

Smoking Behavior, Perceived Stress Levels and Tobacco Control Policies of Public Tertiary Students

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Date Submitted:
January 15, 2026

Date Accepted:
January 21, 2026

Date Published:
January 26, 2026

DOI:
10.5281/zenodo.18373707

ABSTRACT

This study explores the connections between smoking behavior, perceived stress, and tobacco control policies among public tertiary students at Cebu Technological University-Tuburan Campus in the Philippines, particularly focusing on the Bachelor of Industrial Technology (BIT) department. It highlights adolescents and young adults as a vulnerable group for tobacco use, driven by factors such as curiosity, peer pressure, and family influences. The high prevalence of smoking in this demographic poses significant public health risks, especially in low- and middle-income countries. A quantitative approach was utilized, employing structured surveys to gather data on demographics, smoking habits, stress levels, and perceptions of tobacco policies. The study primarily targeted students aged 18-23. Key findings reveal that most tobacco users are male and from rural backgrounds, with cigarettes being the most common product used. Daily smoking is prevalent among this group. The main sources of perceived stress include relationship issues and financial concerns. Although current tobacco control policies are perceived as weak deterrents, they do influence some students' intentions to quit smoking.

The study concludes with a recommendation for a comprehensive Student Development Program aimed at providing social support and educational resources to reduce smoking rates among freshmen. This program is designed to address the specific needs of this student population, emphasizing the importance of creating a supportive environment for behavior change.

Keywords: *Smoking Behavior, Tobacco Use, Perceived Stress Levels, Public, Tertiary Students, Tobacco Control Policies*

INTRODUCTION

Adolescents and young adults are particularly susceptible to cigarette and e-cigarette use, driven by factors such as curiosity, enjoyment, and social pressures from family, peers, and educational institutions. This demographic poses significant public health challenges, especially in low- and middle-income countries like the Philippines, where smoking is a leading cause of preventable deaths. The World Health Organization (WHO) emphasizes that all forms of tobacco are harmful, with no safe level of exposure.

This study aims to investigate the relationships between smoking behavior, perceived stress levels, and the effectiveness of tobacco control policies among public tertiary students at Cebu Technological

University-Tuburan Campus. By addressing gaps in existing literature regarding the interactions between stress and smoking behavior, this research seeks to enhance understanding of how these factors vary across different cultures and life stages. The study will also explore the psychological pathways that moderate these relationships and examine the impact of school policies on smoking behaviors.

Grounded in the Theory of Reasoned Action (TRA) and Perceived Stress Theory, this research will analyze how social norms and stress perceptions influence smoking behaviors. Key studies indicate that stress often drives tobacco use among adolescents. For instance, Choi et al. (2015) found that smoking may provide immediate stress relief, while Stubbs et al. (2017) highlighted the global relationship between perceived stress and smoking behavior.

Through this examination of public tertiary students, the study aims to inform targeted interventions that can mitigate the adverse health outcomes associated with tobacco use. The findings are expected to significantly impact health promotion initiatives in academic settings and contribute to effective tobacco control strategies tailored for diverse populations.

The purpose of this study is to assess the smoking behavior, perceived stress levels, and tobacco control policies experienced by public tertiary freshmen students at Cebu Technological University during the second semester of the 2023-2024 school year. This assessment will serve as a basis for crafting a Student Development Program aimed at reshaping the behaviors of tobacco users. Specifically, the study seeks to:

- Determine the profile of tobacco or electronic cigarette users based on personal characteristics, socio-demographic factors, and parental background.
- Assess perceptions regarding various aspects of smoking behavior among different types of tobacco users, including actual smoking acts, puffing styles, depth of inhalation, and rate and frequency of use.
- Evaluate perceived stress levels encountered by these users in relation to specific stressors such as relationships, finances, family conflict, perceived inequality, and discrimination.
- Analyze perceptions regarding the extent to which tobacco control policies are associated with reductions in tobacco use.
- Identify significant mean differences between perceptions of various types of tobacco users concerning their smoking behavior.
- Explore whether significant mean relationships exist between smoking behavior and the implementation of tobacco control policies related to reductions in current tobacco use.

