

**Influences of Intermediate Familial and Peer Tobacco Usage and History on
Young Latino College Students in the Central Valley of California**

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Abstract

The number one leading cause of preventable death in the United States is smoking (Ling, 2024). This is approximately 20% of the adult U.S population that are currently using tobacco products. Smoking negatively impacts the United States life expectancy by shortening it by 10 years in comparison to nonsmokers and results in 0.5 million premature deaths each year (Ling, 2024). While direct use of tobacco/nicotine products directly impacts the consumer other concerns arise for non-smokers. Secondhand smoke is when smoke is inhaled from another person using tobacco products (CDC, 2025). Most exposure to secondhand smoke occurs in homes and workplaces but it can also happen in public places. Secondhand smoke kills 41,000 non-smokers a year mainly from stroke, heart disease, and lung cancer (CDC, 2023). This is particularly significant for the Latino community because more than 43,000 Latinos in the U.S are diagnosed with tobacco-related Cancer each year and as a result more than 18,000 of the 43,000 die (Henley, 2016). There is an association between the use of tobacco among parents and tobacco habits among young adults. Results from Henley's 2016 study across the U.S, showed a significant percentage of participants were tobacco users and an even stronger association of the participants' family have had a history with use of tobacco. The purpose of this study is to investigate whether the participant is currently using tobacco or has in the past based on their family members' or peer usage of tobacco products. Attending college also increases the influence of peers. The age group of 18-25 year-olds have one of the highest rates of tobacco use amongst all age groups (Health, 2014). Thus, the influence of peers on tobacco/nicotine use is critical to consider. Not only is it critical to consider the direct impact of tobacco/nicotine consumption but to explore the effects of having household members and friends that consume products for non-users. The current study seeks to

investigate tobacco use among Latino college students in California's central valley and the influence of family and peer use patterns (i.e., past and current use).

Influences of Intermediate Familiar Tobacco Usage and History on Young Latino College Students in the Central Valley of California

Introduction

According to the 2024 US census, 19.5%, or 65.2 million of US residents are of Hispanic origin. This makes Latinos the nation's largest racial or ethnic minority. Latinos have strong cultural values such as familismo, a Latino cultural value that refers to firm family loyalty, closeness and prioritizing an individual's family's needs over their own individual needs. Family is highly valued in the Latino culture, which often leads young adults to live with their parents until marriage or later due to economic factors and strong family bonds. There is an association between the use of tobacco among parents and tobacco habits among young adults. Results from a 2016 study across the U.S, showed that 48% of their participants were tobacco users and 81% of participants' families have had a history with use of tobacco (Dwivedi, 2016). Additionally, the influence of peers on tobacco/nicotine use is critical to incorporate into the study considering the age group of 18-25 year-olds have one of the highest rates of tobacco use amongst all age groups (Health et al., 2014). This current study investigates tobacco use among Latino college students in California's central valley and the influence of family and peer use patterns.

Literature Review

Family Influences of College Student Tobacco Product Use

Recent research, among current tobacco-using California college students, revealed

that 80% of tobacco users reported a change in pattern of use (Maheta, 2023). Specifically, 43.2% reported an increase in usage while 38.7% reported a decrease in usage. Additionally, researchers found that participants reported that the most common reason for an increase or decrease in their use of tobacco was because they were living at home. With 60% of participants in the study living with their parents or relatives after the COVID-19 pandemic, it is important to consider the influence of family on tobacco use among college students. A decrease in tobacco usage at home could be due to a lot of various factors. A few examples can be distance from friends, being caught, or away from social norms (Maheta, 2023). A diminish in tobacco usage from participants could have been from fear of getting caught by family members which incentivized them from using tobacco products (Maheta, 2023). A decline in usage could have also been from the distance from friends because of social distancing and less human interaction (Maheta, 2023).

