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**Analyzing the Social Aspect of E-Cigarette Prevention with College-Aged Consumers**

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Departmental Honors Thesis  
The University of Tennessee at Chattanooga  
Marketing, Gary W. Rollins College of Business

Examination Date: February 26, 2021

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## DEDICATION

This study is dedicated to the many roots of inspiration in my life. To my amazing parents, Andy and Ami Wilson, who inspired my love of books by reading to me every night and told me “Go show them how smart you are!” every morning before school. To my younger brother, David, whose thoughtfulness, attention to detail, and witty remarks are a breath of fresh air...most of the time. To my incredible family, especially Papa, Nonna, and JenJen, who inspired my love for adventures and Jesus Christ. To Chris Sheets, who has been the best listening ear, constant supporter, and always reminded me that no matter how stressed I am, the sun will always come up in the morning and everything will be okay. To my marvelous friends who encouraged me to truly be present in the moment, whether listening to Taylor Swift as a study break, taking a walk, or getting \$1 tacos multiple days a week.

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And to the one reading this thesis, thank you for supporting our dedication and hard work that spanned over many diligent months of researching and writing. Best of luck on your research endeavors!

**TABLE OF CONTENTS**

Dedication Page.....1

Table of Contents.....2

Abstract.....3

Introduction.....4

Literature Review.....6

Methodology.....13

    Figure 1: Facebook Announcement.....13

    Table 1: Demographics of Participants.....14

Results.....15

Discussion.....29

References.....34

Appendix A: The Preventive Ad Stimuli..... 40

Appendix B: The Interview Guide.....43

Appendix C: Additional Quotes Supporting the Themes.....45

## ABSTRACT

This research investigated how social aspects influence college-aged e-cigarette users' decision to use or quit using these devices. We conducted interviews of 10 young adult e-cigarette users and past users to explore three main topics: their experience with e-cigarettes, their evaluation of selected picture and narrative-based advertisements, and preventative phrasing they would suggest for future advertisements. We identified that social influence on young adults' e-cigarette consumption/cessation revolved around three primary themes: availability of the device, peer pressure, and change of perspective. More importantly, we discovered that the effect of these themes would differ, and the source of the social influence would differ in different stages of a young adult's journey with e-cigarettes (initiation, continuation, and cessation). Finally, we also identified young adults' preferences for message and presentation format of e-cigarette preventive campaigns. This research offered insights into understanding social factors' role in young adults' cigarette consumption/cessation and provided implications for practitioners to create e-cigarette preventative campaigns for this age group.

## INTRODUCTION

Electronic cigarettes (also known as e-cigarettes, vapes, and Juul) are devices powered by batteries or a USB to deliver nicotine or vapor in the form of an aerosol (Utah Department of Health, 2016). Introduced as a smoking cessation device, e-cigarettes were initially intended to be used by people with nicotine dependence (Kits, 2019). However, this well-intended invention has transformed into what scholars consider an epidemic among the younger generation (Besaratina & Tommasi, 2020). Young people who have never used tobacco cigarettes are using e-cigarettes (Utah Department of Health, 2016). This specifically impacts one age group dramatically: young adults (i.e., traditional college students; we use these two terms to indicate 18-to-25-year-olds in this research). Previous research indicates there is a high level of social acceptability for e-cigarette use by college students (Trumbo, 2015). Among ages 18 to 24, e-cigarette usage has increased by 46.2% from 2017 to 2019 (Dai & Leventhal, 2019). This drastic increase in consumption among the younger generation indicates a necessity for analysis—why are they are doing this, and how can we help prevent them from doing it?

The United States Food and Drug Administration (FDA) recognizes the e-cigarette epidemic by enacting strict regulations on e-cigarette dissemination. In December 2019, the legal age to purchase tobacco was increased from 18 to 21 years old, an order that included e-cigarettes and vaping devices (Center for Tobacco Products, 2020)). In an attempt to make e-cigarettes less appealing to younger consumers, the FDA issued a policy in January 2020 only allowing manufacturing and distributing cartridges of methanol or tobacco flavors (Food and Drug Administration, 2020). Along with tobacco products, the FDA has also tightened the regulations on manufacturing, distributing, and promoting e-cigarettes (Center for Tobacco Products, 2020).

However, as much as the FDA can regulate how e-cigarette companies sell and promote their products, more attention could be put on the consumers' side to understand what consumers think about vaping behavior and how to convince them to quit vaping, especially for the younger demographic. Previous research on e-cigarette advertisements' effectiveness focused heavily on the impact of e-cigarette advertising on youth's perception and consumption of e-cigarettes. In this stream of research, research subjects were mostly middle school to high school students, ranging from ages 12 to 17 (e.g., Roditis et al., 2020). The traditional college-aged consumer often was overlooked in the e-cigarette research. However, research has shown that college-age is often the period of time young adults have true freedom for the first time and are eager to have new experiences (Archive, 2019). This period is also when individuals foster the lifestyle they would like to pursue and form habits they continue to carry for the rest of their lives (Archive, 2019). Due to the long-lasting impact of habits formed at this age (i.e., 18-25), it is crucial to understand what affects this group to use e-cigarettes and how we could encourage them to stop using e-cigarettes.

Existing studies investigating e-cigarette preventative campaigns focus primarily on health concerns, analyzing advertising campaigns such as *The Real Cost*. Although these messages are critical to influencing young e-cigarette consumers, it is crucial to understand e-cigarettes' impact in more depth than simply the health risks. According to previous research, initiation of e-cigarette consumption is attractively influenced by three primary themes: benefits of e-cigarettes relative to traditional cigarettes, attractive product characteristics, and social advantages (Kong et al., 2016). Despite being listed as one of the primary impacts, social aspects have been understudied compared to other factors. In a very recent review, Amin et al. (2020) called for more research on social influence in e-cigarette prevention. Our research intends to fill

in this knowledge gap by studying *how social factors affect young adults' e-cigarette consumption and cessation*.

We used depth interviews to investigate this research question. We wanted to discover how young adults were introduced to e-cigarettes (initiation stage), what made them continue (continuation stage), and what made them stop (cessation stage; for past users and the ones that were considering quitting). We also sought to understand what preventative messages appeal to this group.

This research adds to the literature focused on e-cigarette consumption for young consumers and offers several practical implications. First, the findings shed light on what influences the e-cigarette consumption of the 18-to-25-year-old age group, which is not an age group that was getting sufficient attention in this line of research. Second, by exploring the social aspects of e-cigarette consumption, we offer insights into understanding a critical yet understudied factor in the e-cigarette context and open more possibilities for future research on social influence. Finally, our findings provide practical implications for policymakers and practitioners to consider social factors in making preventive or cessation e-cigarette campaigns.

## **LITERATURE REVIEW**

### **E-Cigarette Risk Factors and Preventive Messages**

In recent years, there has been a shift in e-cigarette research from advocating to enact advertisement regulations to exploring preventative messages (e.g., Latimer et al., 2012). To tackle the e-cigarette epidemic among the younger generation, researchers have been studying different ways to curb e-cigarette consumption. One area of interest is identifying the risks associated with e-cigarette that would concern its users. A prior study identified four primary

risks through in-depth interviews with middle school, high school, and college students: financial cost, health risks, addiction potential, and social image (Kong et al., 2016). Financial cost refers to the burden of spending a large amount of money to support e-cigarette addiction. Health risks cover the impact of nicotine intake on health and physical performance in daily activities, although the severity of long-term health risks is unknown. Addiction potential is the risk of being addicted to nicotine. Lastly, the social image refers to the risk of being perceived by peers as a tobacco user, which carries a negative connotation.

The majority of research examining the effect of utilizing risk factors as preventive messages has emphasized the health factor (often including addiction risk) (e.g., Roditis et al., 2020; Latimer et al., 2012). Most of the prior studies tested the effectiveness of the approach used in the government-led prevention campaigns, like The Real Cost and #Truth. The Real Cost social media campaign launched by the FDA was designed to educate the youth about the potential health risks associated with vaping, such as addiction potential and lung harm. The research found consistently that adolescents, 12-17 years old, respond well to this type of health risk-driven preventive campaigns (i.e., Roditis et al., 2020). For example, one study utilized the Social Cognitive Theory to motivate adolescents to resolve cognitive dissonance; this study found that adolescents would rather view cessation messages highlighting health consequences as well as loss-framed video advertisements (Latimer et al., 2012). With a closer examination of the persuasive message, research also showed that adolescents respond better when the health consequences were presented with a loss frame (e.g., you will develop unhealthy lungs if you vape) than with a gain frame (e.g., you will have healthy lungs if you do not vape) (Latimer et al., 2012). Also, this youth age group prefers the health message to be presented as direct facts

(e.g., facts about the actual harm and consequences) through an analysis of youth's options via focus groups (Roditis et al., 2020).

