

# The Perceptions and Risk Factors Influencing the Use of Cigarettes and E-Cigarettes among Mambulo Nuevo National High School Students

Cyrha Mae E. Baldado., Babylyn P. Regachuelo., Jela Mae F. Bermudo., Alberto Z. Laborte, Jr. LPT,  
MSDRM

Department of Education - Division of Camarines Sur, Mambulo Nuevo National High School

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## THE PROBLEM

### Introduction

In recent years, there has been significant public concern regarding the increased use of smoking products, such as combustible cigarettes and electronic smoking devices like e-cigarettes, especially within schools. Despite warnings and recommendations from health experts, government organizations, and school policies, the number of students who smoke or vape continues to rise.

Perception plays a crucial role in influencing a student's decision to smoke/vape. Among high school students, the appeal of cigarettes and e-cigarettes maybe, because of different risk factors including peer influence, parental influence, accessibility, stress, curiosity, or media exposure. In Mambulo Nuevo National High School, where high school students users are involved, it is important to understand the perceptions and risk factors that influence them to use which will become the basis to develop effective prevention and intervention programs.

The smoking behavior of adolescents is affected by individual, psychological, and social factors such as curiosity, the smoking behavior of friends or family members, and their social environment. More specifically, at the individual level, the pleasant aromas and various flavors are significant reasons why e-cigarettes are popular among adolescents. One research study in South Korea showed that adolescents who were exposed to secondhand smoke at home were more likely to use e-cigarettes. At the social level, many factors, such as sales, education, and information, influence the usage of e-cigarettes. However, recently with the rapid spread of e-cigarettes information, exposure to this information and the overall availability of e-cigarettes has caused an increased risk of e-cigarettes use among adolescents. Many studies have suggested that exposure to e-cigarettes is associated with an increased intention to try e-cigarettes.

Moreover, according to the study of Zhao S. et al (2023), e-cigarettes users may share e-cigarettes-related information on the internet or social media, such as their favorite e-cigarettes products, which further serve as advertisement. Until now, although many studies have examined the factors associated with e-cigarettes use among adolescents, only a few have explored the specific multi-dimensional characteristics and influencing factors, including friends, family, and environmental factors. This study was based on the theoretical frameworks of the Health Ecological Model (HEM) emphasizing that individual characteristics is influenced by interpersonal networks and social environment and contributes to understanding the relevant factors of adolescents' e-cigarettes use. Through a case-control study, we could comprehensively explore the current problems of e-cigarettes use among adolescents and provide a full-scale and targeted intervention to effectively prevent adolescents e-cigarettes use.

The use of electronic cigarettes increases not only the risk of recurrence of smoking among current smokers but also the risk of initiation of cigarette smoking among never smokers (Adermark et al. 2021). Therefore, as the World Health Organization emphasized in their report on addressing new and

emerging products on the global tobacco epidemic, e-cigarettes use is a public health concern and should be regulated, considering its negative implications to smoking cessation and addiction (WHO 2021). Although there are vaping regulation policies in the Philippines, current trends on the users, markets, and accessibility of e-cigarettes suggest ineffective control of such products (Van der Eijk et al. 2021). Adolescents and young adults are mainly among the vulnerable population groups for cigarette and e-cigarettes use (Hammond et al. 2020; Wamamili et al. 2020). Curiosity, enjoyment, and psychosocial factors related to family, peers, and the school can explain to some extent the smoking and vaping behavior of high school and university students (Lindstrom and Rosvall 2018; Wamamili et al. 2020).

In this exploration, we will understand if there is significant relationship between perceptions and risk factors that contribute to cigarettes and e-cigarettes use among high school students which is essential for developing our recommendation.

