

REASONS FOR USING ELECTRONIC CIGARETTES:
A SYSTEMATIC REVIEW OF THE LITERATURE

by

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Introduction

Electronic cigarettes (e-cigarettes) are a fairly new invention designed for nicotine use. The modern e-cigarette was conceptualized by Chinese pharmacist, Hon Lik, in 2003 as a device for tobacco cessation [1]. Although there are different e-cigarette designs, the basic parts of an e-cigarette include: a battery, a compartment for holding an e-juice (a liquid containing flavorants, a solvent, and nicotine), a heating component, and a mouthpiece [1]. Essentially, the battery controls the heating component, which heats the e-juice, and creates an aerosol, that is inhaled via the mouthpiece [1].

There is an increasing prevalence of e-cigarette use globally. In 2004, the products entered the Chinese market, and by the mid-2000s they entered the US market [1]. By 2010, many e-cigarette brands occupied the global market. Sales of e-cigarettes have risen through use of marketing, such as advertisements, celebrity endorsements, and social media [1]. According to the National Youth Tobacco Survey, in 2011, only 1.5% of high school students in the US were current e-cigarette users, while in 2015, 16% were current users [1]. This trend is reflected worldwide. For example, in Goniewicz et al's 2014 study use of e-cigarettes among teenagers throughout Poland rose over 24% from a 2011 to 2014 [2]. Moreover, in Dockrell et al's 2013 survey of adults in Great Britain, current e-cigarette use doubled in just two years from 2010 to 2012 [3].

Considering their popularity, e-cigarettes present a growing public health concern. E-cigarettes produce aerosols containing potentially harmful substances. Common compounds found within e-cigarette aerosols include: propylene glycol, glycerin, toxic metals (e.g., lead, cadmium, nickel), and up to 31 other carcinogenic carbonyl compounds, including

formaldehyde [1,4,5]. These compounds may damage DNA, reducing its ability to repair itself during replication, as well as cause respiratory disease [6,1].

Additionally, nicotine has been shown to be a harmful component of e-cigarettes, especially in developing youth and pregnant women [1]. Consequences of long-term nicotine exposure may be more pronounced in adolescent users, causing attention deficits, mood disorders, and impairment in general cognition [7]. Effects on fetuses from nicotine intake during pregnancy can include, but are not limited to, impaired respiratory development, inhibited auditory learning ability, changes in appetite, and changes in brain development [1]. Interestingly, in all age groups, nicotine has been shown to reduce insulin sensitivity, and could therefore contribute to insulin resistance and type II diabetes [8].

Given the popularity and potential harmfulness of e-cigarettes, it is important to understand why people initiate and continue to use e-cigarettes. Assessing the primary motives of e-cigarette initiation and use can help to inform public health practice regarding prevention. Although there have been numerous studies published within the literature regarding the reasons why people use e-cigarettes, there has yet to be a comprehensive review specific to that literature. In 2013, Pepper and Brewer conducted a review of e-cigarette awareness, use, and beliefs, which included 20 articles about reasons for use [9]; however, there is a need for an updated review of the literature, with a focus solely on reasons for use. As such, the purpose of this study was to conduct a systematic review of the literature to answer the following research question: What are the reasons for using e-cigarettes?

Methods

This literature review identified peer-reviewed articles using several search terms and databases. From September to December of 2017, PubMed and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) were searched using the following alternate terms for e-cigarettes: electronic cigarettes, e-cigarette, electronic nicotine delivery systems, vape. These terms were searched with every combination of the terms: reasons, motives. In order to find additional articles, the “berry picking” method of using “backward chaining” (browsing the reference pages of articles included in the review) and “forward chaining” (browsing articles that cited the articles included in the review). Backward and forward chaining were used with searching Google Scholar [10-12].

The articles resulting from the search of databases and berry picking were included in the literature review based upon several inclusion criteria. The inclusion criteria for this review emphasized motives for initiation and regular use of e-cigarettes and followed the flow diagram outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) procedure [13]. Articles were included in the review regardless of the location of the study, sample characteristics, research methods, or publication date, and if the articles were published in the English language. Qualitative studies were included in the review, but were excluded from the data tables and were only used in developing the themes from the review’s findings. Articles were excluded from the review if they were literature review articles and if they failed to address reasons for use.

The authors used the literature to record the wide variety of reasons for using e-cigarettes, as well as to qualitatively synthesize the reasons into major themes. Specifically, from each study that used quantitative research methods, the authors recorded the percent of

participants who selected each survey item for the reasons in using e-cigarettes. The authors then reviewed each study that used both qualitative and quantitative research methods to develop major overarching themes regarding reasons for using e-cigarettes. Then, the reason for using e-cigarettes selected by the largest percent of participants (from quantitative-based studies) were tallied according to the major overarching themes (Table 3).

Results

Several quantitative studies (Table 1) and qualitative studies (Table 2) were included in the review. Of the 305 peer-reviewed articles identified through searching the databases and berry picking, 84 met the inclusion factors and were included in review (Figure 1). Of the studies, published from 2011 to 2018, there were 72 that used quantitative research methods and 12 that used qualitative methods.

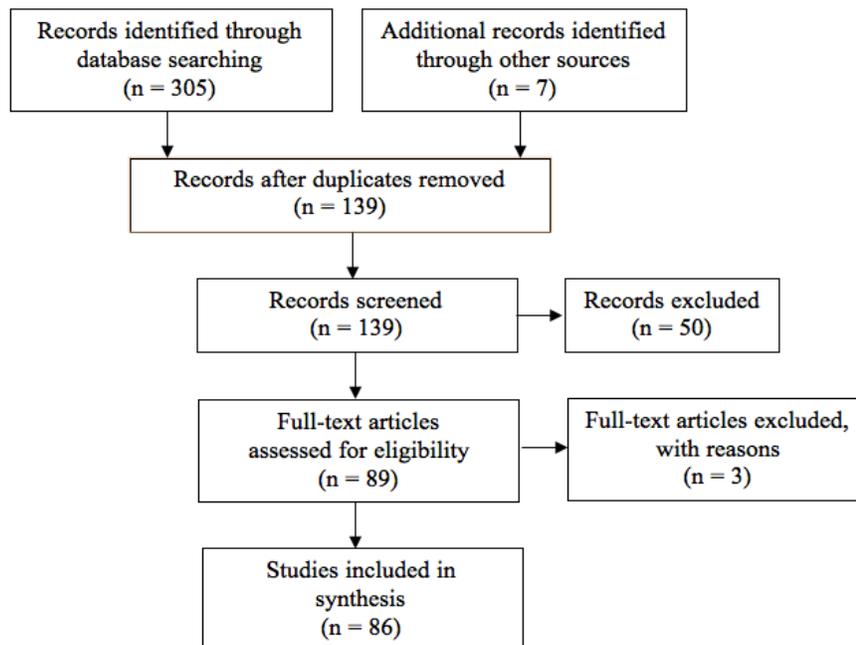


Figure 1. PRISMA flow diagram for article inclusion

The studies varied in recruitment methods. The studies recruited participants through online forums, existing survey panels, Twitter, telephone, mail, e-cigarette vendor locations

(both physical and online), schools/universities, and in substance abuse centers or medical clinics. Of the studies included in the review, 32 (38%) were conducted outside of the United States and 46 (55%) used convenience sampling (Tables 1 & 2).

Although participant characteristics (e.g., smoking status, age, nationality), questionnaire items, and interview questions differed between each study, there were similar overarching themes regarding the reasons for the initiation and continued use of e-cigarettes. Specifically, six themes qualitatively emerged from the literature regarding the reasons why people use e-cigarettes. These included: (1) Quit or reduce tobacco use, (2) Curiosity and novelty, (3) Reduce harm, (4) Convenience and affordability, (5) Positive sensory experiences, and (6) Influence of others.

Theme #1: Quit or reduce tobacco use

Most studies reported that participants use e-cigarettes for the reason of quitting or reducing tobacco use. Of the 82 studies included in this review [3,14-94], only four [54,88,89,91] did not report cessation or reduction of tobacco products as a reason for e-cigarette use. In a qualitative study, one participant stated, “The ultimate benefit is that it [e-cigarettes] got me away from cigarettes. Something that's never been able to happen before” [92]. Likewise, from a different study, a participant said, “I was a pack every other day smoker...Then probably half a year later I just stopped smoking tobacco and just smoked the e-cigarette only. It did the trick” [91].

As part of cessation or reduction of tobacco products, participants used e-cigarettes as an alternative to cigarettes during their usual smoking routines. For instance, a participant in Barbeau and colleagues' study stated, “When I quit cigarettes, my fixation with, you know, vaping, is very similar. So I like to vape while I'm in the car, I like to vape while after I have

a meal or when I have a coffee or when I'm drinking and so on, so it mirrors that almost" [85].

Theme #2: Curiosity and novelty

Several studies reported that curiosity is another reason why people use e-cigarettes. As a recent invention, e-cigarettes have been of interest to people who want to try something new and unconventional. For example, a participant in McKeganey and colleagues study stated, "Someone I knew had one and I was curious to be honest because I'd seen other people with them and then I just thought I'd give it a shot. It was just a one off thing purely out of curiosity to see what it was like" [89]. Another said, "My 27 year old son – I asked him what he wanted for his birthday and he said he wanted an e-cigarette...he had given me specifically what he wanted, and again, it was the starter kit, but it was a certain flavor and I was very, very curious about it. And so, I opened it up [Laughter] – I had to pull over; I couldn't drive at the same time. So, I pulled over and I had to read the directions and I tried it and I liked it" [32].

The quantitative studies in this review used differing questionnaire items regarding curiosity, including that people use e-cigarettes due to: curiosity [14,16,18,20,23,24,26,31, 32,43,48,49,53,54,56,62,63,65-67,71,73,75,77,78,81-83,88,94], intrigue [20,21], experimentation [19,50,64], to try something new [19,40,51], just wanting to try it [29,60,76], and boredom [36,64,93].