By investigating these dimensions, this research aims to provide valuable insights into individual health dynamics among public tertiary students while informing broader public health efforts and educational policies aimed at reducing tobacco use and enhancing student well-being.

METHODOLOGY

This research utilized a quantitative and descriptive-correlation approach, employing structured surveys to gather data on smoking behaviors, perceived stress levels, and the impact of tobacco control policies among students in public tertiary institutions. The study aimed to assess the prevalence of smoking and its relationship with stress, as well as evaluate the effectiveness of existing tobacco control measures. Conducted at Cebu Technological University-Tuburan Campus, the research focused on freshmen Bachelor of Industrial Technology (BIT) students aged 15 and above who are current smokers.

A purposive sampling method was used to select participants, ensuring relevant insights into the study's focus areas. The survey consisted of four sections: demographic information, prevalence of smoking behaviors (including tobacco and electronic cigarette use), perceived stress levels among different types of tobacco users, and the implementation of tobacco control policies. A five-point Likert scale was employed to quantify respondents' experiences and perceptions.

The research began with formal approval from the campus director, followed by a pilot test to ensure the survey's clarity and reliability, assessed using Cronbach's alpha. The researcher administered the questionnaires personally to enhance engagement and address participant concerns. Data analysis involved various statistical methods, including Simple Frequency and Percentage, Weighted Mean, ANOVA, and the Pearson-R Test to evaluate relationships between smoking behavior and tobacco control policies.

Overall, this methodology aims to provide a comprehensive understanding of factors influencing smoking behaviors and stress perceptions within the context of tobacco control policies among students, ultimately informing targeted interventions to improve health outcomes in educational settings.

RESULTS AND DISCUSSION

Profile of the Respondents

The study investigates smoking behaviors and age distribution among 49 respondents, revealing that 40.82% are aged 18-20 and 38.78% are aged 21-23. This aligns with existing research indicating higher smoking prevalence in younger adults, who often use smoking as a stress coping mechanism. The majority of participants are young adults, suggesting that smoking cessation interventions should specifically target this age group.

A significant gender imbalance is noted, with 97.96% of respondents identifying as male, indicating a need for more balanced samples in future studies to better understand gender differences in smoking behavior and stress. Course enrollment data shows similar participation rates in BIT-Automotive, BIT-WAFT, and BIT-Electronics, while BIT-Electrical has lower engagement, suggesting that specific academic programs may influence smoking behaviors.

Almost all respondents (97.96%) are single, which may impact their stress levels and smoking habits. Cigarillos are the most commonly used tobacco product (51.02%), followed by shisha (12.24%), indicating a need to explore motivations behind these preferences, such as affordability and social perceptions.

The study finds that 61.22% of respondents are non-migrants, raising questions about how migration status affects stress levels and smoking behaviors, as prior research suggests stress significantly influences migrant smoking habits. Demographic factors such as household size reveal that the most common household size is 5-6 individuals (40.82%), indicating a potential link between family size and smoking behavior or stress levels.

Employment status shows that 65.31% of respondents come from unemployed households, which may contribute to heightened stress levels among students. The predominance of Roman Catholic respondents (91.84%) suggests that religious beliefs could impact stress management and smoking behaviors. The most common dwelling size is "1-2 bedrooms" (59.18%), reflecting socioeconomic status that may indirectly influence smoking behavior and stress.

The findings emphasized the importance of considering household dynamics, employment status, religious affiliation, and living conditions when examining smoking behaviors and stress levels among public tertiary students.

Family Background of Parents

The survey results reveal key demographic characteristics of parents related to smoking behaviors among respondents. Cigarillos emerged as the most commonly used tobacco product, with 53.06% of participants reporting usage, significantly higher than the 16.33% who used cigarettes. This suggests that stress may play a role in smoking behaviors, as indicated by research linking stress to tobacco use.

Regarding education, 63.27% of respondents had attained a college-level education, but only 6.12% were college graduates, with no participants holding vocational or postgraduate degrees. This educational profile may correlate with socioeconomic factors influencing smoking behaviors, particularly as academic pressures could elevate stress levels.

In terms of marital status, 71.43% of respondents were single, while 22.45% were married, suggesting that marital status might impact smoking behaviors and warrant further investigation.