Compared to the attention given to the health factor, research on the social factor was relatively scant despite being repeatedly mentioned as one of the critical concerns by e-cigarette users. One of the reasons for this lack of scholarly work could be because, unlike the health risks, the impact of social factors on e-cigarette usage is not unidimensional. For instance, some research explored the social factor from the angle of a negative social image, indicating the social stigma of a tobacco user as a disadvantage of initiation of e-cigarette use (Case et al., 2016). This analysis leads to further research about a different segment of this audience. Some other research discussed the social factor from the angle of the positive social image, indicating that young people start vaping as a way to look cool (Michaels, 2016). To understand the complexity of the social factor on e-cigarette usage, we will review the different aspects of social factors discussed in the prior research.

### **Social Factors and E-Cigarette Usage**

In a recent review paper, Amin et al. (2019) examined 43 articles exploring the impact of social factors on e-cigarette intention and use. The social factors explored in these articles were not only about the social image but also about social interactions, social norms, advertisements, and other environmental influences. All of these factors fit into the broad definition of "social influence," an intentional or unintentional influence persuading or changing one's beliefs or actions to fit into a social group's norms (Mistry, 2019).

Among all social factors, the impact of social media and advertising has been the most researched (Amin et al., 2020). Part of the reason media influence fostered the e-cigarette

epidemic is that for young adults, the internet and social media have become an indicator of social norms (Gomez, 2017). Social networks paired with social media play a role in one's discovery of how others generally think about e-cigarettes (Amin et al., 2020). These expectations of social norms then shape individual's behavior, such as their decisions to consume or not to consume e-cigarettes (Smith & Foxcroft, 2009).

Information on social media has a significant influence on forming perceptions of e-cigarettes; potential users search sites like Reddit for additional information before adopting e-cigarettes into their lifestyle (Gowin et al., 2016; Wadsworth et al., 2016). A study using focus groups discovered that social media sites, such as Facebook, Twitter, and YouTube, made people believe that using e-cigarettes is a way to "fit in" and "look cool" (Hilton et al., 2016). This is further supported by research indicating that 75% of youth do not care about e-cigarette flavors, and they try them out of curiosity about the hype of the e-cigarette trend (Rich, 2020). Once individuals start vaping, e-cigarette users also reported using social media to post videos or pictures of themselves or their friends using the device so everyone could see it (Wagoner et al., 2016). Their content would then become another person's source of information on social media about e-cigarettes, and the process continues in a cycle (Wagoner et al., 2016).

Advertisements also have been shown to encourage the uptake of e-cigarettes (Gutierrez et al., 2015). Myriad types of persuasive messages have been distributed to promote vaping. Aside from the "look cool" appeal discussed earlier, other ads market the e-cigarette as a smoking cessation device rather than a product used without prior experience (de Andrade et al., 2016). Regardless of the message, evidence suggests that pro-vaping advertising was effective for both current users (i.e., increasing usage rate) and nonsmokers (i.e., increasing the likelihood to start using) (Amin et al., 2020). Also, a common theme for most of the ads was portraying e-

cigarette devices as safe to use, appealing, and targeted toward young people (Johnson et al., 2017).

Moreover, the effect of social image and peer influence is another social factor that has been examined in relation to e-cigarette behavior. Research suggests the reasoning behind using e-cigarettes has shifted from a desire to quit smoking to influence users' social image (Ayers et al., 2017). In addition, prior studies generally indicated the influence from close peers and significant others, their inner social group, can play a significant role in what decision people make about initiating e-cigarette consumption (e.g., Agarwal et al., 2018). Particularly, youth's influence by peer pressure increases linearly throughout adolescence, most drastically between the ages 14 to 18 (Steinberg & Monahan, 2007). Research about youth communication on Twitter indicated that adolescents shared a positive sentiment (i.e., using the terms "great," "excited," "relaxing," "enjoying," etc.) about social image and perception of people using Juul devices (Malik et al., 2019). These results reiterated the importance of peer influence on younger generations' attitudes about e-cigarette devices themselves and using e-cigarettes.

In conclusion, the social aspect has been studied before in the context of e-cigarette consumption, but the attention was not emphasized as much as the health factor despite more factors seemingly being involved. Also, the majority of the research investigated how social factors encourage the use of e-cigarettes. The effort is rarely put into examining the influence of the social aspect on dissuading the use of e-cigarettes (e.g., Agarwal et al., 2018). Finally, previous research about e-cigarette consumption and existing preventative campaigns were vastly skewed toward adolescence (Malik et al., 2019; *Truth Initiative*, 2018; Rich, 2020). It is rare to find research dedicated to young adult consumers, although it is part of the e-cigarette epidemic age range and is a group that can legally purchase the devices. Research also suggested

that young adults, ages 18 to 25, tend to recognize and model peer cigarette smoking behaviors (Harakeh & Vollebergh, 2013). Taken together, we identified a gap in the e-cigarette literature; that is, there is a need to explore the impact of social factors on preventing and stopping young adults' use of e-cigarettes. In the next section, we motivate the importance of this topic by explaining why young adults are a unique group that is susceptible to social influence and result in more substantial consequences than adolescence.

### **Young Adults and Social Factors**

Young adulthood (the traditional college-age) is a period of time that individuals make choices that have an intense impact on their future habits and life choices (Brown 2019). Research has shown in individuals' early adulthood, the people they surround themselves with have a significant impact on their life decisions and habits they develop (Gilman 2014). Unfortunately, some of these habits are detrimental; for example, the inherent desire of young adults to socialize oftentimes results in developing potentially dangerous habits such as smoking, alcoholism, and drug use (*The Outlook*, 2012). These negative habits could result in undesirable outcomes like depressive symptoms and poor grades in school (Allen et al., 2006; Santor et al., 2000; Sullivan, 2006). Therefore, to improve the health and wellbeing of this age group, it is necessary to understand how these individuals adapt to negative habits due to social influence.

This age group is especially susceptible to social influence due to their changing external environment and internal transition into adulthood. The external environment the young adults are exposed to differs significantly from the age groups surrounding them. Unlike adolescents during their high school experience, young adults have a dramatic increase in freedom as well as availability to try new things, paired with little to no adult supervision (Fromme et al., 2008). Although there are no watchful eyes of parents, young adults still have the social influence of

their peers to navigate, which separates them from the adult category. Young adulthood is filled with many new opportunities, including exposure to new experiences and cultures from the combination of new freedom as well as peers (Williams, 2005). These opportunities and freedom provide differing access to products, such as tobacco, drugs, alcohol, and e-cigarettes (*The Outlook*, 2012).

The internal transformation of young adults is significant during this time, as the need for belongingness and self-exploration grows during this period (Strayhorn, 2019). There is pressure for this age group to fit in with new friend groups, evolve into a new identity as an adult, and live independently while having important new responsibilities (MASK, 2019). All of these combined influences make this age group turn to their peers for advice in many instances. Also, in this age group, the power of peer pressure increases because people are craving more social acceptance (Mistry, 2019). As such, peers tend to have more impact on each other's behaviors at this time because they are vulnerable to the influence of social connections and friendships.

### **The Current Research**

The evidence from all previous discussions supports the contention that social influence is crucial to shaping young adults' attitudes and behaviors but has not received adequate study. Our research focuses on how social factors affect young adults' e-cigarette behavior. To respond to scholars' call for more research on social aspects in e-cigarette prevention (Amin et al., 2020), we emphasize how social influence could help with the e-cigarette prevention/cessation effort on young adults. Specifically, we explore two major questions: 1) What role do social factors play in young adults' initiation, continuation, and cessation of e-cigarette? 2) what is an effective way to use social factors in preventive campaigns?

## METHOD

We conducted depth interviews to gather insights on our research questions. Participants were recruited through multiple sources. The first one was a convenience sampling method through an extra credit opportunity for students in Dr. Joy Lin's Marketing Research course at the University of Tennessee at Chattanooga to ensure the participants were within the intended age range. Two participants decided to participate this way. Another recruitment method was convenience sampling through e-cigarette users. Four participants participated through this source. We also utilized a Facebook Group (UTC Girls Buy Trade Sell Group) as well as a



personal Facebook account. We created a post (see Figure 1 below). Although this did not result in any participants directly, some participants reported that they saw this information online before being asked to join the study through a different context. The third way was snowball sampling; we asked the first couple of interview participants to recommend other current or past e-cigarette users they knew. This resulted in four additional participants.

**Figure 1. The Facebook Announcement**

In sum, 10 participants (50% female;  $M_{\text{age}} = 20.70$ ,  $SD_{\text{age}} = 1.49$ ) were interviewed during a 3-week span. These participants had an average of 1.85 years ( $SD = 1.02$ ) of vaping experiences. While 80% are current users, 20% are past users. Among the current users, 37.5% considered themselves in the transition to quitting phase when the interview was conducted. Please see detailed demographic information below in Table 1.