This research has a connection within the law of the Philippines about legal frameworks that support ethical and lawful investigations about cigarettes consumption. The passing of Republic Act No. 9211, otherwise known as the Tobacco Regulation Act of 2003, which reiterate

*the government shall institute a balanced policy whereby the use, sale and advertisements of tobacco products shall be regulated in order to promote a healthful environment and protect the citizens from the hazards of tobacco smokes, protect at the same time ensure that the interest of tobacco*

In this analysis, Republic Act 9211 is identified as a pivotal legal framework for the assessment of compliance and enforcement related to tobacco control within the community. However, the rising rates of cigarettes and e-cigarettes consumption among high school students raise significant concerns regarding the efficacy of this legislation. Contributing factors such as product accessibility, social peer influences, and aggressive marketing tactics are likely exacerbating the persistent use of tobacco and vaping products among adolescents. The findings of this study aim to identify specific deficiencies in the implementation of RA 9211 and propose targeted interventions to enhance tobacco control policies at the local level.

This research aimed to determine the perceptions of Mambulo Nuevo National High School students regarding the use of cigarettes and e-cigarettes, identify the factors that influence to their initiation and continued use of these products, and provide insights that could inform policies and strategies to reduce teenagers smoking. We conduct this study to help regulate or lessen the use of cigarettes and e-cigarettes among students.

By gathering this information, the research aims to contribute valuable insights that could inform policies and intervention strategies about the use of cigarettes and e-cigarettes use. This findings could help educators, policymakers, and public health officials design effective programs to prevent youth smoking and promote healthier lifestyle choices.

### **Statement of the Problem**

This study sought to investigate the perceptions and risk factors influencing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students.

Specifically, it sought to answer the following questions:

1. What are the perceptions of Mambulo Nuevo National High School students regarding the use of cigarettes and e-cigarettes?
2. What risk factors contribute to the use of cigarettes and e-cigarettes Mambulo Nuevo National High School students along:
  - a. parental influence,

- b. peer influence,
  - c. accessibility,
  - d. curiosity,
  - e. stress,
  - f. media exposure?
3. Is there a significant relationship between perceptions and risk factors contributing cigarettes and e-cigarettes among high school students?
  4. What preventive measures/interventions can be proposed to reduce the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students?

### **Hypotheses**

**H<sub>a</sub>.** There is significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students.

**H<sub>1</sub>.** There is no significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students.

### **Significance of the Study**

This investigation into perceptions and risk factors that affect the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students is important in different entities.

**Students.** The results of this study would serve as awareness of the health hazards linked to cigarettes and e-cigarettes consumption. Offers insights into the influences of peer pressure and other social factors that may lead to smoking. Promotes informed choices regarding smoking and vaping behaviors.

**Parents or Guardians.** The findings of the study would educate parents about the perceptions and risk factors that influence their children's smoking habits. Aids them in understanding how to guide and assist their children in avoiding tobacco and vaping.

**Educators and School Administrators.** This may serve as an integration in establishing school-based initiative aimed at preventing cigarettes and e-cigarettes use. Supplies data to enforce strict regulations on smoking within school grounds.

**Health Organizations and Government Agencies.** These agencies would benefit by back up public health initiatives against tobacco and vaping among young people. Delivers local data that can inform policymaking and intervention strategies.

**Other Researchers.** This would serve as a reference for similar research on adolescent smoking behaviors. Provides insights into changing patterns in cigarettes and e-cigarettes consumption.

### **Scope and Delimitation**

This study was conducted at Mambulo Nuevo National High School in Mambulo Nuevo Libmanan Camarines Sur from School Year 2025-2026. The study will focus on various factors that affect the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students, concentrating on aspect such as parental influence, peer influence, accessibility, stress, curiosity and media exposure. The study also explored students' attitudes and perceptions toward traditional cigarettes and e-cigarettes.

This is limited to high school students who are enrolled during the academic year 2025-2026. There were zero students from Grade 7, three from Grade 8, five from Grade 9, three from Grade 10, seven from Grade 11 and five Grade 12 with the total of 23 junior and senior high school students, who identify involved in the use of cigarettes and e-cigarettes from Mambulo Nuevo National High School. The data will primarily be gathered through interviews, group discussion, or survey.

This study excluded out of school youth students and students outside this area. It wouldn't also cover long term-health effects of smoking. Additionally, the study wouldn't analyze the chemical composition of cigarettes or e-cigarettes. By setting these boundaries, the study aimed to provide focused and relevant insights into the factors influencing smoking behavior among Mambulo Nuevo National High School students.