Peer Influences on College Student Tobacco Product Use

Now that the pandemic is over, and the mandates were lifted, students were encouraged to return to campus in person back to social groups and social norms where tobacco use may be normalized (Maheta, 2023). In a current study done across the United States as of 2024, 24% of college students reported to have been using tobacco products daily or almost daily for the past three months (Elflein, 2025). It remains unclear if the change of a learning environment affected parts of college students' lives and whether it was likely or not that it played a role in their tobacco usage. Attending college increases the influence of tobacco and nicotine usage from peers. 18-25 year olds have one of the highest rates of tobacco use among all age groups (Health, 2014). Adults who had ever smoked cigarettes

daily, 86.9% had tried their first cigarette by the time they were 18 years old and 11.6% did by the age of 26 (Health, 2014). Two-thirds of adults who smoke daily reported to have begun to do so by the age of 18 (Health, 2014). One-third of adults who have ever smoked had begun to smoke daily between the ages of 18-26 years of age (Health, 2014). Thus, the influence of peers on tobacco and nicotine use is critical to consider.

Cultural Influences on College Student Tobacco Product Use

In a recent study by Alonso and colleagues (2023) they examined cigarette and e-cigarette experiences and how they are culturally influenced by friends and family of Latinos aged 15-21 living in the U.S. Using a thematic analytic approach, Alonso et al. (2023) suggested that stress relief was the main reason why cigarettes and e-cigarettes were used. Despite differences in country of heritage, young Latinos are unified by consistent opinions about cigarettes and e-cigarettes (Alonso et al., 2023). Overall, it was concluded that tobacco beliefs and cultural influences are similar across Latinos.

Family influence has an immense impact across all Latino communities. For instance, cultural values (e.g., familismo) emphasize firm family loyalty, closeness and prioritizing an individual's family's needs over their own individual needs (Ayón, 2010). This leads many young adults to live with their parents until marriage or later (Ayón, 2010). An investigation amongst Latino college students and their immediate family should be conducted to see if there is any correlation between their tobacco and nicotine usage.

Dwivedi and colleagues (2016) examined the association between the use of tobacco among parents and tobacco habits among patients registered in a cardiac clinic. The history of tobacco usage of the patient's parents and siblings were also recorded. Results showed that

amongst the patients, 48% were tobacco users and family history of tobacco use was present in 81% of users.

Current Study

The purpose of this current study is to examine if family members and peers with current or past tobacco usage history have an influence on individuals' tobacco usage history. First, it is expected that amongst Latino college students, reports of family current use of tobacco and nicotine products will be positively associated with their use. The second hypothesis is amongst Latino college students, reports of peer current use of tobacco and nicotine products will be positively associated with their use. The third hypothesis formed is family current use of tobacco and nicotine products will be more strongly associated with participants' use than peers.

Methodology

Participants

Out of the 303 responses, 74% of participants that answered a portion of the survey were females with a mean age of 19. The target participant for this survey was Latino college students attending a four-year or two-year college located in the California's central valley. The survey was carried out in the classrooms of a community college and four-year university in Fresno to acquire participants. Students at the four-year university were also presented with the survey and asked if they would like to participate. Participants were compensated for taking the time to complete the survey with the option of course extra-credit or a \$25 Amazon e-gift card. Specifically, at the four-year university in Fresno, Psychology participants received course credit, non-psychology students received extra-credit, and participants from the two-year college were given the \$25 Amazon e-gift card.

Methods

Tobacco/nicotine use

Participants were asked to complete a Qualtrics survey. The questions that were asked of the participants consisted of asking immediate family members, like parents, and siblings, and any friends or peers that the participant may have. These questions were specifically pulled from the Global Adult Tobacco Survey, GATS. A question about the participant asked, “How often do you currently smoke tobacco or use any tobacco/nicotine product” (GATS, 2020)? A second question asked of the participant was “In the past how often have you smoked tobacco or used any tobacco/nicotine products” (GATS, 2020)? Participants were then able to answer “Daily”, “Weekly”, “Monthly”, “Less than monthly”, or “Never”.

Family Influence.