**Table 1: Demographics of Participants**

Participant	Sex	Age	Length of Using (year)	Status	Interview Date
1	M	23	1.58	Current User	11/2
2	F	21	1	Current User	11/3
3	M	21	4	Current User	11/5
4	F	21	2	Current User	11/5
5	M	23	2	Current User	11/7
6	F	19	1.25	Trying to Quit	11/9
7	F	19	3	Trying to Quit	11/10
8	M	19	1	Past User	11/10
9	M	21	2	Past User	11/18
10	F	20	0.67	Trying to Quit	11/19

We developed the interview guide to cover three topics. First, we took a narrative approach to ask the participants to share their journey with e-cigarettes, from how they were introduced to e-cigarettes to their usage pattern (for current users) to how they quit vaping (for past users). Second, we let the participants react to four existing e-cigarette preventative advertisements that used social factors as the main message one by one. See Appendix A for the images and descriptions of these ad campaigns. Finally, we asked the participants to tell us what

they would say to convince people of their age to not start vaping or to stop vaping. See Appendix B for the interview guide. This research was approved by the Institutional Review Board at UTC.

The average time of interviews was 32.91 minutes. Due to COVID-19 restrictions, nine interviews were conducted via an online platform (Zoom or Apple's FaceTime), and only one interview was in-person, practicing social distancing. Participants who joined over a video platform were typically in their homes; however, some participants were in their vehicles or a restaurant.

All interviews were transcribed and then coded. During the coding phase, we identified themes that were mentioned repeatedly among participants. These themes, described in detail in the next section, were then sorted into three categories that cover distinct dimensions of social influence on e-cigarette consumption.

## **RESULTS**

Three distinct categories comprised of eight sub-themes emerged to explain how social factors affect young adults' attitudes and behaviors about e-cigarettes: 1) the roles of social influence, 2) the source of the social influence, and 3) implications of preventative messages.

### **Category: The Role of Social Influence**

The first category identified represented how social factors influence participants' attitudes toward e-cigarettes or e-cigarette consumptions. Three specific functions were frequently mentioned by participants while discussing their experience with e-cigarettes. We named these three specific themes: 1) the availability of e-cigarette devices, 2) the subtle peer pressure applied to the participant, and 3) the participant's change of perspective. Within each of

these themes, we analyzed how frequently social influences occurred during three stages of participants' e-cigarette journey: initiation, continuation, and cessation.

***Theme: The Availability of E-Cigarette Devices***

The most popular form of social influence among the interviews was manifested through other people making e-cigarettes accessible or not accessible to a person. This theme was touched on in all three stages of the e-cigarette journey among the participants. For the participants, while availability helped initiate their smoking behavior and promote the continuation of their e-cigarette usage, the reduction of availability (unavailability) helped their transition to the cessation stage and the completion of cessation.

This theme was most prevalent in the initiation stage of e-cigarette consumption, impacting 100% of our participants. Users were introduced to e-cigarettes in many different environments and situations. None of them started vaping because they actively sought for their first "hit" or "kick," the slang used by vaping participants to describe the sharp, short sensation of nicotine in your throat. They did not even start vaping because they bought their vape, either. They were introduced to e-cigarettes through another person who offered them "a hit" or even an e-cigarette device for them to keep. For example, one participant only decided to initiate e-cigarettes due to the sample e-cigarette made available to him as a gift. He mentioned, "*I was curious about why it was such a trend. Not necessarily that I wanted to join the trend to be cool or be a part of it*" (P1, 7:35). Despite no real motivation to join, being offered an e-cigarette simplified the process of giving in to his curiosity, compared to having the courage to buy one for himself to try. He admitted that this availability of e-cigarettes enticed him to buy a pack of pods and start vaping. Another common feature of their initiation was the environment; almost

all participants were introduced to vapes in a social setting. One participant described her initiation story:

“We were outside just hanging out and talking. She like pulled hers [Juul] out and was like do you want to try it? And I was like, sure. And then I hit it” (P6, 6:51).

Through this type of casual, nonjudgmental occurrence, she was presented with the opportunity to satisfy her curiosity with someone she knew. Please note that although some availability stories contain social pressure characteristics, we are distinguishing these two themes because availability was not always associated with social pressure (see the two examples in this paragraph). Social pressure will be discussed in the next section.

Availability was also crucial during the continuation stage of e-cigarette consumption. Participants who were surrounded by other e-cigarette users found it easier to continue to vape and more difficult for them to quit even when they made up their mind to do it. This struggle was brought up very frequently, such as one participant who stated, “*I think probably the biggest influence was definitely everyone around me constantly using it as well. Seeing it not only made me want to use it but kept me using it.*” (P9, 0:59). This instance demonstrated how the presence of e-cigarette devices could be used to justify one’s continuation of vaping. Another similar example further showed how mere availability could deter participants’ transition to cessation. Three participants in this study were roommates who began the quitting process together and decided to keep only one device in the apartment. The concept was that they could only use it when they were together, but the plan did not go as planned for anyone. All of them admitted it would be easier to quit if none of them owned one. One of them also acknowledged the difficulty of cessation while being around other e-cigarette users, “*It’s hard to get off, and I guess when you have so many people like that do it around you*” (P10, 6:17).

Evidence suggested that successful cessation required exactly the opposite of what we discussed in the continuation stage; that is, to make e-cigarettes unavailable. One participant, who attributed his initiation and continuation in using e-cigarettes to being surrounded by vapers, described the importance of not seeing his friends vaping in his success to quitting. He stated, *“They were supportive when I did say I was going to stop. They stopped using theirs around me.”* (P9, 3:26). By reducing the availability, he stated that it was significantly easier for him to wean off and quit using e-cigarettes altogether. Additional quotes supporting the important role played by availability are listed in Table 1 in Appendix C.

***Theme: Subtle Peer Pressure***

Peer pressure presents itself in many different forms. One of the most obvious types was when one was explicitly coerced by their peers to do something. For example, a participant’s boyfriend began using e-cigarettes and tried to get her to begin using them too. She described his role as *“...he pestered me enough to try it, and everything went downhill from there.”* (P4, 0:55). However, peer pressure does not always need to be this blatant and obvious. Many participants did not feel they were being coerced into trying e-cigarettes but did experience situations that were less explicit. We named this type of peer pressure “subtle peer pressure” to describe the situation in which a participant was in an environment where all eyes were on them to try or continue using the e-cigarette, and they felt they had to say yes. Despite most of our participants not being directly forced to use it, this subtle form of pressure from peers still made participants feel as if they must do what others did or else they would be exiled from the group, as Participant 4 described. All the participants shared at least one story about this subtle peer pressure during the interviews though many participants denied being affected by social influence at the same time.

Subtle peer pressure occurred most often during the initiation stage and was always accompanied by availability themes (but not the other way around, as discussed in the last section). During this study, the peer pressure environment was most evident in large groups, such as fraternity parties. For example, one participant described hitting Juuls and vapes occasionally throughout high school with friends before actually adopting continuous usage on his own. However, this subtle peer pressure was described when he stated, “*Separate from that is someone’s like - No, just do it, just do it - and then and then I did it*” (P8, 5:30). This description encapsulates how paired with the availability of the device with subtle notions from peers pushed the users to try it for the first time and, more often than not, led to their continued usage. As Participant 8 said, “[*After I did it,*] *I was like OK well this isn’t so bad*” (P8, 5:40). Although in some examples, this peer pressure was more like a one-time thing, for others, it could be a constant effect. In another example, Participant 3 was initially influenced by subtle peer pressure when he first tried a Juul at a college fraternity party. He then explained it turned into a game that he had to play along to fit into the group. He said, “*I think so yeah, originally it was [peer pressure]. After a couple of weeks or a month, it became an ‘I had to’ kind of thing for me personally.*” (P3, 2:40). Additional quotes supporting the effects of peer pressure are listed in Table 2 in Appendix C.

### ***Theme: Change of Perspective***

The theme “change of perspective” showed how individuals can be influenced by others to form or adjust their attitudes and opinions about e-cigarettes. This theme was most prominent in the cessation phase but was also important in the initiation phase. In the initiation phase, the participants’ attitudes toward e-cigarettes shifted from neutral or negative to positive, whereas, in the cessation phase, their attitudes went from positive to negative. We also discovered that

participants' changes of perspective could originate from being told an opinion or a feeling about e-cigarettes or observing others' continuous consumption or transition to cessation.

*From Neutral/Negative Attitude to Positive Attitude*

In the initiation phase, this theme was often illustrated by someone's attempt to switch another's perspective about e-cigarettes. Here is an example showing how participants were directly being told an opinion about e-cigarettes. Participant 5, who was recommended to use e-cigarettes while drinking with his friend, stated the following:

“Just I was kind of like recommended that it [vaping] would kind of cross with alcohol...that it would be a better experience and whatever. I tried it, that turned out to be true.” (P5, 1:10).

