Colombo, P., Garratini, S. and La Vecchia, C. 2014. E-cigarette awareness, use, and harm perceptions in Italy: a national representative survey. Nicotine & Tobacco Research, 16:12, pp. 1541-1548.

Hughes, K., Bellis, A.M, Hardcastle, A.K, McHale, P., Bennett, A., Ireland, R. and Pike, K. 2015. Associations between e-cigarette access and smoking and drinking behaviours in teenagers. BMC Public Health, 15:244.

Leventhal, A.M., Strong, D.R., Kirkpatrick, M.G., Unger, J.B., Sussman, S., Riggs, N.R., Stone, M.D., Khoddam, R., Samet, J.M. and Audrain-McGovern, J. 2015. Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence. JAMA. 314:7, pp. 700-7.

Mcgraw, D. 2015. Current and future trends in electronic cigarette use. International Journal of Psychiatry in Medicine, 42:4, pp. 325-32.

Moore G, Hewitt G, Evans J, et al. 2015. Electronic-cigarette use among young people in Wales: evidence from two cross-sectional surveys. BMJ Open.

Public Health England. 2015. E-cigarettes around 95% less harmful than tobacco estimates landmark review [Online]. Available at: https://www.gov.uk/government/news/e-cigarettes-around-95-less-harmful-than-tobacco-estimates-landmark-review.