Participants also reported using e-cigarettes because of its potential as a hobby [45,56,85,93]. The studies indicate that modifying e-cigarettes is a type of personal recreational activity for many, providing users with options for modifying e-juices, accessories, e-cigarette designs, and rebuilding e-cigarettes. One person stated, "I learned

about [. . .] the different bases and juices. There's so much knowledge out there and I became a nerd. And it became a hobby" [85]. Compared to combustible cigarettes, there are many more options to customize e-cigarettes, which may be a reason for many to try e-cigarettes. Another user said, "I like it, I like the hobby of it, I like learning about it. There's so much that goes into it. So much science and all that that actually goes into it that people don't really realize...I don't really feel that need for it, for the nicotine or anything anymore but I just, I keep doing it because I like it you know it's a fun hobby" [86]. Another participant even stated, "It's almost like being a kid with a toy" [91].

Theme #3: Reduce harm

Most studies reported that participants use e-cigarettes for the reason that e-cigarettes may be less harmful than combustible cigarettes to one's self and others. As many as 83% of participants in one study reported using e-cigarettes for their reasoning that e-cigarettes are healthier than combustible cigarettes [33]. In terms of reducing harm to the participant, various questionnaire items were written for participants to select as a reason for use, including that e-cigarettes are: less harmful than cigarettes [14,15,20,21,27,34,35,43-49,55,65,69,73,75,80-82,84,87,88,94], less dangerous than cigarettes [16], safer to use than cigarettes [17,40,50,57], better for health [3,22,23,25,28,71], healthier than cigarettes [18,24,30,41,61,72,89], and can improve health [42,56,59,62,63,66,67,86,90,92,93]. From a qualitative perspective, Cheney and colleagues' quoted a participant saying, "I started vaping partially because I was going to the gym... I could tell that when I smoked I just like going up a flight of stairs was like can't breathe...I will consciously vape instead of smoke if I'm doing like a physical activity that day because I don't feel like it effects the way I breathe so much on a day to day basis" [86].

In terms of reducing harm to other people, studies also used varying questionnaire items for reasons of use, including that e-cigarettes: are less harmful than cigarettes to others [15,65], create less secondhand smoke [79], are good for the health of others [3], and can reduce exposure of secondhand smoke to family members [37,38,74]. In one study of those who were patients at prenatal clinics in Kentucky, 25% of women reported using e-cigarettes because they became pregnant [15], which was likely due to perceiving e-cigarettes as less harmful than tobacco and an act to protect the unborn child, despite unknowingly harming them. In one study, an e-cigarette user stated, “I thought about my kids. And you know where’s my life gonna go. My grandfather, I watched my grandfather die from lung cancer. Is that something that I really want my kids to watch? And I tell myself no and so I went and picked up my first vape” [86].

Theme #4: Convenience and affordability

Several studies included in the review reported that people use e-cigarettes out of convenience and affordability. Participants use e-cigarettes where smoking is not allowed [14,15,19,20,22,23,28-30,32-35,37-39,41,44,46,47,50,52 57-60,64-66,68-70,73,75-84,91-94], such as anywhere [24,56], or in more places compared to smoking combustible cigarettes [42], and specifically using e-cigarettes indoors [17,18,55,61,71,87-89]. In addition, participants reported using e-cigarettes out of convenience in general [48,63] and due to being able to hide e-cigarettes from adults [24]. Also, e-cigarettes were mentioned as being easier to use in rainy or windy weather or when lighters are unavailable [93].

Using e-cigarettes due to convenience during busy moments, work settings, and school environments was highlighted in the qualitative studies included in this review. One participant stated, “...with having two small kids I found it more easier that I didn't have to

leave them inside to go take a break if I was stressing or anything. I could just use it, smoke it, be done with it.” From the same study, a different participant said, “I work at a high school as a physical education teacher. Before when I used to smoke real cigarettes, I used to have a hard time smoking when I was at work. I had to really hide from my students and change my shirt, chew gum and that kind of stuff. Now with e-cig I don't have all those problems” [91]. Finally, a student participant told this story, “We were studying at the library...and it was the middle of winter and I really needed a cigarette and I did not want to have to get dressed to go outside and put on my layers, put on my hat and deal with all of that stuff. So one of my friends offered me – he had an extra Blu cigarette that was charged up – we were in the conference room and nobody saw me, so we were smoking inside the library and it – after that, I ended up picking up one the next day just to have for the convenience aspect of it” [88].

A reason for using e-cigarettes similar to convenience is the affordability of products. Participants from several studies reported using e-cigarettes because of their low cost in comparison to combustible cigarettes [14,15,17,18,21,24,28,30,33,37,38,44,45, 47,49,50,52,56,57,61-63,65-68,69,72,73,76,79-82,84,87,94]. In regards to using e-cigarettes for the reason of cost effectiveness, one respondent said, “I actually wanted to get it because it was cheaper than smoking cigarettes, because I was smoking like a pack, a pack and a half per day. So it was a lot cheaper than purchasing the cigarettes, which were like \$8, if you're lucky. I mean every pack” [91].

Theme #5: Positive sensory experience

The studies' participants also reported using e-cigarettes in order to have positive sensory experiences. One aspect of this is the different e-cigarette flavors that are available

[14,17,18,21,24,37,38,52,53,55,61,63,65,67,71,75,85-87], the taste of the flavors compared to combustible cigarettes [3,15,25,30,36,44,45,56,58,64,68,69,73,79,89,93], and the smell of e-cigarette aerosols [32,88,89]. In a study of over 800 e-cigarette users, 60% of participants reported using e-cigarettes because of the appealing flavors available and experimenting with those flavors [21]. From a qualitative study in this review, one user stated, “I didn't want to be reminded of tobacco. I got bakery flavors, sweet flavors, to stay away from the tobacco taste” [92]. In a different study, a participant stated, “Flavors – if I don't want a menthol or tobacco taste but I still want a bit of nicotine I can go dragon berry or peanut butter gumdrop chew or one of my favorite which I like is my own mix it's pretty good it's blueberry and marshmallow...that is the whole thing about vaping its custom tasty goodness” [86].

People also use e-cigarettes for other positive sensory experiences, including a “throat hit,” which is the sensation felt in the throat when inhaling e-cigarette aerosols [18,32,85,92,93], feeling a “high” from a nicotine “buzz” [21,36,64], the overall enjoyment, pleasure, or fun of using e-cigarettes [34,42 50,56,59,74,75,80,89], performing “tricks” with e-cigarettes, such as blowing smoke rings and large aerosol puffs (known as “clouds”) [53,89], and the “hand to mouth” motion associated with combustible cigarettes.

Interviews with participants illustrated these experiences. In terms of a throat hit, one participant said, “That feeling when it comes down and hits your throat and you inhale it, that's, like, a big deal for us all” [85]. Regarding the pleasant smelling aerosol that is produced, a comment from one participant was, “Because when you're vaping it smells nice. I mean sometimes I'll like the smell of a cigarette but the smell of a vape everyone likes if you know what I mean” [89]. In terms of vapor clouds and smoke tricks, participants stated, “I just like blowing circles with the smoke and trying like tricks and stuff like that it's kind of

interesting seeing how smoke works” [90], as well as, “It’s fun...different tricks, you got fat clouds.... If you’re with your boys blowing fat ass clouds, like, “Aw I can do a better one, dog!” [91]. Another participant said, “...you even get a fuller sensation than you do even when smoking...So you get that bigger lung feeling that bigger exhale. I like to see that cloud come out...there is something about seeing that cloud come out of my mouth I just love” [86]. Finally, in terms of the hand-to-mouth motion, one participant said, “...It’s mostly the taste and the hand-mouth behavior that I find enjoyable” [45].

Theme #6: Influence of others

Finally, the studies found people use e-cigarettes because of the influence of others. Participants used e-cigarettes because of friends, family members, and co-workers who used e-cigarettes [16,23,24,50,51,53,56,65,67,74,75,78,81,82,89,94]. From a study of over 1,200 students at a large US university, 20% indicated that they used e-cigarettes because their friends also use e-cigarettes [50]. One participant recalled, “I think it was my friend [who] encouraged it...She went and got it for me. She said, ‘I’ll go to the shop and get you one, give me the money’, and then she went and got it. She encouraged me” [94]. Another participant said, “I mean I probably would not have started if my mom didn’t give me my first one” [86].

Participants also used e-cigarettes in order to socialize and use e-cigarettes with others [21,56,63,68,85,86,93]. Participants explained, “Having the support [from other e-cigarette users] was instrumental” [85] and, “Especially like with the vape stores like the ones around town, they’re cool hang out places like they have couches and TV’s and they have like vape bar you can sit at and you can taste all their flavors. There’s one that has pool tournaments and things like that so. It’s a fun thing to do” [86]. Users also perceived that

using e-cigarettes would allow them to still socialize with friends who use combustible cigarettes. For instance, one person who said, “You can still be in a group and use your gear...When I quit regular cigarettes, it was isolating – I couldn't hang out with the smokers and I missed that social aspect of smoking” [92].

Participants also used e-cigarettes because it looks cool and attractive [17,36,39,48,68,88], does not smell as bad as combustible cigarette smoke [31,79,80,86,87,90], does not stain teeth [90,93], and has become popular or trendy [50,84,88], as seen through use by well-known people [21] and advertisements [15,65]. For example, participants said, “I just felt very cool...and so it really, it attracted me to it and I purchased one...” and, “I'll smoke an e-cigarette, so – because it's more trendy...I just feel more girly” [88].

Participants also used e-cigarettes because, when compared to combustible cigarettes, it has become more socially acceptable to others [21,74,86,93] and bothers others less [18,31,32,42,48,63,72,80,82]. For example, one participant said, “...when you are sitting next to a person that doesn't smoke like at the bus stop and you are vaping they don't get up and move. When you are smoking they get up and move” [86].