Questions that asked the participant about their family included “How often do your parents smoke or use any tobacco/nicotine products”, “In the past how often did your parents smoke or use any tobacco/nicotine product”, “How often do your siblings smoke or use any tobacco/nicotine products”, “In the past how often did your siblings smoke or use any tobacco/nicotine product”, “How often do your family members (not parents or siblings) smoke or use any tobacco/nicotine products”, and “In the past how often did your family members smoke or use any tobacco/nicotine product” (GATS, 2020)? Participants were then able to answer “Daily”, “Weekly”, “Monthly”, “Less than monthly”, or “Never”.

Peer Influence

Questions that asked the participant about their peers tobacco and nicotine usage was “How often do your friends smoke or use any tobacco/nicotine products”, and “In the past how often did your friends smoke or use any tobacco/nicotine product” (GATS, 2020)? Participants were then able to answer “Daily”, “Weekly”, “Monthly”, “Less than monthly”, or “Never”.

Data Analytic Plan

Initially, to simultaneously compare the multiple variables involved in the influence of the participant a correlation table was created. The variables included in this table are any tobacco or nicotine usage ever used by the participant, age, past and current usage of tobacco and nicotine products of family members and peers.

Then two separate regression analyses were made. One regression analysis for the past and another regression analysis for current tobacco and nicotine usage. Both of the regression analysis incorporates the participant, intermediate family members, and peers. Intermediate family members only included siblings and parents.

Results

A correlation table, Table 1, was created with the data collected to compare variables and two regression tables. One regression table was created each for past, Table 2, and current, Table 3, usage of tobacco and nicotine usage. The correlation value of family current and past use is 0.905. The correlation value for peer current and past use is 0.873. Both peer past and peer current regression showed a significant value of <0.001 .

First Hypothesis: Amongst Latino college students, reports of family current use of tobacco and nicotine products will be positively associated with their use.

Table 1. *Correlation Analysis Examining the Relationship Involving Family and Peer Past and Current Use of Tobacco and Nicotine on Latinx Young Adult's Lifetime Use of Tobacco and Nicotine*

Variable	1	2	3	4	5	6	7
1. TN_ever							
2. Current Family Use	.266**						
3. Past Family Use	.242**	.905**					
4. Current Peer Use	.419**	.360**	.344**				
5. Past Peer Use	.429**	.384**	.351**	.873**			
6. Female	-0.021	0.076	0.005	0.022	0.031		
7. Age	.299**	0.107	0.139	.142*	0.138	-0.06	
8. Imm_gen	0.101	.124*	0.09	0.035	0.037	-0.045	0.014

** p < 0.01 (2-tailed); * p < 0.05; N=303; TN_ever - Participant has ever used tobacco or nicotine products; Imm_gen - generational immigration status

Table 2. *Regression Analysis Examining the Relationship Involving Family and Peer Past use of Tobacco and Nicotine on Latinx Young Adult's Lifetime Use of Tobacco and Nicotine*

	<i>b</i>	<i>SE</i>	β	<i>p</i>
Age	0.01	0.00	0.30	<0.001
Female	0.00	0.02	0.01	0.87
Family Use (P)	0.01	0.01	0.10	0.16
Peer Use (P)	0.20	0.01	0.29	<0.001

Second and Third Hypothesis: Amongst Latino college students, reports of peer current use of tobacco and nicotine products will be positively associated with their use. Family current use of tobacco and nicotine products will be more strongly associated with participants' use than peers.

Table 3. *Regression Analysis Examining the Relationship Involving Family and Peer Current use of Tobacco and Nicotine on Latinx Young Adult's Lifetime Use of Tobacco and Nicotine*

	<i>b</i>	<i>SE</i>	β	<i>p</i>
Age	0.02	0.00	0.30	<.001
Female	0.00	0.02	0.01	0.83
Family Use (C)	0.016	0.01	0.12	0.10
Peer Use (C)	0.020	0.01	0.24	<0.001

Discussion

This current study investigated tobacco use among Latino college students in California's central valley and the influence of family and peer use patterns. To first get a general idea of how multiple variables, age, gender, immigration status, family current and past tobacco and nicotine usage, peer current and past tobacco and nicotine usage, if the participant has ever tried nicotine or tobacco products, affected the participant, a correlation table was created to compare all these variables together with one another. This was a very broad comparison of variables and ended with no specific answers. The correlation supported what was speculated, that both peers and family members have a significant influence on the participants' use of tobacco and nicotine usage. Furthermore, regression tables were created to get into what distinct variable, parents or peers, have the most influence on the participant. Both tables, current and past, exclusively showed a significant value in the peer variable concluding that the participants' peers had the most significant influence on their tobacco and nicotine usage.