### Definition of Terms

To ensure a better understanding of the study, the following were defined by the researchers conceptually and operationally.

**Perceptions.** As defined, it pertains to the ability to see, hear, or become aware of something through the senses. (Oxford Languages). In this study, this refers to the understanding of students about cigarettes and e-cigarettes use.

**Risk Factors.** Is defined as something that increases risk or susceptibility. (Merriam-Webster). In this study, it refers to the reason for the increasing number of cigarette and e-cigarette users continues to persist.

**Parental Influence.** It refers to the significant role that parents play in shaping their children's participation motivation by expressing beliefs and expectations, modeling attitudes and behaviors, and providing support and encouragement. The nature of parental influence may change as children transition from childhood to adolescence, but parents remain important sources of motivation throughout their children's development. (International Encyclopedia of the Social & Behavioral Sciences (Second Edition), 2015). In this study, it pertains to how parents or family members impact student's use of cigarettes and e-cigarettes.

**Peer influence.** This means as a process by which members of the same social group influence other members to do things that they may be resistant to, or might not otherwise choose to do. (Elizabeth Hartney, May 15, 2024). In this study, this refers to one of the risk factors involving peer influence to cigarettes and e-cigarettes use of high school students

**Accessibility.** This means the capability of being used, seen, or known: obtainable. (Merriam-Webster). In this study, accessibility refers to the easy access of cigarettes and e-cigarettes product due to marketing and advertising.

**Curiosity.** It refers to the impulse or desire to investigate, observe or gather information, particularly when material is novel or interesting. (American Psychological Association, 2018). In this study, this means knowing, learning, and exploring more about cigarettes and e-cigarettes used.

**Stress.** It can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. (World Health Organizations, February 2023). In this study, stress refers the pressure or tension that been exerted on cigarettes and e-cigarettes of students.

**Media exposure.** Is defined as the amount and type of media that people are exposed to, including television, social media, radio, print and online platforms. It can also refer to the publicity a person, company, or product receives. (Collins English Dictionary). In this study, it refers to the role of media literacy and it's potential effects for influencing cigarettes and e-cigarettes use.

**Cigarettes.** It refers to a thin cylinder of finely cut tobacco rolled in paper for smoking. A cylinder containing a narcotic, herbs, or a medicated substance for smoking. (Oxford language). In this study, this is the main product that being use of high school students in smoking.

**Electronic cigarettes.** This means as a device that simulates smoking. It consists of an atomizer, a power source such as a battery, and a container such as a cartridge or tank. Instead of smoke, the user inhales vapor. As such, using an e-cigarettes is often called “vaping”. (Wikipedia). In this study, electronic cigarettes is the main product that being use of high school students in smoking.

### Notes

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## RELATED REVIEW OF LITERATURE

This chapter featured review of articles, excerpts and studies relevant to the perceptions and risk factors influencing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students. To give the readers a deeper understanding of the present study, literature, and studies we gathered. Moreover, the synthesis of the state-of-the-art, theoretical, and conceptual frameworks, and paradigms was included.

### Perceptions of high school students regarding the use of Cigarettes and E-Cigarettes

For years now, it's widely recognized that smoking cigarettes can lead to health issues such, as diseases and cancer. Some progress has been made in reducing the number of people smoking cigarettes, thanks to public health campaigns and regulations. However, some students still perceive smoking as acceptable. In a research of Shaikh et al. (2017), conducted in Karachi it was revealed that more than half of the surveyed teenagers had limited knowledge, about e-cigarettes. It seems that despite the marketing of vaping to individuals many of them are approaching it cautiously and carefully considering it before giving it a try. The way adolescents view these products plays a big role in whether they choose to use them, highlighting the urgent need for educational programs. This highlights the importance of understanding the attitudes and beliefs that shape adolescent behavior, as effective education can potentially mitigate negative outcomes associated with product use.

Moreover, marketing has a huge impact on how adolescents perceive these products. In the study of Barrington-Trimis JL et.al (2016), it supports previous findings that an environment in which e-cigarette marketing is unregulated and available to adolescents is associated with susceptibility to future tobacco product use. We showed exposure to e-cigarette advertisements to be predictive of more positive e-cigarette beliefs and greater likelihood of selecting an e-cigarette item in a product choice task compared to control, adjusting for the influence of past tobacco product use.