Analysis of top reasons

Based upon the six themes, the largest number of articles in the review (from the articles that described quantitative research methods) with the top reasons to use e-cigarettes were to quit/reduce tobacco use (44%) and because of curiosity (31%) (Table 3).

Table 3. The top reasons for using e-cigarettes from quantitative articles

Top reason for using e-cigarettes	No. of articles (%)
Quit or reduce tobacco use	32 (44)
Curiosity and novelty	22 (31)
Reduce harm	9 (13)
Convenience and affordability	3 (4)
Positive sensory experiences	3 (4)
Influence of others	3 (4)

Discussion

The objective of this systematic literature review was to conduct an updated, thorough, systematic review of the literature regarding the reasons for use of e-cigarettes. A total of 84 studies from 2011 to 2018 were included in the review. Although there were unique methodological approaches to each study, there were six overarching reasons for using e-cigarettes that emerged from the literature. It is important to discuss the implications and limitations of the findings towards informing public health practice and future research.

The literature review discovered that the most popular reason for using e-cigarettes was to quit or reduce tobacco use. This finding is not surprising, since despite the lack of evidence regarding e-cigarette effectiveness for smoking cessation [95] and the current split among the scientific community on the topic [96], more smokers use e-cigarettes as a cessation tool than the aids recommended by the US Food and Drug Administration, including the nicotine patch and gum [97]. It is important to note that in 2015, the majority

(58%) of US adults who use e-cigarettes also used combustible cigarettes [98], implying that those who use e-cigarettes are not guaranteed to totally abstain from smoking.

It is worth discussing the finding of curiosity and novelty as a reason for using e-cigarettes. Specifically, several studies reported that students in middle school, high school, and college selected curiosity a top reason for e-cigarette [16,24,36,50,52,54,55,64,78,89]. This is alarming, as cross-sectional studies [99-101] and longitudinal studies [102-105] indicate that there is a relationship between adolescent and young adult use of e-cigarettes and later use of combustible cigarettes. The risks associated with e-cigarette use should be better advertised, especially for those who adopt e-cigarettes as their first tobacco use method. If the public was more informed about the possible risks associated with using e-cigarettes they may have less appeal.

Recommendations for future research

The findings from this study have several implications for future research. First, future studies should specify the smoking status of the participants. In our study, only a few studies noted their smoking status of participants (e.g., exclusive e-cigarette users, dual users of combustible cigarettes and e-cigarettes, former smokers). By providing this information, public health professionals could learn how to tailor policy and health education material to those with a variety of smoking behaviors.

Second, future studies using quantitative methods should provide participants with the opportunity to list their own reasons for e-cigarette use, instead of only allowing them to select from a predetermined list. Although many studies included an “other” category in their questionnaires, allowing participants to list their own reasons may introduce new reasons that researchers did not consider.

Implication for public health practice

The findings from this systematic review also have important implications for future public health practice and policy. First, a number of articles cited instances where respondents used e-cigarettes where conventional tobacco products is prohibited. This is a potential oversight in tobacco policy, and public health officials should adapt tobacco policy in public spaces to reflect the growth of e-cigarettes. In a study from Wackowski in 2015 of 519 adult smokers, 41% supported restriction of indoor e-cigarette use. [43] There is a desire for tighter restrictions on e-cigarette production and sale, and this is an area of improvement for public health officials and policy makers in the future.

The affordability of e-cigarettes was also a common reason for use. If e-cigarettes were taxed as conventional tobacco cigarettes are, there could potentially be a reduction in the amount of people, especially adolescents, who purchase these products. The WHO has proven the effectiveness of raising taxes on other products, such as combustible tobacco use products, in the reduction of widespread use as evidence in numerous studies in several high and low income countries. [44] It is possible that changes in the taxation of e-cigarettes can produce a similar decline of use.

Another common reason in many studies was the positive sensory experience that e-cigarettes provide users. Many studies have examined the impact of the variety of flavorings of e-cigarette juice. In Farsalinos' 2013 study, fruits were the favorite flavor category, followed by sweet and drinks and beverages. Additionally, a majority of the sample stated that e-cigarette use would be less enjoyable without the variety of flavors available [108].

Public health practice should consider the attractiveness of tasty flavoring in e-cigarette liquid, especially in younger populations. Future policy could regulate flavorings

used in an attempt to reduce the popularity of these products. Several experts support for tighter regulation of flavored tobacco [109-111].

Limitations

This study has several limitations. First, the search terms used in PubMed and CINAHL may have not located all published articles on the relevant topic. Second, non-peer reviewed articles and non-English publications were not included in this study. Although this may have excluded valuable theses or reports, we excluded them in order to obtain the most informed and supported data on this subject. Finally, we only examined the top reason for initiation and continued use for brevity, but many studies had reasons that were very similar in terms of the percentages of participants' self-reported reasons for using e-cigarettes. It is important to consider that although we only included the top reasons in our figure, many other reasons were listed and contributed substantially to each study. Finally, the smoking status of the samples surveyed was not specified in 60 of the articles included in the review. This prevented the authors from separating the articles based on smoking history, such as by dual use, previous smoking, or non-smoking. Including this would allow reasons to be differentiated based on the characteristics of the sample and would influence further research.

Table 1. Reasons for initiation and use of electronic cigarettes for quantitative studies

Study	Methods	Participants	Findings
Amato, 2017	Participants were recruited from the 2014 Minnesota Adult Tobacco Survey, a random digit dial survey of landline and cell phones.	N = 102 daily users of e-cigarettes who are current smokers, former smokers, and never smokers	Reasons for current use of e-cigarettes: <ul style="list-style-type: none"> • To quit other tobacco products (86%) • To cut down on other tobacco products (91%) • Since they might be less harmful than other tobacco products (87%) • To use them in places where other tobacco is not allowed (65%) • Since they are affordable (74%) • Owing to curiosity about e-cigarettes (51%) • Since they come in menthol flavor (17%) • Since they come in other flavors (55%)
Ashford, 2016	A convenience sample of participants was recruited from two prenatal clinics and one women's health clinic in Kentucky using flyers to advertise the study.	N = 49 current females of childbearing age who are current e-cigarette users	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • Wanted to quit smoking (51%) • Less harmful to others (37%) • Thought it would be less expensive (35%) • Can use where smoking not allowed (35%) • Less harmful to myself (35%) • I became pregnant (25%) • Like e-cig taste (23%) • Saw ads promoting e-cigs (17%) • Maintain or lose weight (3%)
Awan, 2016	A convenience sample of participants was recruited from the departments of medicine, dentistry, pharmacy, and engineering at King Saud University in Saudi Arabia. The WHO	N = 115 university students who were smokers, ex-smokers, never smokers who experimented	Reasons for experimenting with e-cigarettes: <ul style="list-style-type: none"> • Less dangerous (7%) • Reducing traditional cigarette use (0%) • Smoking cessation (24%) • Curiosity (63%) • Peers' influence (23%)

	Global Adult Tobacco Survey instrument was used	with e-cigarettes	
Ayers, 2017	A convenience sample of tweets from twitter.com about reasons for e-cigarette use were obtained by selecting English-language tweets that referenced ENDS-related keywords	N = 2900 tweets per year from 2015	Reasons for e-cigarette use: <ul style="list-style-type: none"> • Low cost (2%) • Flavor choices (13%) • Safe to use (9%) • Can vape indoors (12%) • Favorable odor (4%) • Quitting combustibles (28%) • Social image (37%)
Baggett, 2016	A stratified sample of participants was recruited using time-location sampling at 5 clinical sites of the Boston Health Care's Homeless program. Surveys were verbally administered using electronic tablets.	N = 72 homeless adult e-cigarette users who have used e-cigarettes in the past month	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • Curiosity (85%) • Healthier (74%) • Bothers others less (73%) • To help quit (69%) • Throat hit (64%) • Smoke inside (60%) • Cheaper (57%) • Try flavors (53%) • Multiple reasons (85%)
Berg, 2014	A convenience sample was recruited by posting fliers in e-cigarette vendors in Atlanta. Participants completed mail-based longitudinal surveys at baseline, 4 weeks, and 8 weeks.	N = 36 tobacco smokers who are new e-cigarette initiators	Baseline intentions for use of e-cigarettes: <ul style="list-style-type: none"> • Use when cannot use cigarettes (25%) • Use in addition to regular cigarettes (2.8%) • Partial replacement for cigarettes (16.7%) • Complete replacement for cigarettes (69.4%) • Gradually switch from cigarettes to e-cigarettes (38.9%) • Eventually quitting all tobacco (47.2%) • Experimentation (8.3%) • Try something different and new (11.1%)

Berg, 2015	A random sample of participants were recruited worldwide by an online consumer panel through Global Market Insite, Inc. Cross-sectional surveys were completed which required users to rank their reasons for engaging in e-cigarette use on a scale from 1-9.	N = 918 current tobacco smokers	<p>Reasons for current tobacco smokers to switch to smokeless tobacco products or e-cigarettes:</p> <ul style="list-style-type: none"> • Use in a place where smoking is not allowed (M=5.57) • Reduce health risk (M= 6.23) • Cut down on number of cigarettes (M=6.18) • To quit smoking (M=6.17) • Curiosity and intrigue (M=5.68)
Berg, 2016	A convenience sample of tobacco users and nonusers were recruited from Facebook advertisements and completed an online survey	N = 832 current e-cigarette users that are never, current, or former tobacco smokers	<p>Current e-cigarette users' (including never, current, and former smokers) reasons for use:</p> <p>Flavors</p> <ul style="list-style-type: none"> • Appealing flavors (60%) • Enjoy experimenting with flavors (59%) <p>Social</p> <ul style="list-style-type: none"> • More acceptable to nonsmokers (48%) • Enjoy socializing with other users (25%) • People who are important to them use them (8%) • People in media/public figures use them (1%) <p>Harm Reduction</p> <ul style="list-style-type: none"> • Help stop smoking cigarettes (66%) • Might be less harmful than cigarettes (76%) • Quit smoking cigarettes with them (51%) • Use when cigarettes not allowed (25%) • Feels like smoking cigarettes (34%) <p>Other</p> <ul style="list-style-type: none"> • Don't smell (77%) • Cost less than other tobacco (61%) • Cool/Intriguing (14%)