Participant 10 also shared a similar experience of being persuaded by peers telling her about the heightened feeling that e-cigarette can evoke.

Another type of suggestion could come in the form of observing others' behaviors. After seeing others' constant use of e-cigarettes, seemingly without negative ramifications, one might deduce that using e-cigarettes is innocuous. One participant stated the significant influence of seeing someone she loves enjoying e-cigarettes and how it influenced her decision to use them. “*I think seeing other people do it and seeing someone I love do it and them being OK and .... I think that's what got me.*” (P4, 1:35). Observing her boyfriend's actions did speak volumes, as it convinced her that vaping was not a big deal and did not have a negative impact.

Aside from e-cigarettes being fun and enjoyable, the health appeal was also a very common approach our participants gathered. Many participants internalized the idea that e-cigarettes were a healthier alternative and a better substitute for smoking tobacco products. One participant's original view of e-cigarettes was that they were perceived as “*kind of douche-y*” (P2, 2:56). But when a friend told her about how e-cigarettes helped him/her wean off of regular

tobacco cigarettes, this participant took that recommendation to heart and began using e-cigarettes instead of tobacco cigarettes. Quotes from other participants who expressed sentiments about alternatives or substitutes are listed in Table 3 in Appendix C.

However, embracing different opinions about e-cigarettes does not always guarantee a smooth change—some experienced cognitive dissonance. One participant pointed out that she was very against vaping before she started using it. She felt she became hypocritical to change her perspective so abruptly. She described her experience after trying e-cigarettes as, “...*everything went downhill from there*” (P4, 1:05). Quotes from other participants who expressed similar sentiments about changing perspective are in Table 4 in Appendix C.

#### ***From Positive Attitude to Negative Attitude***

After using e-cigarettes for some time, some participants decided to quit. Some participants were in the process of quitting when the interview was conducted. They all experienced a perspective shift from e-cigarettes being enticing to it becoming unattractive, although their reasoning varied. While some shifts in opinion were primarily due to health reasons, others were due to entertainment reasons. The key was that they could no longer justify the reasons their peers used to convince them to vape. Coming to this realization is the first step to actively changing one’s behavior permanently. For instance, as discussed earlier, many participants were instilled with the idea that vape makes you feel good (the “kick”). However, one participant pointed out that the heightened feelings became less and less intense over time, and there was no benefit of continuing if he was not getting the “kick” (P8). Other participants found out that the “kick” of e-cigarettes comes with a high price tag that they could no longer afford. Many participants expressed that pods to refill vaping devices were expensive. Yet another participant stated that the fun and cool part of vaping wore out after using it for a while

(e.g., the vaping device she used went out of style). Her reason to begin quitting was “...*I would just kind of get sick of it and be like I don’t want this anymore*” (P7, 4:28). Similarly, health was another selling point our participants took from their peers’ opinions. Nevertheless, many participants experienced negative impacts of vaping first-hand or observed someone close to them experiencing them, such as addiction, which led them to question their original opinion about e-cigarettes. “*I ended up buying a pack of pods, and after that, it was just addiction*” (P1, 4:45). One participant who successfully quit emphasized how smoking the e-cigarette made him feel nauseous throughout the day. Another participant mentioned how vaping negatively impacted the medications they were taking. Additional quotes supporting the important role played by the change of perspectives are listed in Table 4 in Appendix C.

### **Category: The Source of Social Influence**

The second category identified was how specific social circles provided or imposed the social influence to affect participants’ attitudes toward e-cigarette devices or consumption. The specific social circle influence varied between each participant; however, distinct themes were found within different stages of e-cigarette consumption.

#### ***Theme: Peer Influence at the Initiation and Continuation Stages***

We found that all the initiation and continuation revolved around consistent influence from people around the participant’s age, such as their peers or cousins. The most commonly mentioned scenario was from within one’s inner social circles, such as close peers and significant others. One example included, “*Everyone that I live with still does currently use e-cigarettes, so if you’re constantly around it, it’s harder to try to abstain from using it.*” (P4, 3:21) This theme overlapped significantly with the availability theme discussed earlier. That is,

the group of people in their inner social circle enticed them with a sample and continued to make e-cigarettes accessible around them for continued consumption. Another specific social relationship that played an important role in these two stages is significant others. The people in an intimate relationship usually made e-cigarettes available but also applied social pressure. The initiation and continuation stage emphasizes the influence of the inner circle in group settings.

Moreover, we saw that the inner circle had different capacities of influence at different stages. While every participant mentioned the influence of their inner circle during the continuation stage, only 50% of the participants talked about this source during the cessation stage.

***Theme: Peer Influence, Parental Role, and Self-Judgement at the Cessation Stage***

During the cessation stage, some participants were still influenced by peers. Influences within their inner circle encouraging cessation included friends, roommates, and significant others. Their inner circle could offer emotional support and the (un)availability of the devices to support them during the cessation period. For example, the friend group who stopped using their devices around the participant in transition had a more positive impact on the success of the user's cessation. On the other hand, cessation would be more difficult for those with a less supportive transition environment, such as the three roommates who shared a vaping device. This was confirmed by that group, stating, *"I think it [the process] would be easier if she didn't own one."* (P6, 3:32)

In contrast with the initiation and continuation stage, half of the participants mentioned their parents' indirect influence on this latter stage. All of these participants admitted their parents were at one point completely unaware of their vaping addiction. This indicated that in this parent-child relationship, participants were ashamed to share their habits with their parents in

fear of disappointing them. This was articulated by one participant, in particular, stating, “... *if they [my parents] found out, they would give me so much sh\*t for it. I’ve completely hidden it from them for almost two years*” (P1, 9:02). Although participants still use e-cigarettes, many mentioned either cutting back or stopping when they visited their parents’ houses. Even though the parents did not directly tell them to stop, their role as parental figures still influences the participants’ evaluation of their behaviors.

Additionally, it is important to note that some participants experienced self-judgment about their e-cigarette behavior. Despite not directly relating to social influence, it shed light on what vapers might need to pull the trigger to quit. As one participant stated, “*If anything, I’m kind of embarrassed about it, to be honest*” (P6, 10:26). These participants stated they acknowledge that e-cigarettes are bad for them yet were not actively working to completely change their behavior.

### **Category: Reactions to Preventative/Cessation Messages**

During the last part of the interview, participants reacted to the four prevention advertisements using social influence as the main message. In general, participants responded unfavorably to the narrative ads that directly conveyed negative connotations of vaping behaviors. Participants responded more favorably to the non-narrative advertisements, which provided indirect messaging through visual components. In addition, their take on what type of message could persuade young adults to quit vaping was unlike any of these existing ads.

***Theme: Addressing the Social Influence Directly is Inaccurate Framing***

Many participants (70%) dislike the ads that depict people 'vape to fit in' or 'vape to look unique or cool.' Participants reacted defensively after seeing this type of ad, insinuating these ads were public shaming.

"...it is their own decision and like to put it on somebody else, or like an invisible social group I think is kind of like missing the point of trying to get over an addiction because it is like a problem with yourself" (P8, 12:09).

The slogans participants least preferred were "Vaping to fit in? Typical." and "Vaping to be different? So is everybody else." They felt this type of messaging was calling people out on something they did not think they were a part of, as one participant said, "*For me personally, I think it's a little bit offensive, just because my choice in going to vaping wasn't really for other people*" (P3, 11:35). For the same reason, the majority of participants (55%) did not think the ads were targeting them. For example, "*I don't think the social pressure for people our age exists as much as it does in like settings like high school, where I think people are a bit more immature*" (P8, 10:07). Participants generally believed that they are independent, different, and unreceptive to social influence and peer pressure. Hence, when these ads claim they need to *fit in* or *look cool*, it just frustrates them.

### ***Theme: The Effectiveness of Educating the Health Cost***

Even when presented with various types of social influence ads, the majority of participants (80%) still felt presenting the health risks would be most effective for prevention and cessation campaigns. As one participant stated:

"I feel like the point that everyone makes is that there is negative health effects and so I just feel like things should include the legitimate like research in like facts and whatever on the negative health effects." (P7, 21:24)

This result is consistent with the findings of prior research (Roditis et al., 2020). For example, when asked to generate ideas for preventative advertisements, their most common suggestion was to offer health facts about the negative effects. One participant even suggested a step further and having a link to a neuroscience study about how nicotine affects brain functionality (P8). However, as discussed earlier, the key factor during the cessation stage is that one has to believe the cost is high enough to facilitate a permanent change. Although the current ads by the Truth campaigns or The Real Cost campaigns highlight health concerns, the participants did not feel they were convincing enough to change their behavior. For example, although the participants could recall The Real Cost “Monster” campaign<sup>1</sup> (link is in Footnote 1), the ad emphasizing the toxins did not persuade them to quit using e-cigarettes and even did not convince them to take the messages seriously. One participant recalled, *“I remember on Twitter I had seen a bunch of people making fun of both of those [Truth and the Real Cost]. And I think that contributed to me just kind of ignoring all of their stuff too.”* (P9, 7:28). Other participants also shared the same sentiment and stated they would *“roll their eyes at ads like these”* (P9, 6:51) and hit their vape again instead. One even questioned that these intimidating ads have not worked in the past, so why would they work now? Moreover, another participant stated he does not believe in those ads because that many #Truth campaigns he had seen in the past thrived off of inaccurate and skewed statistics.

