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Social Influence of E-cigarette Use among Asian Americans in California

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Abstract

Objectives: The use of e-cigarettes is on the rise in the United States (US). An understudied facet of e-cigarette use is the influence of social groups. The purpose of the present article is to examine the role of social groups in the use of e-cigarettes among Asian Americans.

Methods: We conducted 12 semi-structured interviews of Asian Americans who use e-cigarettes living in California. Interviews were transcribed and analyzed using thematic analysis.

Results: Findings showed that e-cigarette use is normalized and encouraged among peer groups and social gatherings, anecdotal success stories of their peers who were able to quit or reduce their use of combustible cigarettes using e-cigarettes were motivating, and vape shops provided a space for socialization and belonging.

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Human Subjects Approval Statement

The study's protocol was approved by San Francisco State University's Institutional Review Board (IRB).

Conflict of Interest Disclosure Statement

The authors have no conflicts of interest to declare.

Conclusions: The findings illuminate that e-cigarette use is a mediator in Asian American social groups as an activity for collectivity and connection. Public health researchers and practitioners can address nicotine use or addiction among Asian Americans through group or peer targeted prevention and intervention strategies.

Keywords

vaping; electronic cigarettes; Asian/Pacific Islanders; health behavior; social determinants

Electronic cigarette (e-cigarette) use has been increasing in the United States (US). In 2020, 47.1 million or 19.0% of US adults reported using any form of tobacco product.¹ About 3.7% reported using e-cigarettes¹ compared to 4.5 in 2019² and 3.2% in 2018.³ Differences across sociodemographic characteristics reveal that current use of e-cigarettes is highest among men (4.6%), 18–24-year-olds (9.4%), other non-Hispanic persons (7.8%), those with a general educational development (GED) degree (5.4%), those who identify as lesbian, gay, or bisexual (8.7%), and those with an annual household income of \$75,000–\$99,999 (4.5%).¹ In the Asian-American population, the prevalence of e-cigarette use is 3.4%. Disaggregated ethnic data from the 2006–2018 National Health Interview Survey demonstrated that e-cigarette use is highest among Filipino (12.1%), Chinese (6.1), and Asian Indian (5.8%) groups.⁴ Data on e-cigarette use specific to Asian Americans in California is limited. A previous study on Asian Americans in California found that current e-cigarette use was highest in Vietnamese (14%), Filipinos (13%), persons of mixed Asian-American/Pacific Islander (AAPI) heritage (11%), and other AAPI heritage (11%).⁵ Variation in e-cigarette use among e-cigarette users in the general and Asian-American population can be explained by several factors.

Predictors of E-cigarette Use

General predictors of e-cigarette use include being male⁶ identifying as LGBTQ+,⁷ being 18–24 years old,⁸ and living at or below the poverty level.⁹ Individuals who dual use with other substances such as cigarettes, hookah, cigars, cigarillos,⁹ or marijuana⁹ also are more likely to use e-cigarettes. Having mental health symptoms in the past month have been associated with higher likelihood of e-cigarette use.⁹ The wide variety of e-cigarette or vape flavors from which e-cigarette users could choose also play a role in encouraging e-cigarette use specifically among Asian Americans.^{5,10} These devices and auxiliary products used with their e-cigarette devices are often purchased online or in brick-and-mortar shops. Studies found that there is a greater number of vape shops in urban, low-income, and high density areas where Asian Americans reside.¹¹ Evidently, varying factors contribute to the use of e-cigarettes among Asian Americans. Growing literature on e-cigarette use in this population suggests that an important determining factor to consider is the influence of social circles.

Social Influence

The influence of social factors plays an important role in affecting the initiation and use of e-cigarettes. Variables such as familial and peer influence, e-cigarette product advertising, and social media have been shown to contribute to e-cigarette use.^{5,12} Young adults and adolescents have described interpersonal influences from friends and family

as a reason for their experimentation of e-cigarette use. In comparison to adolescent e-cigarette users, college students were more likely to endorse friends' influence as a reason for experimentation.¹³ Even among non-smokers whose social networks include e-cigarette users, non-smokers reported that the use of e-cigarettes allowed them to maintain social connections with their friends and avoid feelings of isolation.¹⁴ A study on Asian-American e-cigarette users found that the use of e-cigarettes provided Asian Americans an opportunity either to conceal their use or be de-stigmatized in their family and peer circles because of perceptions that they are less harmful than combustible cigarettes.¹⁵ Given that tobacco companies strategically targeted Asian Americans historically,¹⁶ it is possible that e-cigarette companies are mimicking similar marketing tactics for this population.