			<ul style="list-style-type: none"> • Enjoy buzz from nicotine but don't like cigarettes (12%) • Manage weight (6%)
Biener, 2015	A random sample of adults in the Dallas/Fort Worth and Indianapolis areas was recruited via addressed-based sampling. The sample completed telephone and mail surveys.	N = 493 ever-users of e-cigarettes (triers, intermittent users, and intensive users)	<p>Reasons for starting e-cigarette use:</p> <ul style="list-style-type: none"> • Use where cigarettes are not allowed (5%) • Help others avoid cigarette smoke (16%) • Cut down on smoking (4%) • Quit smoking (52%) • Health (8%)
Biener, 2015	A random sample of adults were recruited using address-based sampling in areas of test markets for smokeless tobacco products (including Charlotte, NC, Denver, CO, and Topeka, KS). The sample completed mail surveys.	N = 531 current smokers, 187 former smokers, 199 never smokers	<p>Smokers' reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (61%) • Better for health than cigarettes (55%) • Friends use it (30%) • Can use where cigarettes are not allowed (43%) • Helps to quit smoking (35%) • Helps cut down on cigarettes (41%) • Does not smell bad (42%) <p>Former smokers' reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (59%) • Better for health than cigarettes (42%) • Friends use it (28%) • Can use where cigarettes are not allowed (33%) • Helps to quit smoking (40%) • Helps cut down on cigarettes (18%) • Does not smell bad (37%) <p>Never smokers' reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (77%) • Better for health than cigarettes (17%) • Friends use it (46%)

			<ul style="list-style-type: none"> • Can use where cigarettes are not allowed (NA) • Helps to quit smoking (NA) • Helps cut down on cigarettes (NA) • Does not smell bad (25%)
Bold, 2016	A representative sample of participants were recruited in middle and high schools and completed school-wide longitudinal surveys from Fall 2013 to Spring 2014.	N = 340 students who have ever used e-cigarettes	<p>Reasons for first trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (57%) • To be cool (9%) • Desirable flavors (41%) • Does not smell bad (20%) • Able to hide from adults (12%) • Inexpensive (10%) • Friends Use (32%) • Family Uses (8%) • Can use anywhere (20%) • Quit smoking (5%) • Healthier than cigarettes (25%)
Brown, 2014	A convenience sample was recruited from an online panel (managed by Ipsos MORI) of those from Great Britain who had smoked in the past year. Surveys were completed online.	N = 775 current e-cigarette users who smoke, 109 current e-cigarettes users who are recent ex-smokers	<p>Reason for starting current use (current smokers):</p> <ul style="list-style-type: none"> • Health (82%) • Taste (24%) • Cutting down (83%) • Temporary abstinence from cigarettes (70%) • Quitting (82%) <p>Reason for starting current use (recent ex-smokers):</p> <ul style="list-style-type: none"> • Health (83%) • Taste (19%) • Cutting down (78%) • Temporary abstinence from cigarettes (47%) • Quitting (84%)

Busch, 2016	A random sample of participants who were hospitalized at The Miriam Hospital in Providence, RI for post-acute coronary syndrome (ACS) were surveyed	N = 25 tobacco smokers who had ever used e-cigarettes	Reasons for trying an e-cigarette: <ul style="list-style-type: none"> • Used to quit other tobacco methods (60%) • Used to cut down other tobacco methods (16%) • Curiosity (28%)
Curry, 2017	A convenience sample of participants were recruited from a tobacco dependence treatment trial across 12 Ohio counties. Longitudinal surveys were performed.	N = 217 smokers who have used e-cigarettes	Reasons for e-cigarette use: <ul style="list-style-type: none"> • Help in quitting (53%) • Help in cutting down on cigarettes • Not as bad for health
Dawkins, 2013	A convenience sample was recruited from links on TECC/TWEL (e-cigarette companies) websites. Online questionnaires were completed on the University of East London website.	N = 1349 e-cigarette users who are current and ex-smokers	Reasons for starting to use e-cigarettes: <ul style="list-style-type: none"> • Complete alternative to smoking cigarettes (76%) • To quit smoking entirely (7%) • Health reasons (6%) • Low cost (3%) • To avoid smoking restrictions in spaces (3%)
Dockrell, 2013	A random sample was recruited from established panels of adults in Britain and completed online surveys.	N = 2,297 smokers	Reasons for e-cigarette use: <ul style="list-style-type: none"> • Satisfy desire to smoke tobacco (60%) • Help cut down cigarette use (55%) • To quit smoking entirely (51%) • Eradicate smell of stale smoke (51%) • Relieve cravings in places where smoking is prohibited (50%) • Good for the health of those around them (40%) • Good for health (39%) • Taste pleasant (17%) • Allow more time to spend with loved ones (9%)

Dunbar, 2016	A convenience sample was recruited from a previous study using Harris Interactive's online panel. A second convenience sample was recruited through community advertisements in large U.S. cities. Both samples completed online or paper surveys.	N = 80 daily smokers who currently use e-cigarettes	Reasons for use: <ul style="list-style-type: none"> • Can use where cigarettes not allowed (20%) • Try to cut down on smoking (48%) • Just wanted to try it (51%) • Other (7%)
Dunlop, 2016	A random sample of participants were recruited by random digital dialing throughout New South Wales and completed the Cancer Institute Tobacco Tracking Survey.	N = 254 tobacco smokers and recent tobacco quitters who use e-cigarettes	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • Help quit smoking (32%) • Cut down on cigarettes (26%) • Healthier than cigarettes (20%) • Smoke where cigarettes are not allowed (11%) • Taste better than cigarettes (7%) • Cheaper than cigarettes (8%)
Eichler, 2017	A random sample of participants were recruited in Germany by a random telephone sampling system through Forsa, a research firm. Computed-assisted telephone surveys were used.	N = 474 smokers, ex-smokers, and non smokers who have used e-cigarettes	Reasons for use of e-cigarettes: <ul style="list-style-type: none"> • To quit tobacco entirely (32%) • To compliment smoking cigarettes (9%) • Curiosity (55%) • Other—taste, lower price (2%)
Etter, 2010	A convenience sample was recruited from France, Belgium, Canada, and Switzerland from links on smoking cessation and sales websites. The sample was surveyed online using open	N = 81 users, non-daily, and former users of e-cigarettes	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • To quit smoking (23%) • E-cigarettes less toxic than cigarettes (21%) • Less expensive than cigarettes (11%) • Can be used in smoke-free environments (9%)

	ended comments; comments received for each reason for e-cigarette use were quantified.		<ul style="list-style-type: none"> • Avoid disturbing others/less environmental effect/less smell of stale smoke (8%) • Pleasurable feeling of inhaling (8%) • Reduce cigarette use (6%) • Curiosity (4%) • Taste/smell good (3%) • Previous failure with nicotine patch/bupropion (1%) • To get nicotine exposure (0.8%)
Etter, 2011	A convenience sample was recruited from online forums dedicated to e-cigarette use and smoking cessation. Participants completed online questionnaires in English and French.	N = 3037 current and former smokers who have ever used e-cigarettes	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> • E-cigarettes are healthier than cigarettes (83%) • Satisfies craving for tobacco (79%) • To quit smoking cigarettes (76%) • To aid in withdrawal from nicotine (66%) • Cheaper than cigarettes (57%) • Avoid disturbing others (43%) • To smoke where cigarettes are not allowed (39%) • To be able to smoke indoors (34%) • To reduce use of tobacco before quitting (27%) • To reduce use of tobacco without quitting (20%) • Unable to stop (4%)
Etter, 2015	A convenience sample of current e-cigarette users who had quit smoking in the last 62 days was recruited via smoking cessation website Stop-Tabac.ch. The sample completed online surveys in English and French.	N = 282 recent ex-smokers who use e-cigarettes daily and said e-cigarettes definitely relieve the desire for craving to smoke	<p>Reasons to use e-cigarettes (% very true)</p> <ul style="list-style-type: none"> • To quit smoking/avoid relapse (91%) • Replace cigarettes (88%) • Deal with withdrawal (81%) • Less toxic than cigarettes (74%) • Deal with cravings (70%) • All other cessation methods failed (59%) • Enjoyable (44%) • Replacement of tobacco with no intention of reducing nicotine intake (19%)

			<ul style="list-style-type: none"> • Able to use where cigarettes not allowed (19%)
Etter, 2016	A convenience sample of current e-cigarette users was recruited via smoking cessation website Stop-Tabac.ch. The sample completed online surveys in English and French.	N = 825 current e-cig users who perceive the throat hit of e-cigarettes to be average	<p>Reasons to use e-cigarette (very true %) in average throat hit perceivers:</p> <ul style="list-style-type: none"> • Enjoyment (56%) • To quit smoking/avoid relapse (84%) • Suppress withdrawal symptoms (64%) • Satisfy craving (64%) • Replace tobacco with no intention of quitting nicotine intake (23%) • Able to use where cigarettes not allowed (23%) • Gradually reduce nicotine intake to 0mg (38%) • Less toxic than cigarettes (79%)
Evans-Polce, 2017	A nationally representative sample of 12th grade public and private school students was recruited via the Monitoring the Future (MTF) study. Surveys were given during class by paper and pencil questionnaires.	N = 2664 students who reported ever vaping	<p>Reasons for vaping:</p> <ul style="list-style-type: none"> • Experiment (54%) • Tastes good (36%) • Bored (21%) • Enjoyable (20%) • Relaxing (18%) • Looks cool (13%) • Get high (6%) • Quit cigarettes (8%) • Cigarettes not allowed (5%) • Addicted (0.92%)