Financially, a significant majority (73.47%) fell into the lowest income category, earning less than P12,082 per month. This financial strain could contribute to higher smoking rates among students, aligning with previous findings on the relationship between financial stress and tobacco use.

Demographically, most respondents (85.71%) came from rural areas, indicating that rural students may face different stressors than their urban counterparts, potentially influencing their smoking behaviors.

Generally, the findings highlight the complex interplay between tobacco use, educational attainment, marital status, income levels, and geographic origin among public tertiary students. Understanding these relationships is essential for developing targeted interventions to reduce tobacco consumption and promote healthier coping strategies within this population. Further research is needed to explore the specific factors influencing cigarillo use and the role of stress in shaping smoking behaviors among students.

Extent of Manifestation on Smoking Behavior

The study indicates that respondents engage in smoking behaviors fairly often, with an average mean score of 2.72. A notable 2.88% of participants smoke cigarettes daily, suggesting that smoking is a regular habit within this group. This finding aligns with existing research indicating that stress significantly influences smoking behaviors, reinforcing the idea that stress may drive tobacco use among respondents.

Additionally, many participants reported exposure to second-hand smoke, highlighting the environmental context of their smoking habits. The regularity of smoking and the acknowledgment of stress as a contributing factor underscore the need for targeted interventions that address both smoking behaviors and the underlying stressors leading to tobacco use.

The findings suggest that effective tobacco control strategies should consider psychological factors influencing students' smoking habits. By addressing these issues, it may be possible to promote healthier coping mechanisms and reduce tobacco consumption among public tertiary students. Overall, the results

emphasize the importance of understanding the interplay between stress and smoking behaviors to inform future public health initiatives.

Degree of Magnitude on Perceived Stress Levels Encountered

The study reveals that respondents engage in smoking behaviors "sometimes," with an average mean score of 2.60, indicating that stress, particularly related to relationships, is a significant factor influencing their smoking habits. This suggests that some individuals may smoke as a coping mechanism for relationship-related stress, highlighting the need for integrated stress management strategies within smoking cessation programs.

Respondents also report "fairly often" levels of perceived financial stress, with an average score of 2.62. This aligns with existing research that connects financial pressures to increased smoking behaviors. Addressing financial stress is crucial for understanding and mitigating tobacco use among this population.

Additionally, the study indicates "fairly often" levels of perceived stress related to family conflict, which may further contribute to smoking behaviors. This underscores the importance of developing interventions aimed at reducing family conflict and enhancing stress management skills.

Participants experience "sometimes" levels of perceived stress related to social inequality, suggesting a lack of social support as a recurring issue. Strengthening social networks could help reduce stress and improve health outcomes.

Finally, respondents report "sometimes" levels of perceived stress due to discrimination, which may lead to increased smoking or e-cigarette use as a coping mechanism. Addressing both discrimination and stress is essential for promoting better mental health outcomes and reducing tobacco use.

The above findings highlight the complex interplay between various sources of stress and smoking behaviors, emphasizing the need for comprehensive interventions that address these underlying issues to support healthier coping mechanisms among respondents.

Table 1. Summary of Tables on the Degree of Magnitude on Perceived Stress Levels Encountered

(n = 49)

Factors	Mean	VD
Relationships	2.6	S
Finances	2.62	FO
Family Conflict	2.61	FO
Perceived Inequality	2.51	S
Discrimination	2.49	S
Factor Weighted Mean	2.57	S

Legend: 4.21-5.00– Always (A); 3.41-4.20– Often (O); 2.61-3.40– Fairly Often (FO); 1.81-2.60– Sometimes (S); 1.00-1.80- Almost Never (AN)

Table 1 above shows the summary of the tables on the degree of magnitude of perceived stress levels encountered. The average weighted mean is 2.57, with the verbal description of "**Sometimes**". Leventhal et al. (2017) focus on adolescents and poly-tobacco use, but their findings on stress and substance use are relevant here. He further pointed out that stressful relationships can be a significant concern for adolescents, and a potential connection between stress and tobacco use in this age group.

This implies that relationship problems are also common stressors. Stress from relationships might lead some respondents, particularly adolescents, to use tobacco (or other substances) to cope.