Health Outcomes of E-cigarette Use

Whereas the long-term effects of e-cigarette use are still unknown, developing studies on the short- and long-term effects of e-cigarette use is of increasing concern. Direct health outcomes consist of respiratory tract irritation, dizziness/headaches, nausea, chest pain, eye damage, choking hazards, shortness of breath, and increased risk for lung cancer.¹⁷ Alongside these conditions, e-cigarettes have the capacity to disrupt the reproductive system, impacting the hormonal balance of male and female adolescents.¹⁸ Beginning in August of 2019, there was an outbreak of e-cigarette, or vaping product use-associated lung injury (EVALI) among youth and young adults who used THC-containing products with their Electronic Nicotine Delivery System (ENDS) devices leading to hospitalizations and deaths.¹⁹ Understanding e-cigarette health consequences is even more critical especially during COVID-19. The pandemic changed the behavior of e-cigarette use among youth and young adults with a sizeable portion either quitting or reducing their use of e-cigarettes in fear of potential weakened lungs associated with nicotine intake as some of their primary concerns.²⁰ With disproportionately high cases of COVID-19 positive results and deaths among Asian Americans in certain parts of the country,^{21,22} Asian Americans who use e-cigarettes may be further at-risk for the compounding effects of e-cigarette use and the effects of the COVID-19 virus and the proliferation of anti-Asian hate.

Purpose

Growing literature on e-cigarette use show that social influence is an important factor in encouraging e-cigarette use, specifically among youth and young adults in the general population. Previous studies on Asian-American college smokers showed that their smoking patterns were influenced by their social settings and feelings of belongingness, making them more likely to consume more cigarettes when smoking with peers.²³ Therefore, it is possible that the role of social groups also may influence Asian Americans to use e-cigarettes for similar reasons. There are limited studies on Asian Americans and e-cigarette use to date and few have explored the effect of one's social network on their use of e-cigarettes.²⁴ The purpose of this article was to examine the role of social groups among Asian Americans that may influence e-cigarette use. We aimed to explore how social groups influence, if at all, the use of e-cigarettes among Asian Americans. Public health practitioners can use the findings from this study to implement effective interventions and services among Asian

Americans that pursue a group-oriented approach to effectively reduce and prevent the use of e-cigarettes in this population.

METHODS

We recruited participants through social media (eg, Facebook, Tumblr, and Twitter), electronic newsletters of non-profit and health organizations serving Asian-American populations in the San Francisco Bay Area, and snowball sampling. Recruitment occurred between October 2015 and February 2016. The inclusion criteria for potential study participants were: (1) current California resident, (2) identifies as Asian American, (3)

18 years old, and (4) uses ENDS device such as e-cigarettes, vape pens, vape mods, etc. We specifically recruited Asian Americans from California because the state has the largest population of Asian Americans in the US.²⁵ Pre-screening of the participants was conducted through email or by telephone. Once inclusion criteria were met, a trained researcher interviewed the participant in-person either in a private room in a university or by telephone. In the semi-structured interview, we asked questions about the participant's demographics, use of e-cigarettes, and social and cultural aspects relevant to the use of e-cigarettes. The questions were created based on the peer cluster theory²⁶ and findings of existing literature on e-cigarette use.^{3,5,27,28} The peer cluster theory argues that health behaviors, beliefs, and attitudes, such as drug use, are influenced by familial and social factors.²⁶ Asian Americans being perceived as perpetual foreigners in settings like college campuses have been found to encourage the use of combustible cigarettes as a social prop to forge belongingness.²³ Questions that were asked include reasons for using e-cigarettes, experiences of frequenting smoke/vape shops and events, experiences of using e-cigarettes with peers in social gatherings or settings, and how using e-cigarettes influenced their relationships with family and friends. All interviews were conducted in English, audio-recorded, transcribed, and de-identified. Interviews lasted an average of about 45 minutes. Participants did not receive any incentives for participating in the study. The interviews were conducted from November 2015 through February 2016. The remaining interviews did not provide any additional information from the previous interviews conducted; thus, the research team decided to terminate any additional interviews because data saturation was reached.²⁹

Data Analysis

Data analysis followed the thematic analysis process.³⁰ A trained researcher began with iterations of open coding, development of a codebook, creation of categories and sub-categories and examination of its relationships through axial coding which facilitated the emergence of themes and concepts. Following the principles of solo coding,³¹ the primary researcher consulted with 2 qualitative experts during the entire process of the data analysis phase and discussed, developed, reviewed, and defined themes until a general consensus was reached among the researchers.