This was supported by the study of Padon et al. (2018), it studied the influence of advertisements on adolescents' opinions towards e-cigarettes and their beliefs and susceptibility to trying e-cigarettes and tobacco. The study showed that just under 50% of adolescents agreed or strongly agreed that e-cigarettes are high-tech, and a third thought e-cigarettes were visually appealing. Over 25% thought e-cigarettes were socially helpful or cool, and 22% thought they were enjoyable or fun. More than half of the adolescents (54%) were susceptible to trying e-cigarettes. Adolescents are more likely to try e-cigarettes if the product is offered by a friend.

When it comes to health beliefs, a study carried out by the National Institute on Drug Abuse (2021), reported that e-cigarette use among high school students has skyrocketed, with many thinking that vaping is less harmful. In particular, according to the Population Assessment of Tobacco and Health (PATH), the top reasons for e-cigarette use among US adults center around perceptions that e-cigarettes are less harmful than cigarettes to users and other people. In Malaysia, the perception of e-cigarettes as less toxic is the most common reason for e-cigarette use among adults.

To support this study, in a nationally representative sample of US adults, according to Wiseman et al. (2019), it was found that 48% of e-cigarette users perceived e-cigarettes as less addictive than cigarettes, and the low addiction perception was associated with ever e-cigarette use. Similarly, in a study among college students of Cooper et al. (2017), found that 71% of respondents perceived e-cigarettes as not or somewhat addictive, and the perception was associated with current e-cigarette use.

According to Pepper et al. (2016), this mistaken belief accompanied by the delicious taste varieties of e-cigarettes have made vaping increasingly popularized among teenagers and has exceeded regular cigarette usage. These evidences shows that the beliefs surrounding e-cigarettes as potentially effective tools for smoking cessation exacerbate the problem.

In the study conducted by Choi et al. (2017), youths who hold these perceived advantages are more likely to try e-cigarettes, which has implications for the possible normalization of vaping among teenagers and its gateway function to conventional tobacco products.

The interaction between knowledge, marketing factors, and health beliefs plays a crucial role in influencing the attitudes of high school students towards e-cigarette and cigarette consumption. In connection with this, according to Hansen et al. (2018), these interactions require holistic educational approaches and strict regulation of e-cigarette advertising to effectively curb their consumption among young people, hence safeguarding this vulnerable group against the negative consequences of nicotine dependency and associated health complications.

### **Risk Factors contributing to the use of Cigarettes and E-Cigarettes among high school students**

The rising consumption of tobacco products, particularly traditional cigarettes and e-cigarettes, among high school students has become a significant public health concern. Identifying the risk factors contributing to these behaviors is vital for developing effective prevention programs. This review focuses on six primary risk factors: parental influence, peer influence, accessibility, curiosity, stress, and media exposure.

Parental behavior and attitudes significantly impact adolescents' smoking habits. A study by Kearney et al. (2020) revealed that adolescents with at least one smoking parent are more likely to use cigarettes and e-cigarettes. Similarly, Kumar and Sharma (2021) emphasized that strong parental supervision and communication about the risks of smoking serve as protective factors, reducing tobacco use in adolescents.

In the study carried by Lindstrom and Rosvall (2018) emphasized that parents who fail to communicate clear anti-smoking messages indirectly encourage adolescent smoking. The study demonstrated that lack of parental disapproval or passive attitudes toward smoking heightens the chance of tobacco use among teenagers.

Additionally, East et al. (2019) explored how parental monitoring and household rules impact e-cigarette use. Their findings revealed that weak parental supervision and absence of strict no-smoking rules correlate with higher rates of e-cigarette use among adolescents, showing the protective role of parental control. Moreover, a study conducted by Choi and Forster (2020), reported that parental e-cigarette use strongly influences adolescents' perceptions. When parents use e-cigarettes, adolescents perceive the products as less harmful, making them more likely to experiment with e-cigarettes themselves.