Farsalinos, 2014	A convenience sample was recruited through e-cigarette users' forums online. Participants completed surveys worldwide in one out of ten provided languages and scored responses (1=not important, 5=most important).	N = 19,353 current smokers and former smokers	Reasons for e-cigarette initiation: <ul style="list-style-type: none"> • Reduce/quit tobacco smoking (avg. score of 5) • Reduce exposure to family (4) • Allowed to use where cigarettes not allowed (2) • Economic reasons (3) • Enjoy flavors (3)
Farsalinos, 2015	A convenience sample was recruited through e-cigarette users' forums online and completed surveys on surveymonkey.com.	N = 3530 dual users of cigarettes and e-cigarettes, 3530 non-smoking e-users	Reasons for e-cigarette initiation in dual users N = 3530: <ul style="list-style-type: none"> • Reduce/quit smoking (28%) • Reduce exposure to family (28%) • Allowed to use where smoking is banned (37%) • Cheaper (39%) • Enjoyed flavors (35%) Reasons for e-cigarette initiation in non-smoking users N = 3530: <ul style="list-style-type: none"> • Reduce/quit smoking (32%) • Reduce exposure to family (42%) • Allowed to use where smoking is banned (27%) • Cheaper (35%) • Enjoyed flavors (38%)
Filippos, 2017	A random sample of participants was recruited by selecting primary sampling units in 27 EU member states and weighing each country/region using Eurostat data. The sample was surveyed regarding e-cigarette use.	N = 2452 ever-users who are citizens of e-cigarettes in 27 EU member states	Reasons to start smoking e-cigarettes: <ul style="list-style-type: none"> • To avoid smoking bans (18%) • To quit smoking (19%) • Attractive (15%)

Goniewicz, 2013	A convenience sample of participants were recruited throughout Poland in online e-cigarette forums and retailers of e-cigarettes' websites. The convenience sample completed online surveys at www.net-ankieta.pl .	N = 154 e-cig users who smoke, 25 e-cig using non-smokers	<p>Reasons smokers tried e-cigarettes for the first time:</p> <ul style="list-style-type: none"> • Quit smoking cigarettes (47%) • Safer than cigarettes (41%) • To try something new (4%) • Other (8%) <p>Reasons non-smokers tried e-cigarettes for the first time:</p> <ul style="list-style-type: none"> • Quit smoking cigarettes (N/A) • Safer than cigarettes (40%) • Something new (8%) • Other (52%)
Gubner, 2016	A convenience sample was recruited from substance abuse clinics affiliated with the NIDA Clinical Trials Network in the United States. The sample completed surveys at clinic sites.	N = 339 smokers who currently use e-cigarettes	<p>Reasons for using e-cigarettes:</p> <ul style="list-style-type: none"> • Use where cigarettes are not permitted (53%) • Reduce or quit cigarette smoking (50%) • Healthier than cigarettes (33%) • Different reason (27%)
Gucht, 2017	A convenience sample of online vape shop customers in the Netherlands was recruited via referral upon online purchases. Online surveys were completed.	N = 195 current vapers	<p>Improvements due to using e-cigarettes (totally agree %):</p> <ul style="list-style-type: none"> • Craving decreased for cigarettes (76%) • Decrease smoking consumption (68%) • Quit smoking (67%) • Better breath (71%) • Physical ability/health improvement (60%) • Breathe better (49%) • Smell improved (39%) • Taste improved (38%) • Larger appetite (22%) • Better sleep (18%) • Better mood (15%)

			<ul style="list-style-type: none"> • Bothers others less (64%) • Vape in more places (52%) • More pleasurable (38%) • More technical issues (11%)
Guillet, 2015	A convenience sample was recruited in the French school of military paramedical personnel. Surveys were given to those present on the day of surveying and completed self-administered questionnaires.	N = 40 current e-cigarettes using smokers, N = 9 current e-cigarette using non smokers	<p>Use expectancies of current e-cigarette users (tobacco smokers):</p> <ul style="list-style-type: none"> • Curiosity (47%) • Decrease smoking (42%) • Quit smoking (7%) • Other (2%) <p>Use expectancies of current e-cigarette users (non smokers):</p> <ul style="list-style-type: none"> • Curiosity (77%) • Decrease smoking (0%) • Quit smoking (0%) • Other (22%)
Hummel, 2015	A representative sample of participants were recruited from a probability-based web database from the International Tobacco Control (ITC) Netherlands Survey cohort study.	N = 246 smokers who currently use e-cigarettes	<p>Reasons why they started to use e-cigarettes:</p> <ul style="list-style-type: none"> • Cut down on cigarettes (79%) • Not as bad for health (77%) • Cheaper than cigarettes (61%) • Help quit tobacco (57%) • Can smoke where cigarettes are not allowed (57%) • Alternative to quitting (48%) • Taste better than cigarettes (18%)
Hammett, 2017	A convenience sample of e-cigarettes users was recruited online via links from WebMD and e-cigarette forum websites and completed online surveys.	N = 69 traditional tobacco users who use e-cigarettes, 41 non-traditional tobacco users who use e-cigs	<p>Reasons for e-cigarette use among tobacco users:</p> <ul style="list-style-type: none"> • Less harmful (49%) • Taste (22%) • Alternative to cigarettes (16%) • Cost (2%) • To quit/reduce with intention to quit (7%) • Other (4%) <p>Reasons for e-cigarette use among non-tobacco users:</p>

			<ul style="list-style-type: none"> • Less harmful (54%) • Taste (24%) • Alternative to cigarettes (15%) • Cost (2%) • To quit/reduce with intention to quit (N/A) • Other (5%)
Harrington, 2014	A convenience sample of patients admitted for an overnight stay in an urban academic hospital in the Southeast U.S. were recruited and interviewed. Cross-sectional data were collected.	N = 291 ever e-cigarette users	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> • Help quit smoking (62%) • Use in areas where cigarette use prohibited (26%) • Less harmful than other tobacco long term (12%)
Hooper, 2016	A convenience sample was recruited throughout Florida by internet and community outreach in churches and healthcare settings. Telephone surveys were administered and responses were given as ratings. The higher the rating, more significant reason for using e-cigarettes.	N = 177 ever-users of e-cigarettes	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Smoking cessation (M=7.9) • Nicotine withdrawal (M=4.3) • Harm reduction (M=7.7) • Cost (M=4.1) • Circumvent bans (M=7.5)

Jiang, 2016	A random sample of Chinese adults was recruited using data from the Hong Kong Tobacco Control Policy-related Survey. Surveys were administered via computer-assisted telephone interviews.	N = 41 ever users of e-cigarettes	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> • Saw friends using and wanted to try (41%) • Looks cool (25%) • Help quit smoking (13%) • Novelty (9%) • Curiosity (6%) • Convenient (3%) • Less harmful than cigarettes (2%) • Does not bother others as much (2%)
Kalkhoran, 2017	A convenience sample was recruited from current smokers enrolled in a smoking cessation program through primary care clinics in San Francisco, California.	N = 380 never e-cigarettes users, N = 253 former e-cigarettes users, N = 154 current e-cigarette users	<p>Reasons for potential future e-cigarette use:</p> <ul style="list-style-type: none"> • To quit tobacco (42%) • To cut down on tobacco (48%) • Less harmful than cigarettes (36%) • Curious (36%) • Able to use where cigarettes not allowed (34%) • Cheaper (24%) • Don't smell bad (34%) <p>Reasons for ever e-cigarette use (former users):</p> <ul style="list-style-type: none"> • To quit tobacco (64%) • To cut down on tobacco (68%) • Less harmful than cigarettes (56%) • Curious (58%) • Able to use where cigarettes not allowed (44%) • Cheaper (30%) • Don't smell bad (54%) <p>Reasons for ever e-cigarette use (current users):</p> <ul style="list-style-type: none"> • To quit tobacco (70%) • To cut down on tobacco (76%) • Less harmful than cigarettes (68%) • Curious (63%)

			<ul style="list-style-type: none"> • Able to use where cigarettes not allowed (66%) • Cheaper (48%) • Don't smell bad (64%)
Kenne, 2017	A convenience sample of students at a large Midwestern university was recruited by sending out an email link to a cross sectional survey.	N = 1236 users with no other substances used in e-cigarettes	<p>Reasons for e-cigarette use (no other substances):</p> <ul style="list-style-type: none"> • Experimentation (31%) • Friends use (20%) • Safer than cigarettes (18%) • Able to use where cigarettes not allowed (7%) • Other (6%) • Stop smoking cigarettes (6%) • Trendy (5%) • Enjoyable (3%) • Other tobacco cessation (0.9%) • Cheaper (0.7%)
Kinnunen, 2017	A nationally representative sample was recruited in conjuncture with The Population Register Centre in Helsinki, Finland by selecting adolescents born on certain dates. Self-administered surveys were completed.	N = 1661 ever e-cigarette users	<p>Reasons for e-cigarette experimentation:</p> <ul style="list-style-type: none"> • Try something new (61%) • Quit smoking (12%) • Friends use them (23%) • Other (15%)
Kinouani, 2017	A convenience sample of French-speaking university students was recruited via email or through campus recruitment. Questionnaires were completed online following a baseline survey.	N = 1086 students who had ever tried an e-cigarette	<p>Reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (77%) • Someone offered (63%) • Flavor (24%) • To try or to completely stop smoking (11%) • Decrease smoking (8%) • Less harmful than tobacco (8%) • Can use where cigarettes not allowed (7%)