Demographics

The sample was composed of 12 participants. Their ages ranged from 19 to 34 years ($M=25$; $SD=4.37$). Eight identified as men and 4 identified as women. Ten of the participants were

born in the US. The Asian-American ethnic identity of the participants was Chinese (N=2; 16.7%), Filipino (N=7; 58.3%), Thai (N=1; 8.3%), and mixed race (N=2; 16.7%). The participants resided in either Los Angeles County or the San Francisco Bay Area. The sample had high educational attainment with 10 participants receiving a bachelor's degree and/or post-graduate degree.

At the time of the study, the participants had been using e-cigarettes for an average of 2.5 years. Participants discussed using e-cigarettes, vape pens, vape mods, and box mods. Six of the participants were dual users of e-cigarettes and either combustible cigarettes or marijuana. All of the participants used their e-cigarettes with nicotine, reporting an average of 10.3 milligrams (mg) of nicotine.

RESULTS

E-cigarette Encouraged and Normalized among Asian Americans that Use E-cigarettes

A 20-year-old male discussed how he was first introduced to vaping during his senior year of high school and started vaping regularly because of his friends. He described how vaping infiltrated his family and the different social circles he belonged to because it was perceived as something socially trendy:

...well it was a social thing too especially when I started... word-of-mouth from my friends, and then family members who had started to pick it up. I think a lot of it has to do with being in certain groups, it's kind of like sometimes a right-of-passage, like 'oh he's cool type of deal there' and that's probably the main connection is like folks who do it is because everyone else is, so it's a mainstream bandwagon type of deal.

Similarly, a 27-year-old male respondent shared similar observations of the ripple effect of one individual in his friend circle using e-cigarettes which then encouraged others to use e-cigarettes. E-cigarette use became prominent among his friends that it became a habit for them to share e-cigarette recommendations with one another and made it a group activity to go to vape shops:

I would say that it was more so like a domino effect you know one of us got really into vaping and you know another person would try it and they would like it so they would get involved in it, and then you know, we would give each other advice on what to buy, and what kind of flavors we like so we would recommend flavors to each other; we would go to the vape stores together, and you know, just sort of make it like a group thing so that the few of us that do vape – we like to do it together you know like we share things with each other.

Success Stories of Reducing Smoking Using E-cigarettes is a Motivator

In addition to the social motivations that e-cigarettes provided in social circles as a mediator among friends, participants also were influenced by the observed benefits they witnessed from peers who introduced it to them and shared how it helped them lessen their use of combustible cigarettes. A 26-year-old female discussed how her partner's friend's success story encouraged them to try e-cigarettes in hope of also reducing their use:

Okay so, my boyfriend's friend, bought one back when they weren't even here yet like they just came out...he was using that and saying how he cut back on smoking. He didn't stop smoking cigarettes, but he cut back significantly because of the vaping and I was very interested. And at that time, my boyfriend smoked more than I did and so I got one and so I let him try it, and he stopped smoking and then that's how it all happened.

The participant discussed how she and her partner were able to quit smoking combustible cigarettes eventually since using e-cigarettes. Another participant, a 27-year-old male respondent, also was motivated by his family member's success story of quitting combustible cigarettes through vaping:

...one of my cousins got into vaping like full time and what I mean by that is he quit smoking conventional cigarettes completely; so, when I was like around him and he would just vape all the time, it sort of encouraged me to just keep vaping and to, you know, sort of stay away from the conventional cigarettes so part of it is social when you see your friends when you see your friends or family give up smoking full time for vaping it sort of encourages you to follow with it and really cut down on your conventional smoking.

Although the participant still smoked combustible cigarettes, he stressed that he has reduced his use. The influence of family members and peers who use e-cigarettes enticed participants to use but participants who are also contemplating changing their smoking habits also were inspired by anecdotal success stories they heard from family members and peers.