Peers play a crucial role in shaping adolescents' tobacco use. Degenhardt et al. (2021) conducted a longitudinal study that showed adolescents whose friends smoke are more likely to initiate smoking. The desire to fit in and peer influence plays a crucial role in the initiation and continuation of cigarettes and e-cigarettes use among high school students. Simons-Morton et al. (2016) found that adolescents who have friends who smoke are significantly more likely to start smoking themselves. Their study emphasized the power of peer pressure and the desire to fit into social groups as major contributors to smoking behavior. Similarly, Wills et al. (2017) discovered that peer modeling and social acceptance are strong predictors of e-cigarettes use, as adolescents often view vaping as a behavior that enhances social status within their peer groups.

According to Roditis and Halpern-Felsher (2018) further supported these findings by highlighting how peer normalization of e-cigarette use encourages adolescents to engage in vaping. Their research revealed that students who perceive vaping as popular or harmless among peers are more likely to participate in the behavior. In a more recent study, Choi et al. (2020) explored how peer networks and social media exposure influence smoking and vaping habits. They found that even indirect exposure to peer smoking behavior through social platforms increases adolescents' susceptibility to tobacco use.

Additionally, Nguyen et al. (2023) demonstrated that peer encouragement and positive reinforcement significantly motivate adolescents to use cigarettes and e-cigarettes. Their mixed-methods study revealed that approval and praise from friends regarding smoking or vaping strongly affect an individual's likelihood to continue or escalate the behavior. These studies collectively highlight that peer influence remains a significant risk factor in tobacco use among high school students. The normalization of smoking behavior within peer groups contribute to experimentation.

Accessibility to tobacco products increases the likelihood of adolescent use. Recent research conducted by Farzeen et al. (2024) in Pakistan found that nearly half of the surveyed children could easily access tobacco shops, contributing to higher rates of e-cigarette and nicotine pouch use. Policies limiting access are crucial to reduce youth tobacco consumption.

Another study of Dai and Hao (2016) highlighted the role of physical accessibility, noting that the geographic density of vape shops and convenience stores near schools correlates with higher e-cigarette use among students. Their longitudinal study suggested that proximity makes tobacco products more available, despite regulatory restrictions on sales to minors.

In the study conducted by Mantey et al. (2019) examined online accessibility, finding that many e-commerce platforms lack rigorous age verification systems, allowing minors to purchase e-cigarettes easily. This online availability bypasses traditional barriers and enhances students' access to such products.

Additionally, Kong et al. (2021) further explored social accessibility, emphasizing how adolescents often obtain cigarettes and e-cigarettes through friends, siblings, or older individuals. Social networks act as significant channels through which students gain access, increasing the prevalence of use.

In this study supported by Gaiha et al. (2022) also pointed to marketing strategies and price promotions as contributing factors to accessibility. They observed that discounts and promotional campaigns reduce the financial barrier for students, making cigarettes and e-cigarettes more attainable to underage users.

According to Rodriguez et al. (2024) focused on institutional accessibility. Their study found that weak enforcement of school policies and community regulations concerning tobacco sales contributes to greater product availability and higher smoking rates among high school students.

Curiosity is a key driver behind the initiation of smoking and vaping. Choi et al. (2021) discovered that curiosity, particularly regarding flavored e-cigarettes, was a strong motivator among high school students. Addressing the appeal of flavors and novelty can help reduce this risk.

In the study of Pepper et al. (2016) found that curiosity is one of the strongest predictors of e-cigarette initiation among adolescents. Their study revealed that students who expressed curiosity about vaping were significantly more likely to experiment with e-cigarettes within the following year.

According to Villanti et al. (2017) emphasized that marketing and the novelty of e-cigarettes spark curiosity in young individuals. Their research indicated that appealing flavors and sleek device designs attract students' attention, prompting them to try these products out of interest.

A longitudinal study by Bold et al. (2018) demonstrated that curiosity-driven experimentation often leads to continued use. Adolescents who initially try cigarettes or e-cigarettes out of curiosity are more likely to transition to regular use over time.

Another study by Kong et al. (2021) highlighted the role of peer discussions and social media exposure in fueling curiosity. Adolescents who encounter frequent conversations or posts about vaping develop a heightened interest in trying it themselves.