			<ul style="list-style-type: none"> • Cheaper than cigarettes (7%)
Kong, 2015	A convenience sample of participants were recruited across middle school, high school, and college campuses in Connecticut and surveyed.	N = 1157 ever e-cigarette users (regardless of smoking status or age)	<p>Reasons for e-cigarette experimentation:</p> <ul style="list-style-type: none"> • Curiosity (54%) • Flavors (43%) • Friends' influence (31%) • Other—primarily included doing smoke tricks (4%)
Krishnan-Sarin, 2017	A convenience sample of students was recruited in eight Connecticut high schools and surveys were administered during homeroom periods.	N = 282 ever e-cigarette users	<p>Reasons for “dripping” among ever e-cigarettes users:</p> <ul style="list-style-type: none"> • Thick clouds of vapor (63%) • Tasty flavors (38%) • Hits throat better than cigarettes (27%) • Curiosity (21%) • Other (7%)
Lee, 2017	A nationally representative sample of Korean middle and high school students was recruited and completed the cross-sectional Korean Youth Risk Behavior Web-Based Survey (KYRBWS).	N = 6656 ever e-cigarette using students	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Less harmful than cigarettes (18%) • To quit smoking (13%) • To use indoors (10%) • Easy to obtain (1%) • Taste better than cigarettes (9%) • Have good flavors (9%) • Do not smell like cigarettes (7%) • Curiosity (22%) • Other (6%)
Lehmann, 2017	A convenience sample was recruited via links to the survey on online information websites, e-cigarette forums, and flyers in retailers. The sample completed standardized online surveys.	N = 2986 ex-smokers who use e-cigarettes daily or non-daily, N = 249 dual users who use e-cigarettes daily or non-	<p>Motives of starting to vape (ex-smokers):</p> <ul style="list-style-type: none"> • Alternative to smoking (42%) • To stop smoking tobacco (64%) • Reduce cigarettes (21%) • Reduce nicotine (19%) • Quit nicotine (3%) • Take in nicotine without smoking (31%)

		daily	<ul style="list-style-type: none"> • Assume health would improve (67%) • Feel healthier (0%) • Clothes/home/room doesn't smell like cigarettes (0%) • Cheaper (45%) • Can use almost everywhere (21%) • Not harming others with secondhand smoke (35%) • Curiosity (24%) • Smells/tastes good (29%) • Fun (19%) • Enjoy ritual (14%) • Didn't want to give up smoking ritual (27%) • Friends/family/coworkers vaped (12%) • To vape with others (10%) • Hobby (5%) <p>Motives of current vaping (ex-smokers):</p> <ul style="list-style-type: none"> • Alternative to smoking (40%) • To stop smoking tobacco (0%) • Reduce cigarettes (0%) • Reduce nicotine (29%) • Quit nicotine (5%) • Take in nicotine without smoking (41%) • Assume health would improve (0%) • Feel healthier (83%) • Clothes/home/room doesn't smell like cigarettes 69%) • Cheaper (47%) • Can use almost everywhere (28%) • Not harming others with secondhand smoke (43%) • Curiosity (1%) • Smells/tastes good (57%) • Fun (49%)
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			<ul style="list-style-type: none"> • Enjoy ritual (45%) • Didn't want to give up smoking ritual (19%) • Friends/family/coworkers vaped (9%) • To vape with others (10%) • Hobby (47%) <p>Motives of starting to vape (dual users):</p> <ul style="list-style-type: none"> • Alternative to smoking (56%) • To stop smoking tobacco (51%) • Reduce cigarettes (55%) • Reduce nicotine (14%) • Quit nicotine (2%) • Take in nicotine without smoking (31%) • Assume health would improve (54%) • Feel healthier (0%) • Clothes/home/room doesn't smell like cigarettes (0%) • Cheaper (47%) • Can use almost everywhere (36%) • Not harming others with secondhand smoke (33%) • Curiosity (27%) • Smells/tastes good (33%) • Fun (20%) • Enjoy ritual (11%) • Didn't want to give up smoking ritual (22%) • Friends/family/coworkers vaped (13%) • To vape with others (6%) • Hobby (0%) <p>Motives of current vaping (dual users):</p> <ul style="list-style-type: none"> • Alternative to smoking (57%) • To stop smoking tobacco (56%) • Reduce cigarettes (58%)
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			<ul style="list-style-type: none"> • Reduce nicotine (20%) • Quit nicotine (4%) • Take in nicotine without smoking (30%) • Assume health would improve (0%) • Feel healthier (64%) • Clothes/home/room doesn't smell like cigarettes (61%) • Cheaper (51%) • Can use almost everywhere (39%) • Not harming others with secondhand smoke (36%) • Curiosity (2%) • Smells/tastes good (52%) • Fun (40%) • Enjoy ritual (15%) • Didn't want to give up smoking ritual (19%) • Friends/family/coworkers vaped (11%) • To vape with others (10%) • Hobby (30%)
Li, 2015	A random sample of participants were recruited from New Zealanders, Maori, and Pacific peoples. The sample completed The Health and Lifestyles Survey (HLS).	N = 351 ever e-cigarette users	<p>Reasons for first trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (57%) • Quit smoking (31%) • Replace cigarettes some of the time (8%) • Recommended to them (3%) • Safer than cigarettes (2%) • Able to smoke where cigarettes not allowed (2%) • Cheaper than cigarettes (1%) • Other (2%)

Mark, 2015	A convenience sample of pregnant women was recruited at a University of Maryland outpatient clinic and were then surveyed.	N = 42 ever e-cigarette users	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • Not as bad for health as cigarettes (74%) • Taste good (54%) • Cut down on cigarettes (72%) • Can smoke where cigarettes not allowed (55%) • Help quit smoking (73%)
McGrath, 2016	A convenience sample of US residents who have gambled in the last 12 months were recruited using a crowdsourcing platform (MTurk) and surveyed.	N = 66 e-cigarette users while gambling	Reasons for e-cigarette use while gambling: <ul style="list-style-type: none"> • Stress relief (19%) • Nicotine dependence (18%) • Legal to use in casino where cigarettes are not allowed (15%) • Health and sensory features (12%) • Quit smoking (10%) • Enjoyment (10%) • Helps focus (4%) • Other (9%)
Mendy, 2017	A random sample was recruited using the 2015 Mississippi Behavioral Risk Factors Surveillance System data and surveyed.	N = 6,035 ever users of e-cigarettes	Reasons for trying or using e-cigarettes: <ul style="list-style-type: none"> • To attempt to quit smoking (52%) • For pleasure (4%) • Went to places where cigarettes not allowed (1%) • Just tried it a few times (35%) • Other (5%)
Morean, 2018	A convenience sample of participants with and without reported eating disorders was recruited using Qualtrics Online	N = 433 never eating disorder individuals, N = 178 current eating disorder	Motives for e-cigarette use (never eating disorder): <ul style="list-style-type: none"> • Lose weight (10%) • Sweet flavors (42%) • Hide from others (15%) • Undetectable indoors (43%)

	Research Panels and email and were surveyed.	individuals	<ul style="list-style-type: none"> • Healthier than smoking (43%) • Cheap (31%) Motives for e-cigarette use (current eating disorder): <ul style="list-style-type: none"> • Lose weight (32%) • Sweet flavors (56%) • Hide from others (34%) • Undetectable indoors (55%) • Healthier than smoking (50%) • Cheap (34%)
Oncken, 2017	A convenience sample of pregnant and recently pregnant women who smoke were recruited in prenatal clinics and private practitioners in Connecticut.	N = 14 e-cigarette using pregnant women	Reasons for e-cigarette use: <ul style="list-style-type: none"> • To quit smoking (57%) • To reduce smoking (36%) • Curiosity (36%) • Availability (21%) • Health benefits (7%)
Patel, 2016	A nationally representative sample of U.S. adults was recruited by probability-based address selection via the U.S. Postal Services Delivery Sequence File. The sample completed surveys online administered by GfK Custom Research.	N = 2442 current e-cigarette users	Reasons for using e-cigarettes: <ul style="list-style-type: none"> • Cessation/improve health (84%) • Considerate of others around them (71%) • Convenient (56%) • Curiosity (45%) • Flavors (34%) • Cost (34%) • Feels similar to using cigarettes (27%)
Patrick, 2016	A nationally representative sample of 8th, 10th, and 12th graders in the U.S. was recruited and surveyed as	N = 4066 e-cig using students	Reasons for vaporizer use: <ul style="list-style-type: none"> • To experiment (53%) • Tastes good (37%) • Bored (23%)

	part of the Monitoring the Future study at the University of Michigan.		<ul style="list-style-type: none"> • Enjoy with friends (22%) • Relaxation (21%) • Looks cool (13%) • Get high (8%) • Help quit cigarettes (7%) • Able to use where cigarettes not permitted (6%) • Addicted (1%)
Pepper, 2014	A nationally US representative sample was recruited using address-based sampling and random digit-dialing from a previous study (Tobacco Control in a Rapidly Changing Media Environment) as well as through online ads.	N = 3878 adults who have ever tried e-cigarettes	<p>Reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (53%) • Influenced by family/friends (34%) • Quit/cut back on cigarettes (30%) • Less harmful than cigarettes (29%) • Able to use where smoking cigarettes not allowed (26%) • Less harmful to those around them (23%) • Don't smell bad (22%) • Don't disturb others (21%) • Suppresses cravings (20%) • Feels like smoking cigarettes (13%) • Cheap (9%) • Good flavors (8%) • Don't know (5%) • Enjoy the advertisements (5%) • Price promotions/samples given (0.4%)

Peters, 2015	A convenience sample was recruited from three locations of a substance use treatment program in Baltimore County, Maryland. The sample was recruited by staff at the clinic and completed surveys at the time of treatment.	N = 144 ever users of e-cigarettes	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Quit/cut down on smoking (49%) • Able to use where cigarettes not allowed (21%) • Curiosity (32%) • Substitute for marijuana, health, money, pregnancy (<1%)
Piñeiro, 2016	A convenience sample was recruited through advertisements in local press (TV, newspaper, online) and then surveyed.	N = 1815 e-cigarette users	<p>Reasons for initiating e-cigarette use:</p> <p>Men:</p> <ul style="list-style-type: none"> • Help quit smoking cigarettes (86%) • Health (77%) • Curiosity (36%) • Recommended by family or friends (26%) <p>Women</p> <ul style="list-style-type: none"> • Help quit smoking cigarettes (81%) • Health (70%) • Curiosity (27%) • Recommended by family or friends (37%) <p>Reasons for continuing e-cigarette use:</p> <p>Men:</p> <ul style="list-style-type: none"> • Cut down on cigarettes (18%) • Health concerns (69%) • Taste good (75%) • Control mood and de-stress (40%) <p>Women:</p> <ul style="list-style-type: none"> • Cut down on cigarettes (12%) • Health concerns (63%) • Taste good (67%)