Extent of Implementation of Tobacco Control Policies as Perceived by the Tobacco Users

The study indicates that the implementation of tobacco control policies is perceived as occurring "fairly often," with an average mean score of 2.67. This finding aligns with research by Berg et al. (2020), which explores the impact of such policies on smoking behaviors. It suggests that effective implementation of tobacco control measures may enhance individuals' motivation to quit smoking, pointing to a potential dose-response relationship where stronger policy enforcement correlates with increased motivation to reduce tobacco use.

This implies that improving the strength and reach of tobacco control policies could play a significant role in motivating individuals to decrease their smoking habits. By reinforcing these policies, public health initiatives may effectively encourage healthier choices and support smoking cessation efforts among the population.

Significant Mean Differences Between the Perceptions of the Four Types of Tobacco Users on Smoking Behavior in Using Tobacco

The one-way analysis of variance (ANOVA) conducted to test the significant mean differences in perceptions of smoking behavior among the four types of tobacco users indicated that there are no significant differences in perceptions of smoking behavior among these groups ($F = 0.66, p = 0.575$). Thus, the analysis fails to reject the null hypothesis, which posits no significant difference in the perceptions of smoking behavior across the four types of tobacco users.

This result suggests that the perceptions of smoking behavior among the four types of tobacco users are not significantly different, indicating a general similarity in their views on smoking behavior. Likewise, Yingst, J. M., et al. (2021) investigated changes in tobacco use and perceived health risks among current tobacco users during the COVID-19 pandemic. Their study found that although there were changes in the quantity of tobacco consumed, the perceptions of risks and behaviors associated with smoking did not significantly differ among users of different tobacco products. This indicates a general similarity in how different types of tobacco users view smoking behavior despite variations in usage patterns.

**Table 2. Significant relationships between smoking behavior and the implementation of tobacco control policies is associated to the reduction on using current tobacco
n= 49**

	ACTUAL ACT	PUFFING STYLE	DEPTH OF INHALATION	RATE AND FREQUENCY OF SMOKING	Extent the Implementation of Tobacco Control Policies
ACTUAL ACT	1				
PUFFING STYLE	.846**	1			
DEPTH OF INHALATION	.558**	.735**	1		
RATE AND FREQUENCY OF SMOKING	.656**	.600**	.630**	1	
Extent the Implementation of Tobacco Control Policies	.239	.327*	.215	.236	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 2 presents the relationship between puffing style, one of the indicators of smoking behavior, and the extent of tobacco control policy implementation ($r = .327, p < 0.05$) is significant. However, the remaining indicators—actual act ($r = .239, p > 0.05$), depth of inhalation ($r = .215, p > 0.05$), and rate and frequency of smoking ($r = .236, p > 0.05$)—do not show significant correlations with the extent of policy implementation aimed at reducing tobacco or electronic cigarette use.

Hence, the null hypothesis of no significant relationship is rejected in the significant relationship between the smoking behavior as to puffing style and the extent of implementation of tobacco control policies, but we failed to reject the null hypothesis to the rest of the indicators.

This result indicates that perceptions of smoking behavior related to puffing style among the four types of tobacco users can influence the frequency or extent of implementing tobacco control policies designed to reduce tobacco and electronic cigarette use. Similarly, Cairney, P. (2019) discusses the importance of detailed behavioral analysis to effectively design and implement tobacco control policies, particularly focusing on aspects like puffing style. The study highlights that specific smoking behaviors can significantly influence the success of these policies. This underscores the need for targeted interventions that consider individual smoking patterns to enhance the overall effectiveness of tobacco control measures.

Conclusion and Recommendations

The researcher concluded that the study revealed a concerning prevalence of tobacco use among freshmen. The findings reveal a clear association between stress factors and smoking fairly often. Furthermore, perceived stress levels were found to sometimes influence smoking behavior. Additionally,

the study suggests that current tobacco control policies are implemented with fairly frequent inconsistency, potentially limiting their effectiveness.

Therefore, a comprehensive Student Development Program is recommended. This program should provide social support networks to foster a sense of belonging. Furthermore, the program should prioritize educational campaigns to empower students with knowledge about the health risks of tobacco use and alternative coping strategies. By implementing these strategies, the program could significantly reduce smoking rates among freshmen.

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