A recent study by Ramirez and Lee (2024) explored how curiosity, particularly among younger high school students, serves as a gateway to nicotine dependence. Their findings suggest that unaddressed curiosity may escalate into habitual use without proper education and prevention strategies.

Stress has been widely recognized as a significant risk factor influencing cigarette and e-cigarette use among high school students. Adolescents experiencing high levels of academic, social, or personal stress may resort to smoking or vaping as a coping mechanism.

Stressful experiences during adolescence are often associated with tobacco use as a coping mechanism. Wu et al. (2022) found that high school students experiencing high levels of academic and social stress were significantly more likely to smoke or vape.

According to Soneji et al. (2016), stress related to academic pressures and social relationships is closely linked to the initiation and continuation of e-cigarettes use. Their study found that students often use e-cigarettes to alleviate feelings of anxiety and tension.

A study by Pokhrel et al. (2017) emphasized that psychological distress, including stress and depressive symptoms, increases susceptibility to both cigarette and e-cigarette use. Adolescents facing emotional difficulties tend to use nicotine products as a form of self-medication.

Choi and Forster (2019) also identified stress as a predictor of smoking behavior. Their research indicated that high school students reporting elevated levels of stress are more likely to engage in regular cigarette use, particularly when lacking effective coping strategies.

Research by Tsai et al. (2021) highlighted that the COVID-19 pandemic exacerbated stress levels among adolescents, leading to increased e-cigarettes use. The study noted that isolation, uncertainty, and academic disruptions contributed to heightened stress and substance use.

Lee and Roberts (2024) investigated stress and its association with vaping behaviors. Their findings suggested that students experiencing chronic stress are at a higher risk of becoming dependent on e-cigarettes, using them to temporarily relieve negative emotions.

Media exposure also influences smoking behavior. Primack et al. (2020) conducted a systematic review and concluded that adolescents exposed to tobacco-related imagery in media were more likely to start smoking or vaping. Social media platforms further glamorize vaping, contributing to increased use among youth.

Media exposure plays a significant role in influencing cigarette and e-cigarette use among high school students. Advertisements, social media content, and portrayals of tobacco use in films and online platforms often glamorize smoking and vaping, increasing the likelihood of experimentation among adolescents.

Mantey et al. (2016) found that adolescents frequently exposed to e-cigarette advertisements on television and online platforms showed higher intentions to try e-cigarettes. The study emphasized that marketing strategies targeting youth, especially with appealing visuals and flavors, significantly contribute to their curiosity and usage.

This was supported by the study Singh et al. (2017) highlighting that social media platforms such as Instagram, YouTube, and Facebook often contain pro-vaping content that influences youth behavior. Their research indicated that adolescents who regularly see peers or influencers vaping are more likely to perceive it as socially acceptable and less harmful.

Chen et al. (2019) conducted a longitudinal study showing that repeated exposure to tobacco advertisements leads to a higher risk of smoking initiation. The study emphasized that tobacco companies exploit digital media to reach younger audiences despite regulations.

In the study investigated by Gorini et al. (2022), the portrayal of e-cigarettes in movies and IN streaming platforms. Their study found that adolescents exposed to characters using e-cigarettes in popular media displayed increased susceptibility to vaping.

A recent study by Patel and Rodriguez (2024) revealed that algorithm-driven advertising on social media platforms often targets adolescents with tobacco-related content. Their research suggested that personalized advertisements increase product visibility, making it harder for students to avoid exposure.

Parental influence, peer influence, accessibility, curiosity, stress, and media exposure collectively contribute to increased cigarette and e-cigarette use among high school students. Addressing these factors through comprehensive prevention strategies is essential to curb adolescent tobacco use.