			<ul style="list-style-type: none"> Control mood and de-stress (46%)
Pulvers, 2017	A nationally representative random sample of current e-cigarette users was recruited from GfK's Knowledge Panel and completed online surveys.	N = 860 total users of exclusively open and closed e-cigarette systems	<p>Consumer reasons for using e-cigarettes:</p> <ul style="list-style-type: none"> Quit smoking (46%) Healthier (23%) Able to use where cigarettes not allowed (15%) Taste (5%) Cheaper (3%) Other (4%) Hang out (1%) Control weight (1%) Looks good (0%)
Rass, 2015	A convenience sample across the U.S. was recruited using the crowdsourcing website Amazon Mechanical Turk (MTurk) and were surveyed online by Qualtrics.	N = 350 dual e-cigarette and tobacco users	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> Less harmful than cigarettes (64%) Cut down on smoking to prepare to quit (40%) Able to smoke where cigarettes not allowed (45%) To quit smoking/avoid relapse (34%) Satisfy cravings (57%) Less harmful for those around (52%) Able to take less puffs (45%) Breathe easier (30%) Can use indoors (43%) Cheaper than cigarettes (27%) Prefer taste (22%) Cut down on cigarettes but not to quit (12%) Other (smell/stress) (3%)

			<ul style="list-style-type: none"> • Helps concentration (8%) • Avoid nicotine withdrawal (35%) • Can't stop (1%)
Richardson, 2014	A representative sample was recruited from a cohort of smokers and ex-smokers across 8 U.S. market areas and completed computer-assisted telephone interviews.	N = 226 e-cigarette users (smokers and former smokers included)	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> • Able to use where cigarettes not allowed (38%) • Cut down on cigarettes (35%) • Help quit cigarettes (45%) • Other (27%)
Rutten, 2015	A nationally representative random sample of U.S. adults was developed from GfK's Knowledge Panel and surveyed.	N = 579 e-cigarette users	<p>Reasons for e-cigarette use by smoking reduction behaviors:</p> <ul style="list-style-type: none"> • Better for health (51%) • Try to quit smoking (58%) • Cut down on smoking (57%) • Good flavors (14%) • Not as strong as cigarettes (15%) • Can't stop using (7%) • Curiosity (16%) • Relieve stress (11%) • Cheaper than cigarettes (24%) • Can use indoors (46%) • Less harmful to people around them (32%)
Saddleson, 2016	A convenience sample of undergraduates was recruited in health behavior and psychology courses at four New York State universities and completed web surveys.	N = 429 discontinued, current non-daily, and daily e-cigarette users	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Enjoy it (57%) • Not bothering others (20%) • Reduce tobacco consumption (18%) • Quit smoking/avoid relapse (14%) • Satisfy craving (13%) • Healthier than cigarettes (46%) • Don't smell like cigarettes (39%) • Cheaper than cigarettes (24%)

Schmidt, 2014	Montanans were recruited via random-digit dialing and completed the Adult Tobacco Survey conducted by the Montana Department of Public Health and Human Services.	N = 567 ever-users of e-cigarettes	<p>Reasons for trying e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (64%) • Quit/reduce cigarette use (56%) • Less harmful than cigarettes (52%) • Less disturbing for others around them (43%) • Able to smoke where cigarettes not allowed (27%) • Taste good (23%) • Cheap (22%) • Other (21%)
Seto, 2016	A random sample of Hawaii residents was recruited by SMS Research Inc. via telephone and were surveyed.	N = 937 adult e-cigarette ever users	<p>Reasons for starting e-cigarettes: Results only from largest age group (ages 35-54 and 55-64) were included for brevity.</p> <p>35-54</p> <ul style="list-style-type: none"> • Quit cigarettes (55%) • Cut down on cigarettes (2%) • More acceptable (6%) • Less harmful for family (1%) • Influenced by friends (3%) • Pleasurable (21%) <p>55-64</p> <ul style="list-style-type: none"> • Quit cigarettes (46%) • Cut down on cigarettes (22%) • More acceptable (0%) • Less harmful for family (0%) • Influenced by friends (19%) • Pleasurable (11%)
Shiplo, 2015	A convenience sample of Canadians was recruited using a panel from the Global Market Insite, Inc.	N = 304 ever-users of e-cigarettes	<p>Reasons for e-cigarette ever-use (data consolidated from 3 age groups):</p> <ul style="list-style-type: none"> • Curiosity (37%) • Offered to use (34%)

	The sample completed online surveys delivered by a link in an email.		<ul style="list-style-type: none"> • Good flavors (14%) • Fun (12%) • Less harmful than cigarettes (21%) • Help quit cigarettes (35%) • Able to use where cigarettes not allowed (13%) • Other (3%) • Don't know (1%)
Simonavicius, 2017	A population-based sample was recruited from a previous national survey in Great Britain. Only participants who had ever tried e-cigarettes and are smokers were included in the sample and were surveyed.	N = 433 smokers who have tried e-cigarettes in the past, N = 231 smokers who have used e-cigarettes in the past, N = 289 current dual users	<p>Reasons for e-cigarette use (tried in the past):</p> <ul style="list-style-type: none"> • Just wanted to try (50%) • Stop smoking (18%) • Reduce smoking (18%) • Avoid relapse of smoking (19%) • Save money (14%) • Able to use where cigarettes not allowed (10%) • Addicted to smoking (7%) • To not expose other second hand smoke (3%) • Other (<1%) <p>Reasons for e-cig use (used in the past):</p> <ul style="list-style-type: none"> • To try (20%) • Stop smoking (36%) • Reduce smoking (24%) • Avoid relapse of smoking (29%) • Save money (23%) • Able to use where cigarettes not allowed (13%) • Addicted to smoking (13%) • To not expose other second hand smoke (7%) • Other (<1%) <p>Reasons for e-cig use (current dual users):</p> <ul style="list-style-type: none"> • To try (14%) • Stop smoking (37%)

			<ul style="list-style-type: none"> • Reduce smoking (45%) • Avoid relapse of smoking (29%) • Save money (33%) • Able to use where cigarettes not allowed (26%) • Addicted to smoking 22%) • To not expose other second hand smoke (17%) • Other (<1%)
Stein, 2015	A convenience sample was recruited in a non-profit treatment center for methadone and buprenorphine in Massachusetts and completed 10-minute questionnaires.	N = 227 ever e-cigarette using methadone and buprenorphine users	<p>Reasons for last e-cigarette use:</p> <ul style="list-style-type: none"> • To quit nicotine completely (26%) • Replacing cigarettes (11%) • Cut down on cigarettes (10%) • Able to use where cigarettes not allowed (6%) • Use alongside cigarettes (3%) • Curiosity (41%) • Other (0.9%)
Suris, 2015	A random sample of students from 35 schools in French-speaking Switzerland and completed online surveys in school or at home from a link sent in emails.	N = 148 e-cigarette using students, 120 e-cigarette experimenting students	<p>Reasons to have used e-cigarettes (users):</p> <ul style="list-style-type: none"> • Curiosity (76%) • Able to use where cigarettes not allowed (14%) • Reduce smoking (10%) • Fit in with friends (5%) • Quit smoking (0%) • Other (3%) <p>Reasons to have used e-cigs (experimenters):</p> <ul style="list-style-type: none"> • Curiosity (93%) • Able to use where cigarettes not allowed (3%) • Reduce smoking (3%) • Fit in with friends (5%) • Quit smoking (0%) • Other (3%)
Temple, 2017	A convenience sample was	N = 184 young	Reasons for use:

	<p>recruited from a previous longitudinal study. The sample was originally chosen from 7 high schools in southeast Texas and only participants from the final wave of the previous study were included in this survey. The sample completed longitudinal surveys.</p>	<p>adults who have used e-cigarettes in the past year</p>	<ul style="list-style-type: none"> • Taste better than cigarettes (55%) • Able to use where cigarettes not allowed (36%) • Doesn't smell (31%) • Cut down on cigarettes (23%) • Quit smoking completely (23%) • Cheap (18%) • Less second hand smoke (17%)
<p>Tucker, 2014</p>	<p>A randomly selected sample was recruited from heavily homeless populated areas of Los Angeles County (Hollywood and the Westside) and were interviewed.</p>	<p>N = 83 homeless youth between the ages of 13 and 25 who smoke and have tried e-cigarettes</p>	<p>I use/used the electronic cigarette... (% said statement is "very true" of them):</p> <ul style="list-style-type: none"> • Able be able to stay indoors (38%) • To deal with situations and places where not allowed to smoke cigarettes (36%) • To not bother others (31%) • Enjoyable (29%) • Cope with stress (28%) • Satisfy craving for tobacco (27%) • Less toxic than cigarettes (26%) • To replace cigarettes (24%) • Cheaper than cigarettes (21%) • Replace cigarettes but sustain nicotine intake (21%) • Reduce tobacco consumption with no intent to quit completely (19%) • Reduce tobacco consumption with intent to quit completely (18%) • Does not smell bad (18%) • To quit smoking/avoid relapse (17%) • To help withdrawal (16%)