### ***Theme: The Effectiveness of Using Visuals, Humor, and Others’ Perspectives***

Other than the main message, participants also shared what they liked about the presentation of these advertisements. First, participants enjoyed ads with visuals, which was consistent with the literature on the effectiveness of using visuals to present persuasive messages

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<sup>1</sup> “Nothing is as Scary as the Facts | The Real Cost of Vaping”. <https://www.youtube.com/watch?v=7c7wOP7UH7o>

(Kokemuller, N. 2017). Importantly, not all visual ads were equally favored. One participant explained how it is easier to overlook a pretty ad [aesthetically pleasing ads] than an eye-catching one [ads that capture the audience's attention through shocking visuals] (P6). For instance, one advertisement the participants generally preferred included the slogan "Don't follow the herd. Vaping effects are unknown, stupid sheep." and paired with a picture of a young adult vaping and wearing a sheep head. The unusual visual of the sheep head on a person's body, despite not being aesthetically pleasing, successfully attracted the participants' attention. One participant described this ad to "...*definitely make you do a double-take if you just pass it. Like 'why am I looking at 2 people wearing sheep masks on a billboard'. Then it's like Oh!*" (P5, 13:24).

Additionally, participants preferred the ads more when they were presented with humorous elements. This was shown in the sheep-head ad as well. This ad made some participants audibly laugh due to the unique visual component of people with sheep heads paired with the snarky commentary. Many of them deemed this ad their favorite out of the four presented because of this reason. Another one that caught participants' eyes was a persuasive message presented in the format of the popular Drake meme. It was recognizable to all the participants, and it made some of them laugh because they had enjoyed the meme in other humorous contexts. When discussing the effectiveness of memes on preventative ad campaigns, many of them agreed that memes had the potential to be effective but that they must be current with the trends.

Moreover, participants were more receptive to the inclusion of relevant, honest facts in advertisements rather than the message telling them to stop vaping. Seeing the evidence behind the reasoning to stop was important to this age group.

“If there was any sort of facts or anything that was just like out there, I would definitely be a lot more respondent to those and take them very seriously” (P7, 24:50).

Furthermore, we discovered participants’ preferences for social aspect messaging framed as coming from advice from their peers’ angles, rather than someone telling them to stop without further explanation. The sheep-head advertisement relayed information from a peer’s perspective to scold the sheep in the visual, not directly the ad’s audience. This angle of message presentation made it more comfortable for participants to listen to it than directly calling them out. Participants’ preferences for this peer-delivered angle were also supported by their suggestions for the persuasive messages. Participants came up with messages to convince another vaper to stop using e-cigarettes or not to start using them, such as “*No one cares about your vape*” (P10, 33:40) and “*Real friends don’t want you to vape.*” (P1, 43:15). Although some of these participants continued to use e-cigarettes, they felt that someone else would prefer the message be delivered from their perspective rather than from an ad. Additional slogan suggestions are listed in Table 5 in Appendix C.

### **Additional Findings**

We discovered an interesting discrepancy regarding the impact of social influence between the participants’ responses to questions directly asking about this topic and the participants’ stories with e-cigarettes. When directly asked about whether social influence played a role in their use of e-cigarettes, most participants immediately denied the existence of social influence on his or her decisions. They claimed that they were different from other people, saying that they believed other people would be affected by social influence, but not them. They stressed that they would not give in to social pressure. However, what these participants

described in their journeys with e-cigarettes suggested otherwise; their stories indicated the impact of social influence was prevalent throughout all stages (i.e., initiation, continuation, and cessation) of their e-cigarettes usage (see Table 6 in Appendix C for examples). Whether they choose to admit they were susceptible to the power of social pressure or not, this was essentially what happened to each one of our participants. Even though their stories with e-cigarettes were different, all of them experienced the impact of social influence at some point during their e-cigarette usage journey. This contrast between how they felt and what happened further cemented the need to understand the social influence on young adults' e-cigarette consumption.

## DISCUSSION

### **Findings and Implication**

Our results demonstrate that social influence on young adults' e-cigarette consumption is not unidimensional. Social influence plays multiple roles in encouraging and discouraging e-cigarette usage, and these roles are more prominent in some stages than others. In addition, the source of the social influence can differ in various stages of e-cigarette consumption.

In the initiation stage, extant literature contends that the vaping behaviors of users' inner social circle (including close peers and significant others) play a notable role in people's uptake of e-cigarettes (e.g., Agarwal et al., 2018). Our data also showed a similar finding: all participants were introduced to e-cigarette devices by their close social network. Importantly, we add to the literature by pointing out that social influence affected participants' initiation of vaping behaviors by making e-cigarettes available, giving subtle peer pressure, and making participants feel e-cigarettes are fun, enjoyable, and not as harmful as traditional tobacco

cigarettes. Also, all participants were suggested to use e-cigarettes by someone their own age in their inner social circle.

During the cessation stage, prior research concluded that adolescents were more receptive to preventative e-cigarette advertisements related to health concerns (Cavallo et al., 2019). We discovered young adults also preferred health consequences in their advertisements. However, we found that this young adult group was not as easily convinced by the educational materials and existing prevention campaigns as the adolescents. Young adults did not like to be what to do (or not to do) by people they did not know or trust. Our interview results showed that the source of influence for cessation in this group included not only their inner circle (close friends, significant others, and roommates) but that the parental figures had an indirect influence on their e-cigarette usage as well. In addition, our findings provided insight into different ways social influence could help the cessation process. This more nuanced understanding of the role of social influence provides implications for social marketers and current users who would like to quit vaping. For example, based on our findings, the transition into cessation could be made easier by eliminating all access to vaping devices, eliminating social gatherings where vapes are likely to be present, and surrounding oneself with people of the desired behavior.

We also found that this young adult group preferred messages addressing health factors over social factors. However, as aware as users are about potential negative health risks, it is usually not enough to motivate them to quit. Participants still reported they did not want to listen to the popular health-focused campaigns currently being promoted. This begs the question, how do we make messages more effective for this age group? Participants mentioned using sources they trust as an attractive feature. Also, participants constantly reported that they were more willing to listen to their significant others, friends, and family about e-cigarettes than educational

materials. Based on this result, it could be possible that social factors can serve as the facilitator for educating individuals about e-cigarette. An implication to policymakers, nonprofit organizations, and social marketers is that persuasive campaigns could be more effective for this group if health risks were framed from the mindset of one's social circle instead of a stranger.

Another important finding from the ad reactions was the presentation of the message itself. Participants favored and paid more attention to advertisements with unusual visuals and humor elements. Another practical contribution was the generational factor of these participants. Generation Z desired advertisements with more stimuli (i.e., more vibrant color schemes). This generation also tends to have less of an attention span and the ability to cut through the clutter on social media (Law, 2021). Therefore, educational information would theoretically be more effective with less narrative content and more visual components. Based on our result, another way the practitioners could utilize the humor element is to adapt a trendy meme format for advertising campaigns to their age group.

Finally, our results indicated information coming from people around young adults is important in initiating or changing a behavior. It is imperative for them to be convinced they need to quit e-cigarettes to facilitate that change in their behavior. Through this result, it is possible that an advertisement conveying the importance of quitting e-cigarettes through the point of view of someone their own age would be effective.

### **Limitations and Future Research**

We discovered from the participants' stories that the impact of social influence on e-cigarette consumption was pervasive among this age group, yet most of the participants became defensive when directly asked about it or when the ad directly pointed it out. Interestingly, the

participants did feel “others” would be persuaded more by the type of ad that claims vapers do it to “fit in” or “look cool” and be more susceptible to social influence, but not them. While some participants specified the “others” as a younger age group than them, most referenced e-cigarette users in their age group, too. We figured that the reluctance to talk about social influence directly might result from the intensified importance of the need for belongingness and self-esteem for this group discussed earlier. Hence, the social influence discussion may be a sensitive subject for them. Future research could explore peer pressure by using scenarios. For example, researchers could present a picture of people vaping at a party and ask the participant to describe what is happening. It may be easier to elicit more genuine opinions about how social influence affects the age group’s vaping behaviors when presented this way.

In addition, due to the time constraint, we could only conduct a small number of depth interviews. Our participants mostly consisted of current users who have not thought about quitting or users that thought about it but did not follow through with their actions. As a result, our findings were more extensive in the initiation and continuation stages than the cessation stage. With the limited number of past users we interviewed, we were able to discover some roles that social influence played in the cessation stage that was not the same as the other stages. Therefore, to gain more insights into the quitting process, it would be beneficial for future research to explore the experience solely from people who successfully quit.