Hypothesis 1 & 3: Amongst Latino college students, reports of family current use of tobacco and nicotine products will be positively associated with their use. Family current use of tobacco and nicotine products will be more strongly associated with participants' use than

peers.

Amongst Latino college students, reports of family current use of tobacco and nicotine products was not positively associated with their use. Family current use of tobacco and nicotine products weren't more strongly associated with participants' use than peers. Following Maheta's 2023 study, it was not specifically known why there was an 80% change in pattern of tobacco usage. Participants reported a change, an increase or decrease in usage, because they were living at home with their parents after the COVID-19 pandemic (Maheta, 2023). Thus, lead to the creation of hypothesis one and three. The theory that if a participant is increasing their time spent around intermediate family members then their influence of tobacco and nicotine usage must be both strongly and positively associated. Table 1, the correlation table, shows a similarly high value as the peers' value. Although the family's numerical value is a bit higher than the peers' numerical value, when the regression analysis was ran it had no real significance.

Hypothesis 2: Amongst Latino college students, reports of peer current use of tobacco and nicotine products will be positively associated with their use.

Amongst Latino college students, reports of peer current use of tobacco and nicotine products are positively associated with their use. In Table 3, Regression Analysis Examining the Relationship Involving Family and Peer Current use of Tobacco and Nicotine on Latinx Young Adult's Lifetime Use of Tobacco and Nicotine, it is shown that the peer value is the only one of significance, supporting hypothesis 2.

These results make sense given that the pandemic had began in 2020, five years ago. Students are no longer socially distancing from friends, resulting in an increase in more peer-to-peer interactions. Students are now attending in-person classes and therefore are no longer

under the eye of their parents; the fear of getting caught using tobacco or nicotine products is no longer there. Students can now hide their use of tobacco and nicotine products from their family members at school.

Limitations and Future Directions

A few limitations that have impacted this study were sample size, gender and the time span of this study. Although there were many participants in this study, a larger study may have provided a wider variety of responses. This also could have impacted on whether the family had any marginally significant or significant influence on the participants. Gender was another limitation to this study. Most of the participants that had participated in the survey were female. In this case the results are skewed towards female students. A better participant pool would try and get even distribution of gender responses. In addition to gender, the time span of this research is limited to a certain time frame. This study is not on-going or long term, which would affect the responses as time went on. Some students may seek cessation services, or more students may start the use of tobacco and nicotine products in the future.

For future reference, researchers may need to follow up with the participants' tobacco and nicotine usage to see if they are any new users or if others have quit tobacco and nicotine usage. Tobacco and nicotine companies are constantly releasing new products to entice current or new users. An update of the new tobacco and nicotine products list may need to be added to the survey questions. An assumption made in this study was that all participants were living with family members and did not consider if participants lived alone or with others who were not family members. A question needs to be added to the survey addressing whether the participant is currently living with relatives. Future research may want to include older generations of college students, tobacco and nicotine influence of workplace peers and

neighbors, and why females were more responsive to this survey than any other gender.

Looking into what or who specifically the tobacco and nicotine companies are targeting can also be beneficial to this research and possibly give insight into this study's skewed results.

Conclusion

Further research still must be conducted as to why the results show a large percentage of underaged young female Latina adult college students in the Central Valley are using tobacco and nicotine products. The state of California currently has the legal age to purchase tobacco and nicotine products as 21. Whether this specific population, underaged young female Latina adult college students in the Central Valley, is being targeted by tobacco and nicotine companies or not, the state of California must address this situation and the regulation of tobacco and nicotine products being sold to underaged consumers.

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