Social Spaces and Gatherings Encouraged Dual Use

Participants highlighted that social events and spaces became influential in their decision to dual use. Among the participants who dual use, many discussed that they primarily use e-cigarettes; however, when they're in social spaces like bars and parties, they engaged in dual use of combustible cigarettes and an ENDS device. A 27-year-old male shared:

I mostly use my vape mod; once in a while I'll go back to a conventional cigarette. But, for the most part, we all, you know, vape. Some of us switch back to conventional cigarettes more so like on the social context like if we're all out somewhere at a bar or a party or whatever and we just really want a cigarette then we'll just smoke it you know.

Other participants also dual use with other types of substances as influenced by their peers. A 22-year-old male discussed his reasons to dual use combustible cigarettes, *Occasionally I will have a cigarette but that's just because I am out drinking with people who smoke cigarettes.*

Whereas participants particularly dual use with their e-cigarette device and combustible cigarettes, other participants dual use using other types of substances like vaping cartridges with THC. A 23-year-old male would engage in dual use to experience a different type of high, *I wouldn't say I am a regular user...I actually smoke it with my weed so it is a different high.*

The motivation to dual use is stimulated by being with peers in social spaces that make it feasible for participants to use different substances. Moreover, dual use is not just limited to combustible cigarettes but also other types of substances.

Vape Shops as Spaces for Asian Americans

The ubiquity of e-cigarette products in online stores and physical spaces made it a popular space for participants to frequent. Participants discussed how vape stores and lounges became an additional space for them not to only purchase and sample different products, but also to enjoy as a social venue. A 26-year-old female shared that it is a place for her and her friends to meet, *So me and my friends actually go there to meet up and hangout and catch up and have fun.*

The participants described why vape stores and lounges are ideal places for social gathering and the atmosphere it creates for participants. A 22-year-old female highlighted the racial diversity that she would observe in the vape store she would visit:

My friend's vape shop they welcome everybody especially no matter what ethnicity you are or whatever. But, it's funny because, yeah, it is a lot of Asian-American people that come into the store but you will still find Caucasians, Hispanics, and Blacks, yeah so, it's a mixed-up community.

Participants also appreciated the relationships that they developed with staff in the stores they visited, which created a sense of familiarity for them. A 27-year-old male discussed how the staff in the vape shop where he would purchase products know him by name:

I mean once you go to a store enough times they start to recognize you and you know there a couple of stores that I go to they even know me by name. They see you there once a week, once every 2 weeks buying new juices, new products, everyone's super friendly. There's a store by my house that has a pool table; one of the workers there – he knows me and my cousin.

Vape stores also found ways to market their products to reach a wider audience by collaborating with car shows and rave scenes, prevalent among Asian-American young adults, by hosting events in their stores. A 27-year-old male participant recalled visiting a vape shop where a car show and a glover's workshop were taking place all at once:

...because there was actually an important show happening at the same time in the parking lot so they had an important show outside, they were vaping inside, but inside the back rooms they had a glover's workshop for the rave scene... at one point at that same event there were actually import models signing autographs so it did cater to that male demographic of Asian Americans.

In spite of the welcoming environment that vape stores and events attempt to foster, some participants noted that there are instances of hypermasculinity and elitist bar culture that are present in these spaces. A 22-year-old male respondent shared how he is reluctant to visit vape stores often because of the conversations he would overhear in the stores:

Another reason why I don't frequent them that often unless it's my friend's store is that for me they tend to be like really misogynist and like I don't know what

the term would but it feels almost classist with how nice your equipment is pretty much like people trying to impress each other by having more expensive things. And also like a sort of common, it's misogynist in the same way that like import car culture is...but when I went to that vape lounge it was like a lot of wealthy Asian-American guys and wealthy white guys; it's kinda like showing off their vape stuff.

Vape stores and lounges became an additional space for Asian Americans to visit. Whereas it provided a sense of belonging and community for some, it also reproduced a similar environment and atmosphere seen in bar cultures that deterred some participants from visiting.

DISCUSSION

E-cigarette use played an important role in serving as an arbiter in the social circles that Asian Americans belonged to and spaces they frequented. E-cigarettes became more than just an object but also served different purposes for the participants. Such purposes were transmitted between peer-to-peer that encouraged collective and dual use for social aspects and, for some, desire for changes in health behaviors. Furthermore, e-cigarettes also engendered the creation of spaces and events for Asian Americans.