Furthermore, this research was conducted during the 2020 pandemic, which placed constraints on interview procedures due to safety precautions. For example, online interviewing created both benefits and challenges. A limitation of the online format was the lack of in-person contact within the interviews. However, because the focal topic was a potentially sensitive subject, having participants in their own environment proved helpful. Through using a video

interview platform, it was also difficult to observe non-verbal cues, which may be key for the subject of social pressure, as participants were defensive about this topic. Conducting an in-person interview would have allowed us to observe a more in-depth response from participants. Additionally, having virtual interviews was challenging due to the lack of environmental control. Some participants were not in a controlled study environment (i.e., traveling in their car, being at a restaurant). At times, it was challenging to keep their full engagement and attention if they were also in a setting with other people or other distractions. Traditional environments to conduct a study would ensure that participants are in a quiet setting with limited distractions, which would minimize this issue.

Finally, we found that social influence might be able to serve as a good facilitator for preventative campaigns based on participants' reactions toward the existing campaigns on health factors and social factors. Nevertheless, the effectiveness of this idea still needs to be tested. Future researchers could use experiments to test the causal effects of using the peer angle to present the main message.

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## APPENDIX A: The Preventive Ad Stimuli

Among the four campaigns we asked the participants to evaluate, two (Ad1 and Ad2) were purely narrative flyers from Minnesota Statewide Health Improvement Partnership. Ad 1 was a narrative ad with a colorful, coral orange background and wispy lime green coloring representing vape clouds. In bold, white, all capital letters, the ad copy read: “Vaping to fit in? Typical.” Underneath the smaller font said, “It’s okay to be you, skip the vape.” At the bottom was the company’s logo. This ad can be viewed in Figure 1. Ad 2 had a similar style. The background coloring was yellow, with wispy bubblegum pink coloring to represent vape clouds. In bold, white, all capital letters, the ad copy read, “Vaping to be different? So is everybody else.” Underneath in a smaller, white font highlighted in pink, it said, “You be you, not someone else.” In the bottom corner was the logo of the company that sponsored the ad. This ad can be viewed in Figure 2.

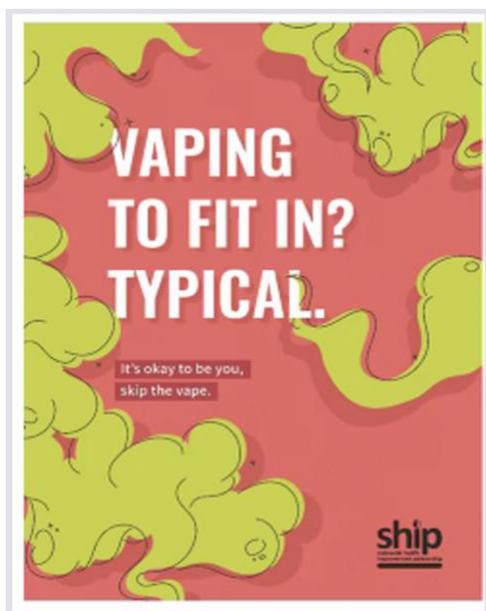


Figure 1: Ad 1

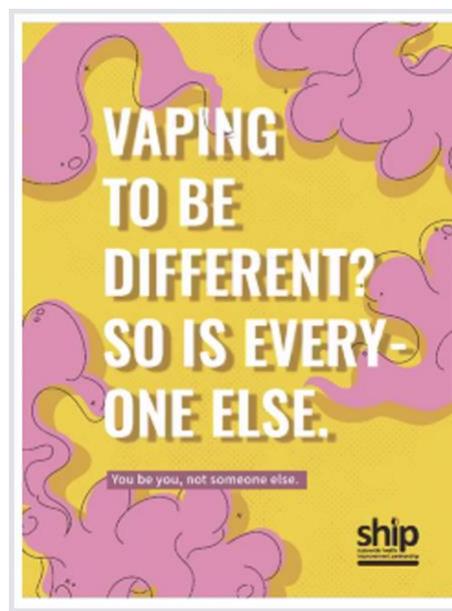


Figure 2: Ad 2

Ad 3 was a flyer with a visual image from the Public Health Department of the City of Pasadena, CA. (see Figure 3). It included a picture of what appear to be students in backpacks with large sheep heads. These figures are using vapes, with clouds of smoke rolling out of their mouths. The ad copy says in large, white font, “Don’t follow the herd.” In a smaller, thin font underneath, the copy, “Vaping effects are unknown, stupid sheep.” Additionally, it has a no-smoking logo. The ad was sponsored by a public health department and also included a learn more number to call.

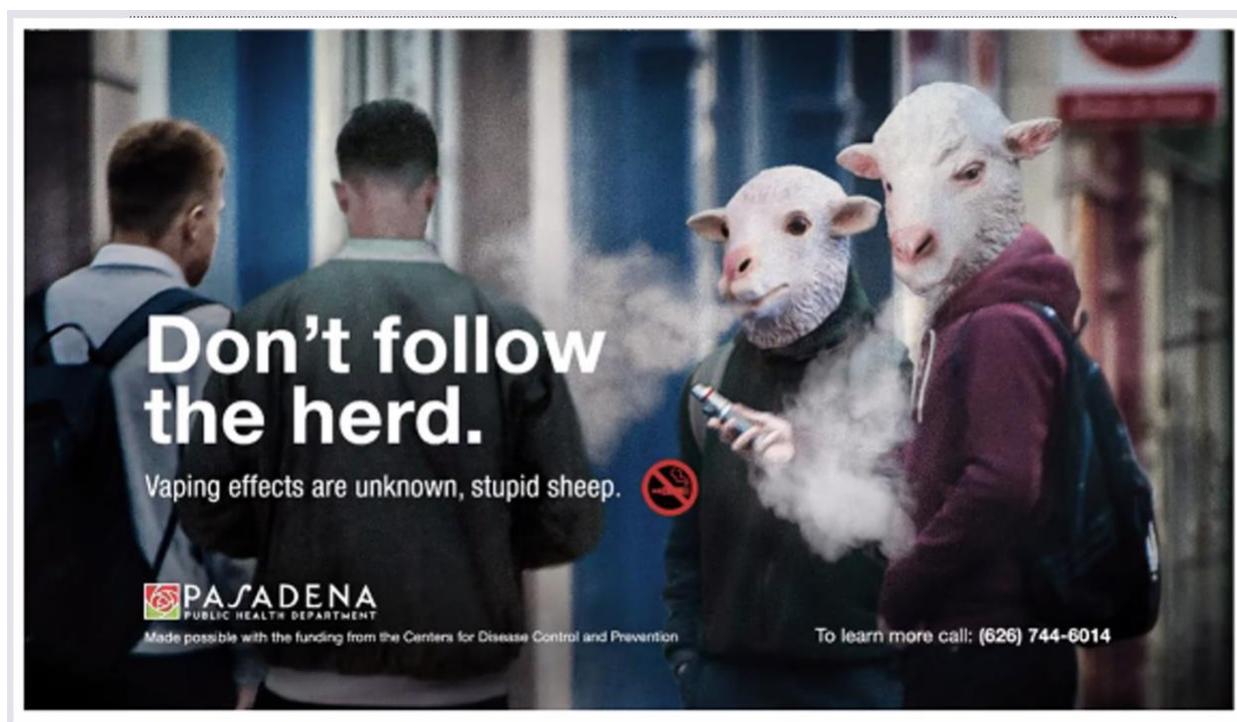


Figure 3: Ad 3

Ad 4 (see figure 4) was a tweet, using the Drake meme template, by the Nicotine & Cannabis Policy Center. This ad was different from the previous one in that it was in a meme format. It utilized the meme of Drake in his Hotline Bling music video that was popular in previous years. This had an image of him appearing to refuse something with the ad text, “When your friend offers you to vape” followed by an image of him appearing to approve of something

with the ad text, “When your friend offers solutions to end vaping”. For the primary text, the ad stated statistics from an anti-vaping campaign.

The image shows a social media post from NCPCCentralCal (@CalNcpc). On the left, there are two photographs of a man in a red puffer jacket. The top photo shows him covering his ears, with the text "When your friend offers you to vape" overlaid. The bottom photo shows him pointing, with the text "When your friend offers solutions to end vaping" overlaid. To the right of the photos is a tweet from @KUSINews reporting on a summit. The tweet text is: "@KUSINews reports that more than 150 high school students in San Diego rally together at an #antivaping Action Youth Summit in efforts to combat and reduce the use of #ecigarettes". Below the tweet are several hashtags: #TeenPower, #EmpoweringYouth, and #TeenHealth. A link "zcu.io/8R1q" is also present. The post was made at 4:34 PM on Mar 11, 2020, using Zoho Social.