			<ul style="list-style-type: none"> • Gradual decrease to 0mg of nicotine (14%) • Weight control (11%) • Addicted (8%)
Vickerman, 2013	A convenience sample was recruited from 6 state registered tobacco cessation service quitlines and completed surveys over the phone 7 months after initial contact.	N = 741 ever users of e-cigarettes	<p>Reasons for using e-cigarettes:</p> <ul style="list-style-type: none"> • Quit tobacco (51%) • Replaced other tobacco methods (15%) • Cut down on other tobacco (7%) • Able to use where cigarettes not allowed (5%) • Use along other tobacco methods (2%) • Curiosity (9%) • Behavioral substitute (6%) • Satisfy cravings/stress (5%) • Less harmful to health (4%) • Recommended by family or friends (3%) • Cheap (1%) • Use instead of medication (1%)
Villanti, 2017	A nationally-representative random sample of U.S. youth and adults was recruited using probability-based sampling of GFK's KnowledgePanel members. Surveys were completed via computer-assisted self-interviews in English and Spanish.	N = 292 smokers who have ever used e-cigarettes	<p>Reasons for using e-cigarettes:</p> <ul style="list-style-type: none"> • Curiosity (76%) • Less harmful than cigarettes (77%) • Cut down on cigarettes (72%) • Quit cigarettes completely (64%) • Able to use where cigarettes are not allowed (66%) • Cheaper than cigarettes (58%) • Avoid disturbing others around (58%) • Recommended to them (61%) • Other (9%)
White, 2015	A national sample was recruited in New Zealand via a two-stage cluster sample selected by The	N = 625 ever users of e-cigarettes in 2014	<ul style="list-style-type: none"> • Curiosity (64%) • Recommended by others (24%) • Quit smoking (16%) • Cut down on smoking (18%)

	Youth Insights Survey. Surveys were self-completed on paper biannually in 2012 and 2014.		<ul style="list-style-type: none"> • Use where smoking is not allowed (16%)
Wong, 2016	A convenience sample was recruited in e-cigarette retail shops in Selangor and Kuala Lumpur in Malaysia and completed self-administered questionnaires.	N = 429 e-cigarette users	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Vapor not as polluting/intrusive on others (88.7%) • Help quit cigarettes (88%) • Less harmful/healthier than cigarettes (84%) • Able to use where cigarettes not allowed (74%) • Popular (72%) • Cheaper than cigarettes (66%) • Trendy (62%) • Replicates feeling of smoking (35%) • No age limits (17%)

Table 2. Reasons for initiation and use of electronic cigarettes for qualitative studies

First author, year	Methods	Participants	Findings
Barbeau, 2013	A convenience sample of adults were recruited by advertisement on two online e-cigarette forums, http://www.e-cigarette-forum.com/forum/ and www.vapersclub.com . Focus groups were held in Boston.	N = 11 e-cigarette users	Reasons why e-cigarettes are efficacious in helping tobacco users quit smoking: <ul style="list-style-type: none"> • Bio-behavioral feedback- throat hits, replaces/replicates action of smoking a cigarette • Social benefits- support community, more conversation centered around e-cigarettes than other cessation methods like the patch • Hobby- different bases/juices, flavors, devices, collection • Personal identity- it becomes who one is, doesn't smoke like cigarettes, refers to selves as "vapers" • Smoking cessation does not equal nicotine cessation- started using to quit smoking, but doesn't see wrong in vaping, not in a hurry to go nicotine free
Cheney, 2016	A convenience sample of young adults under age 30 was recruited around a community using flyers and website advertisements. Participants were given semi-structured interviews of 30 questions regarding e-cigarette and traditional tobacco use.	N = 30 straight-to-work young adults who currently use e-cigarettes	Reasons for e-cigarette use: <ul style="list-style-type: none"> • Kept them from smoking cigarettes • Cope with stress • Experiencing the vapor and hand-to-mouth motion • Use as entertainment • Asthmatic lungs felt better when they use e-cigarettes instead of cigarettes • Helped in professional life because less odor, less damage to lungs in case of singers • Social benefit in talking about different flavors • Encouraged by parents to help stop smoking • More socially acceptable than smoking cigarettes

Hammett, 2017	A convenience sample was recruited online via links from WebMD and e-cigarette forum websites. Online surveys were completed in which participants could type as little or as much in response to questions as they needed.	N = 67 never cigarettes smokers	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • E-cigarettes not as harmful as cigarettes • Fit into family smoking culture • Relaxation • Prevent use of cigarettes • Personal expression, hobby with design choices • Dietary aid • Use instead of cigarettes • Cut down on cigarettes
Kim, 2017	A sample was recruited by theoretical sampling methods via Gallup Korea. Focus group interviews were given.	N = 15 e-cigarettes using adolescent and adults	<p>Reasons for using e-cigarettes:</p> <ul style="list-style-type: none"> • To supplement cigarettes when using indoors • Quit smoking • To use at work • To use in short time slots like waiting for the bus • Cheaper than cigarettes • Less harmful than cigarettes • Smells okay • Good flavors
Kong, 2015	A convenience sample was recruited across middle school, high school, and college campuses in Connecticut and completed focus group interviews.	N = 127 ever e-cigarette users	<p>Reasons for e-cigarette experimentation:</p> <ul style="list-style-type: none"> • Influence of peers and family use • Look cool • Curiosity • Readily available • Flavors • Healthier than cigarettes • Cheaper than cigarettes • Smells better than cigarettes • Convenience • Can use where cigarettes are not permitted

Majeed, 2016	A convenience sample was recruited in Atlanta, GA. from Focus Pointe Global's database of panel participants and completed focus group interviews.	N = 14 current smokers who have used e-cigarettes	<p>Reasons for e-cigarette experimentation:</p> <ul style="list-style-type: none"> • Curiosity • Craving for nicotine • Coolness • Convenience of smoking indoors • Persuasion to try something new and healthier than cigarettes <p>Reasons for regular use of e-cigarettes:</p> <ul style="list-style-type: none"> • Coolness • Reduce harm • Convenient • Alluring sensory experience
McKeganey, 2018	A convenience sample of interviewees were recruited across Northern England and Scotland at universities, leisure settings, and work places. The sample was given semi-structured interviews by a team of 6 interviewers.	N = 50 e-cigarette users	<p>Initiating e-cigarette use:</p> <ul style="list-style-type: none"> • Offered by friends • Curiosity • See what the rave was about • Perceived to be healthier than traditional cigarettes <p>Continuing e-cigarette use:</p> <ul style="list-style-type: none"> • Element of fun • Good flavors • Smells nice • Lack of cigarette offensive smell • Range of settings • Reduced stigma from cigarette smoking • Smoke tricks • Able to use indoors
Nayak, 2016	A convenience sample of vape shop operators were recruited across FL, GA, NC, and SC via Google search methods and completed	N = 20 male shop operators	<p>Benefits of using ENDS:</p> <ul style="list-style-type: none"> • Health- better breathing ability, smoke less cigarettes, better than cigarettes, food tastes better, ability to smell improved

	semi-structured telephone interviews.		<ul style="list-style-type: none"> • Cessation- cut back on smoking, quit smoking, same satisfaction, mouth to hand movements replicated • Less harmful than cigarettes- nicotine not as harmful as “tar and stuff” as cigarettes, cutting out combustion • Cosmetic- no lingering smell, no teeth discoloration
Pokhrel, 2015	A convenience sample of young adults was recruited on college campuses in Hawaii, mainly Oahu, via print media and participated in focus groups.	N = 62 current daily e-cigarette users	<p>Contexts for e-cigarette use:</p> <ul style="list-style-type: none"> • Routine- before or after workout, at workplace (able to use indoors) • Certain locations- home/indoors, alone, driving, use when no time to shower odor off (from cigarettes) afterwards • In place of tobacco- when cigarette, hookah not available or to use where these are not allowed
Simmons, 2016	A convenience sample was recruited from a previous nationwide survey. The sample was originally recruited via local press, social media, and online e-cigarette forums and a small amount of participants then participated in focus groups.	N = 31 e-cigarette users	<p>Reasons for use of e-cigarettes:</p> <ul style="list-style-type: none"> • Quit smoking cigarettes • Health improved since starting • Able to experiment with voltage, batteries, and liquids • Good taste • Better hit than cigarettes • Able to use where cigarettes not allowed • Reduce craving
Soule, 2016	A convenience sample of adults users was recruited at national and regional e-cig user conferences and via posted advertisements for the study. Brainstorming, sorting, and rating were used to survey and a point map	N = 108 e-cigarette using adults	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Positive social impacts/Used to network with others- not the same stigma as cigarette use, able to use where cigarettes are not allowed • Conscientiousness-not supporting tobacco industry, environmentally friendly, leader for others, being a role model

	and cluster map were created from the responses during the interviews.		<ul style="list-style-type: none"> • Convenient- can use where cigarettes prohibited, able to use when rainy and windy, no need for lighters • Perceived Agency- variety of flavors, able to control nicotine levels, cathartic, novelty smoking technique, boredom, curiosity • Used as a hobby- varying amounts of chemicals used, buy accessories, rebuilding “mods and atomizers” • Pleasurable effects- satisfies hand-to-mouth actions, tastes better than cigarettes, constant in life, hits throat • Therapeutic- relieve stress, relaxing, clears mind, pick me up • Cessation- curb cravings, reduce number of cigarettes smoked, take control of addiction, taper down doses of nicotine, perception of knowing what chemicals are in e-cigs • Private regard- living longer for family, won’t expose others to harmful effects • Unanticipated benefits- regain sense of smell and taste, does not stain teeth, energizing, suppresses cravings for sweets • Perceived health benefits- reduce damage of lungs, alleviate coughing reduce getting sick, live healthier lifestyle
Wadsworth, 2016	A convenience sample was recruited via Gumtree, mail, word of mouth, and posters in newsagents and completed semi-structured interviews	N = 30 current and ex-smokers who have used e-cigarettes	<p>Reasons for e-cigarette use:</p> <ul style="list-style-type: none"> • Recommended by family and friends • Able to vape where cigarettes not allowed • Cheaper than cigarettes • Reduce/quit smoking

			<ul style="list-style-type: none">• Curiosity• Believed to be less harmful
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