The use of e-cigarettes is encouraged and normalized among Asian-American social circles that use e-cigarettes. The participants highlighted how witnessing an increasing number of their friends using e-cigarettes motivated them to begin using e-cigarettes as well. Such normalization is consistent with previous literature that shows that an increasing number of young adults consider e-cigarettes more of a social norm compared to combustible cigarettes.³² Several factors may explain its acceptance among young adults. For example, constant exposure to e-cigarette marketing through social media reduces perceived potential negative health effects of e-cigarettes and increased intention to use.³³ The content of e-cigarette marketing depicts autonomy from the negative perceptions of smoking combustible cigarettes (eg, smell, social stigma, age and location use restrictions, etc) and prevalent use in social and sexual situations that are promoted by prominent celebrities and, some, in cartoon form.³⁴ The ubiquity of e-cigarette use and its acceptance in mainstream society, particularly among young adults, may be a motivation for Asian Americans. The portrayal of Asian Americans as perpetual foreigners through racist stereotypical representations historically and in the media³⁵ may impel Asian Americans to use e-cigarettes to feel a sense of belonging and acceptance from the dominant white society. In addition, one study found that olfactory benefits that allow people who use e-cigarettes to conceal their smoking behavior enabled Asian Americans to save face from their family and peers who did not approve of the use of combustible cigarettes.¹⁵ Moreover, in the same study, there was a general consensus among the participants' Asian-American family members and peers that e-cigarettes were a safer alternative relative to combustible cigarettes. However, several years after this study was conducted, in August of 2019, e-cigarette or vaping product use-associated lung injury (EVALI) cases were reported in the US that lead to several hospitalizations and deaths, which studies found to change the perceptions of e-cigarettes to be riskier than previously anticipated.³⁶

The success stories that Asian-American participants observed from their peers persuaded them to use e-cigarettes. The extant literature shows that e-cigarette users, specifically, young adults, are exposed to e-cigarettes from family members and peers who may provide misinformation concerning e-cigarette use such as its anecdotal assertions as a smoking cessation product.^{37,38} The participants who were in the contemplation stage to change their health behavior to decrease their use and eventually quit combustible cigarettes were enticed by this prospect. However, studies have found that e-cigarettes are not effective smoking cessation products.³⁹ Furthermore, high school youth who use e-cigarettes are more likely to engage in dual use using combustible cigarettes overtime.⁴⁰

The increase of the prominence of e-cigarettes provided an opportunity for Asian Americans to forge new spaces. A study of vape store density in the US found that vape shops are located primarily in Latinx and Asian-American neighborhoods.¹¹ The findings show that these vape stores not only sell the products that e-cigarette users need, but also serve as spaces for Asian Americans to socialize and establish community where they may feel accepted compared to frequenting a conventional smoke store or a cigar bar. The congregation of Asian Americans in ethnic-specific spaces where the use of tobacco products serve as a mediator within groups is persistent with previous studies among Asian-American college students.²³ Asian Americans gather in these spaces often as a result of experiences of racism and exclusion in predominantly white spaces.⁴¹ Another interesting aspect illuminated by the findings is the convergence of various Asian-American subcultures such as the car show and rave scene along with e-cigarette products showing an additional pathway in which Asian Americans are exposed to e-cigarette use and marketing.

Limitations

This study has several limitations. The study is not generalizable because it focused on Asian Americans in California. Also, this study was conducted among English-speaking Asian Americans that may not reflect the experiences of Asian Americans who use e-cigarettes that speak other Asian ethnic languages as their primary language. In addition, this study was conducted from 2015 through 2016, before the US Food and Drug Administration (FDA) issued a policy in January of 2020 to cease the production and distribution of kid-friendly e-cigarette flavors (eg, fruit, dessert, etc) without premarket authorization.⁴² Furthermore, California recently passed Proposition 31 that upheld Senate Bill 793, passed in 2020, that prohibits the sale of flavored e-cigarettes in retail stores.⁴³ These changes in policies may affect Asian-American e-cigarette users who may be less likely to use e-cigarettes, because previous studies found that e-cigarette flavors are an important motivator for them.¹⁵ Instead, this could increase the use of combustible cigarettes.

Conclusions

Our study contributes to understanding of the social influences of e-cigarette use among Asian Americans. Asian-American e-cigarette users are encouraged and informed by family members and peers and the social spaces they occupy. These spaces serve as important settings where Asian Americans feel a sense of community and belonging. Public health researchers and practitioners should consider targeting Asian-American peer groups and frequented events and establishments (eg, car shows, vape shops, etc) as sites

of interventions to disseminate health information about the potential harmful effects of e-cigarette use.

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