Figure 4: Ad 4

## APPENDIX B: The Interview Guide

### Introduction

- introduce myself and the reasoning for this thesis interview
- request consent from the party to participate
- explain the procedure briefly

### Warm-Up Question

- How is school going for you this semester?
- How have you been?

### Overall Theme - Initiation

#### *Theme 1: The Vaping Story*

Main Question:

- Tell me about your vaping experience.

Follow Up Questions:

- How long have you used e-cigarettes?
- Before you started using e-cigarettes, what did you think about them?
- Why did you start?
- Among all reasons that made you start, how important do you think social image and/or peer pressure was?

Social Factor-Related Questions:

- How do people around you perceive e-cigarettes?
- Before you started using e-cigarettes, how do people around you think about e-cigarettes?
- How do they feel about you using e-cigarettes?
- How do they feel about e-cigarettes now?

Cessation Related Questions:

- Is there a certain point that you have thought of stopping? Why or why not?
- If you have stopped using e-cigarettes, what influenced that decision?
- Did / Has anyone encouraged you to stop using e-cigarettes?
- What concerns did you have about your social image that made e-cigarettes enticing and/or unattractive?

- Do you ever feel the pressure to stop? If so, where / who does it come from?

### **Overall Theme: Ad Evaluation**

Main Question:

- How do you feel when you look at this ad?

Follow Up Questions:

- Can you elaborate on that?
- What initially stands out to you about these ads?
- How does this advertisement portray vaping?
- How does this advertisement portray the people that use vapes?
- Do you feel preventative vaping ad campaigns are directly talking to you or your age group? Yes or no → Why?

### **Overall Theme: Persuasive Message for Cessation / Preventative Campaigns**

Main Question:

- If you were to persuade others to stop using e-cigarette using social aspects related messages (such as peer influence, social image, etc.). What would you say to them?

Follow Up Questions:

- Why?

Wrap Up Question:

- Based on what you answered earlier if you were to come up with a slogan (e.g. Nike is Just Do It) based on social norms - what would it be?

### APPENDIX C: Additional Quotes Supporting the Themes

Table 1: Availability	
	Availability
P1	<p>“One day one of my friends gave me his Juul and I tried to refuse and he was like, ‘No, no just take it. I’m not taking it back’. So I took it and I ended up buying a pack of pods and after that it was just addiction” (4:35)</p> <p>“It was really curiosity that got me the first time.”” (6:15)</p> <p>“I was curious about why it was such a trend. Not necessarily that I wanted to join the trend to be cool or be a part of it” (7:35)”</p>
P2	<p>“A friend of mine was like ‘Hey you might wanna consider because it’s helping me a lot’” “(3:06)</p>
P3	<p>“I started actually chewing tobacco back in high school and then I realized I kinda needed to quit that and went to a frat party one time and tried a Juul and then it’s kinda got me hooked from there. (1:44)</p> <p>“...went to a frat party one time and tried a Juul and then it’s kinda got me hooked from there. (1:44)</p>
P4	<p>Basically what happened was my boyfriend started using them with his roommates our freshman year and then he pestered me enough to try it and everything went downhill from there. (0:53)</p> <p>I think seeing other people do it and seeing someone I love do it and then being OK and them saying, oh, it’s fun. You should try it. I think that’s what got me. So maybe the more peer pressure. (1:35)</p>
P5	<p>I started whenever I was in college ’cause I would go to parties and drink and eventually I just got picked up Ecigs as a way to make drinking a little bit more fun. (00:00:21)</p>
P6	<p>the first time that I hit an E cigarette it was a Juul. OK and it was like a month before I turned 18 but it was still legal to own one at 18 then OK. And my friend who is actually younger than me had it and I just took a pop off of it...but she had it and I like saw her frequently (1:59)</p> <p>so we were outside just hanging out and talking and she liked pulled hers out and was like do you want to try it and I was like Sure, and then I hit it and I coughed, and it wasn’t right and I didn’t get the buzz or anything. But like I just did it. (6:51)</p> <p>It’s more of a social aspect in that it like when you’re hanging out with a group of people (26:59)</p> <p>I just kept doing it and then right before I turned 18, my friend who was 19, bought me one and then I turned 18 and I was able to buy pods after that. (2:26)</p>

P7	I really think that it was like a lot of us had when we were hanging out with like kids that were older than us most of the time. And so I think that that was where they had the big vapes. Because when I ask people my age, if they had those like my friends did, they normally didn't (3:55)
P8	in high school I would like hit them on on occasionally, use them on occasion, just around friends and then in college like living with your friends like you just kind of are around it more often. And so I started using it pretty regularly, probably freshman year of college, and I use them very regularly throughout the year pretty heavily (1:41)
P9	<p>So I used to go to school at a Cumberland University and I was in a fraternity and pretty much everyone in the fraternity had E cigarettes, and so I would. I would kind of hit their's like every once in a while and then one day I just found one on like underneath the couch on campus. And so yeah, I found a Juul. And so I was like, OK, well might as well. And so I ended up just buying like pods and stuff for it (0:22)</p> <p>I think probably the biggest influencer was a definitely like everyone around me constantly using it as well, which is what not only maybe like want to use it, but kept me using it (0:59)</p>
P10	<p>I was like kind of drunk and then I was like, yeah, I'll try it. (10:35)</p> <p>"It's hard to get off and I guess when you when you have so many people like that, do it around you (6:17)</p> <p>I just wanna get like a little like just a like a something better for me like just to inhale like essential oil pen or something like that. I don't know if it really worked but like might be calming and she's like water vapor and then I can just like do my little thing and then that might help me transition better. (11:10)"</p>

Table 2: Subtle Peer Pressure	
	Subtle Peer Pressure
P1	"One day one of my friends gave me his Juul and I tried to refuse and he was like, 'No, no just take it. I'm not taking it back'. So I took it and I ended up buying a pack of pods and after that it was just addiction" (4:35)
P2	That's how it is with our generation. It's very popular for people our age" (3:50)
P3	<p>"I started actually chewing tobacco back in high school and then I realized I kinda needed to quit that and went to a frat party one time and tried a Juul and then it's kinda got me hooked from there. (1:44)</p> <p>"...went to a frat party one time and tried a Juul and then it's kinda got me hooked from there. (1:44)</p> <p>I think so yeah, originally it was [social aspect, peer pressure, social image]. After a couple weeks or a month it became an 'I had to' kind of thing for me personally. (2:40)</p>

P4	<p>Basically what happened was my boyfriend started using them with his roommates our freshman year and then he pestered me enough to try it and everything went downhill from there. (0:53)</p> <p>I think seeing other people do it and seeing someone I love do it and then being OK and them saying, oh, it's fun. You should try it. I think that's what got me. So maybe the more peer pressure. (1:35)</p> <p>. I think people vape more when they're with people, or if they're like drinking or something like that, and then they would if they were just at home sitting on the couch. But I think a lot of people. (7:40)</p>
P5	<p>Just I was kind of like recommended. Then it would kind of cross with alcohol like. And the way that it makes you feel, yeah, that it would be a better experience and whatever I tried it, that turned out to be true." (1:10)</p>
P6	<p>the first time that I hit an E cigarette it was a Juul. OK and it was like a month before I turned 18 but it was still legal to own one at 18 then OK. And my friend who is actually younger than me had it and I just took a pop off of it...but she had it and I like saw her frequently (1:59)</p> <p>so we were outside just hanging out and talking and she liked pulled hers out and was like do you want to try it and I was like Sure, and then I hit it and I coughed, and it wasn't right and I didn't get the buzz or anything. But like I just did it. (6:51)</p>
P7	<p>I remember like everybody had them like the big ones, and so me and my friend were like 16. We were like OK, like we want one but we like don't want one with any nicotine in it and so we ordered. We like ordered them online 'cause we in order to get them were 16 and we like secretly they got them to the house and they were like one of the big vapes. Mine was like Rainbow and it had zero and I I had zero like Nic juice. (1:57)</p> <p>in my town that I grew up in, there was this like Indian gas station like Super Close to my school and he, like notoriously sells and sold to like underage people and so we would all go there. And that's where we all got our first Juuls. (2:35)</p> <p>"yes, I think that it was just 'cause everyone had one pretty much. (3:26)</p> <p>I really think that it was like a lot of us had when we were hanging out with like kids that were older than us most of the time. And so I think that that was where they had the big vapes. Because when I ask people my age, if they had those like my friends did, they normally didn't (3:55)</p> <p>And so I think it was just 'cause we were hanging out with like some of the older kids. Maybe? So that probably made it even like cooler. (4:10)</p> <p>Yeah, my boyfriend had one and so yeah [would use someone else's when didn't have your own] But it was never like an issue when I like wouldn't see him or anything. (5:15)</p>
P8	<p>in high school I would like hit them on on occasionally, use them on occasion, just around friends and then in college like living with your friends like you just kind of are around it more often. And so I started using it pretty regularly, probably freshman year of college, and I use them very regularly throughout the year pretty heavily (1:41)</p>

	<p>someone's like - No, just do it, just do it - and then and then I did it and I was like OK well this isn't so bad (5:30)</p> <p>I have hit them since I've decided to quit like not nearly as much. Probably like once or twice at like, like when I'm hanging out with friends, but other than that, that's it. (2:47)</p>
P9	<p>So I used to go to school at a Cumberland University and I was in a fraternity and pretty much everyone in the fraternity had E cigarettes, and so I would. I would kind of hit their's like every once in a while and then one day I just found one on like underneath the couch on campus. And so yeah, I found a Juul. And so I was like, OK, well might as well. And so I ended up just buying like pods and stuff for it (0:22)</p> <p>I think probably the biggest influencer was a definitely like everyone around me constantly using it as well, which is what not only maybe like want to use it, but kept me using it (0:59)</p> <p>Well, if they're doing it and like they're fine then like you know, I don't really need to worry about quitting or anything like it. I'll be fine. And so that's just kind of what kept me using it. (1:30)</p> <p>Why a lot of people do it is to try to kind of fit in with people. (15:13)</p>
P10	<p>I think my younger cousin...like the first time I actually hit one was like I was kind of drunk and I hit it and I felt like an intense like vibration through my body and I was like whoa, that's cool and then I would just do it. 'cause like I learned how to do O's (3:40)</p> <p>my little cousin. He's the one that got me freaking started on it like his generations bad about it. They all have vapes like they go to the bathroom and vape all the time and stuff (15:53)</p> <p>it was like that like it was introduced to me through social settings, but I would never felt pressure to ever like do it (21:45)</p> <p>I was like kind of drunk and then I was like, yeah, I'll try it. (10:35)</p> <p>started back in March, I bought my first one and I went to like a rave. I brought it to the rave. That was cool. That was good, whatever. But then I kept buying them after that (4:37)</p> <p>and I didn't really use it that often like I would have one for like a month before it went dead And usually people would like go through it in like a couple days or like a week. So I thought I was being pretty good about it, but then it just increasingly got worse (4:45)</p> <p>I don't like blame other people for like doing it or having it like I understand now like I used to be. Pretty like prejudice against people that did that stuff and now I'm like I-I understand like it's an addiction and it's like a serious problem. I don't think it's like bad all the time (6:30)</p>

Table 3: Change of Perspective: Alternatives and Substitutes	
	Quotes about Alternatives / Substitutes

P2	<p>“Originally I wouldn’t use them because I thought they were kind of douche-y” (2:53)</p> <p>“A friend of mine was like ‘Hey you might wanna consider because it’s helping me a lot’” (3:06)</p> <p>“I actually started with regular cigarettes and I ended up weaning off that into e-cigarettes.” (1:07)</p>
P5	<p>I didn’t really care much about the opinion of like or health crisis of like E cigarettes. You know it’s always been told that there’s not enough research proves that they work for you or anything like that. I’ve always hated tobacco usage, but now I don’t really have an opinion on it. (1:59)</p>
P6	<p>I always thought they were better, better than regular cigarettes. But I’m not really sure how true that is. (4:56)</p> <p>People say it is because of it’s not putting all of like the tar and stuff in your lungs. But I mean what? I don’t know what else we’re putting in there, which is kind of scary. Like actually sitting here and thinking about it so. (5:03)</p> <p>-</p> <p>We don’t even know if it’s going to affect us worse in the long run than regular cigarettes do, which is also scary, so I’m not trying to do...expose myself to that much longer, you know (5:36)</p> <p>I didn’t really have any opinion towards them. (5:59)</p> <p>I had a bias towards cigarettes because my grandma smoked cigarettes and saw how bad they were from that. Like most of people who used E cigarettes are like my age and so I didn’t really...obviously there’s not quite the same negative health effect on people who are younger (6:03)</p>
P7	<p>What we just like had heard one thing was that it was literally just like the healthy alternative to smoking and that it didn’t have the bad stuff that smoking cigarettes did. (5:37)</p> <p>Like at some point everybody stopped having a vape. Yeah, now it’s kind of I feel like that’s when disposals became popular because, you know, just have to own one. You can just get one whenever you want to. (7:44)</p>
P9	<p>Honestly, nothing. I knew that they were a little healthier than cigarettes, but not, you know, not by a whole lot. (1:56)</p> <p>Probably about a year and a half before I had quit smoking cigarettes. And then I guess I also saw it as kind of justified, since it was like an alternative to cigarettes and I figured, you know, since it wasn’t as bad, even though I had stopped cigarettes a while ago. (2:13)</p>

Table 4: Change of Perspective	
	Change of Perspective
P1	<p>“I grew up really against tobacco or nicotine. And there was the whole ecigarette craze and I still thought it was stupid. I didn’t wanna be one of the suckers who got into it” (3:55)</p>

P4	Oh, I was so against them vaping in general. I was very very against them. Very hypocritical of me (1:59)
P10	I really hate nicotine. I was like very anti nicotine, especially cigarettes like I can't be around people that smoke cigarettes (2:02)  I didn't wanna smoke cigarettes or vape or anything like that, just 'cause I thought it was like worse for you. (2:54)

P1	Real friends don't want you to vape.
P2	N/A
P3	Vaping. Don't do it.
P4	N/A
P5	There is no FOMO.
P6	Quit while you're behind.
P7	No one's really that into it anymore.
P8	You might want to, but you don't have to.
P9	Don't let others determine what you do.
P10	No one cares about your vape.

	Thoughts on Social Influence	Contradictions Stated (if applicable)
P1	"I was curious about why it was such a trend. Not necessarily that I wanted to join the trend to be cool or be a part of it" (7:35)"	"One day one of my friends gave me his Juul and I tried to refuse and he was like, 'No, no just take it. I'm not taking it back'. So I took it and I ended up buying a pack of pods and after that it was just addiction" (4:35)
P2	"It really didn't matter" (3:40)	"A friend of mine was like 'Hey you might wanna consider because it's helping me a lot'" (3:06)
P3	I don't really think it's a factor of it. (6:23)	I think so yeah, originally it was [social aspect, peer pressure, social image]. After a couple weeks or a month it became an 'I had to' kind of thing for me personally. (2:40)

		<p>“...went to a frat party one time and tried a Juul and then it’s kinda got me hooked from there. (1:44)</p>
P4	<p>So once you get into it, it’s more of a private thing. And initiating it is sometimes social. (8:03)</p> <p>I think people vape more when they’re with people, or if they’re like drinking or something like that, and then they would if they were just at home sitting on the couch. But I think a lot of people. Well, for most people it probably doesn’t change. I think it’s probably just as much a private thing as it is a social thing. (7:40)</p>	
P5	<p>does play a part ’cause there is like a you know, like at parties and such some people will go outside smoke and it feels like you’re kind of missing out on some of the entertainment from the occasion. Yeah, if you’re not there with them. But then again with vaping you don’t get to go outside (5:12)</p> <p>I don’t really feel like that about it but I could see how it would (5:38)</p> <p>The social aspect of this will work. I feel like it will, just not on me personally (19:12)</p>	<p>Just I was kind of like recommended. Then it would kind of cross with alcohol like. And the way that it makes you feel, yeah, that it would be a better experience and whatever I tried it, that turned out to be true.” (1:10)</p>
P6	<p>“No, it definitely wasn’t anything about peer pressure or social image.” (6:47)</p>	<p>“It was more of just like so we were outside just hanging out and talking and she liked pulled hers out and was like do you want to try it (6:51)</p> <p>It’s more of a social aspect in that it like when you’re hanging out with a group of people (26:59)</p>
P7	<p>Yes, I think that it was just ’cause everyone had one pretty much. (3:26)</p>	<p>I don’t view it as a fitting in thing right now, probably why started it wasn’t fitting in thing like I’m not trying to discredit that (13:34)</p>
P8	<p>I’ve never really felt peer pressure is in like I need to do something because everyone else around me is doing it (10:27)</p> <p>I’m not really a person who worries too much about what other people think about me so I wouldn’t say it was like A super major impact in that regard (7:35)</p>	<p>Someone’s like - No, just do it, just do it - and then and then I did it (5:30)</p>

P9	<p>I think probably the biggest influencer was a definitely like everyone around me constantly using it as well, which is what not only maybe like want to use it, but kept me using it (0:59)</p> <p>Why a lot of people do it is to try to kind of fit in with people. (15:13)</p>	
P10	<p>I don't think it was about image at all. (9:34)</p> <p>it was like that like it was introduced to me through social settings, but I would never felt pressure to ever like do it (21:45)</p>	<p>I think my younger cousin...like the first time I actually hit one (3:40)</p>