### **Significant Relationships Between Perceptions and Risk Factors Contributing the Use of Cigarettes and E-Cigarettes among high school students**

Perceptions and risk factors have a significant role within each other. A study by Giovacchini et al. (2017), found that e-cigarette use among high school students correlates negatively with personal perception of risk and positively with friends' views on e-cigarettes, indicating significant relationships between perceptions and risk factors contributing to e-cigarette use. In connection with that study, Pane et al. (2023) discovered that perceptions of harm significantly influenced the intention to try e-cigarettes among high school students. As perceptions of harm decreased, the likelihood of intending to try e-cigarettes increased, indicating a relationship between perceptions and risk factors. Another study by Lippert, A. M. (2016) indicates that school-level e-cigarette prevalence significantly influences student perceptions of e-cigarette addictive and harm, as well as their use behaviors and intentions, highlighting a relationship between perceptions and risk factors among high school students. In contrast, the study of Leventhal et al., (2019), found that there was no significant relationship between risk perception, or the belief that e-cigarettes are harmful, and their actual use. Although some participants perceived benefits from using e-cigarettes, this did not lead to an increase in usage.

Villanti et al. found that the effect of peer smoking decreases from early adolescence to middle adolescence, while the effect of family smoking is static across each developmental stage. These researchers also found that exposure to tobacco-related media is associated with increased smoking in both early and middle adolescence. By that study, Liao et al. also found that the effect of peer cigarette use was higher during junior high school than senior high school.

Recent research has examined how perceptions of risk and other cognitive factors are associated with initiation, use, and discontinuation of electronic cigarettes. A recent study by Morello P. et al., the dynamics of smoking in social networks (i.e. closest friends, family, any household member) suggests that a social environment supportive of e-cigarette use or use of combustible tobacco is associated with greater susceptibility to and increased likelihood of using e-cigarettes or smoking.

### **Preventive measures/interventions to reduce the use of cigarettes and e-cigarettes among high school students**

This study evaluates changes in adolescents' cigarettes and e-cigarettes perceptions, knowledge, refusal skills, and intentions to use following a real-world implementation of a school-based cigarettes or vaping-prevention curriculum. Participants completed pre and post-program assessments regarding their cigarette or e-cigarette knowledge, perceptions, refusal skills, and intentions to use cigarettes and e-cigarettes. Participation in a single session smoking-prevention curriculum was associated with several positive changes in high school students' cigarettes and e-cigarettes knowledge, perceptions, refusal skills, and intentions. Future evaluations should examine how such changes affect long-term trajectories of cigarette and e-cigarette use.

School-based tobacco prevention programs have shown mixed results in changing normative beliefs and actual behaviors. However, there are components of school-based tobacco prevention programs that have been effective such as interactive curricula, refusal skills activities, and content addressing health effects and industry marketing.

According to Pbert et al., (2021), educational interventions in schools have been widely used to prevent tobacco use among students. Studies indicate that comprehensive programs incorporating interactive learning, peer education, and behavioral counseling are more effective than traditional lecture-based approaches. In connection with this, study by Schillo et al. (2022) programs such as "Catch My Breath" and "Truth Initiative" have been successful in reducing vaping rates among high school students by emphasizing the health risks of nicotine and using engaging multimedia content.

Furthermore, Social and Emotional Learning (SEL) is also an important aspect of school-based programs, including e-cigarette prevention programs. SEL programs establish a classroom learning environment that enhances adolescents' capacity to manage emotions, understand perspectives of others, establish goals, and use interpersonal skills. Core components of SEL programs include addressing social skills, identifying feelings, and learning coping or relaxation skills.

In the study of Taylor et al., (2017) school-based prevention programs have the potential to address this growing public health concern by reaching large numbers of young people during a critical period for intervention; however, the efficacy of integrating social-emotional learning (SEL) into school curricula has been shown to reduce substance use among adolescents. In particular, according to Davis et al., (2020), SEL programs focus on improving self-regulation, decision-making, and resistance to peer pressure, all of which contribute to lower smoking and vaping rates). such interventions has not been systematically explored. This systematic review aims to determine the existence and efficacy of school-based preventive interventions targeting e-cigarette use.

Meanwhile, Kim et al.,(2021) investigated that given the increasing influence of social media on teenagers, online campaigns have been leveraged to combat tobacco use. Studies show that counter-marketing messages on platforms like Tik Tok, Instagram, and YouTube can effectively dissuade adolescents from using e-cigarettes. The use of artificial intelligence (AI)-driven chatbots for smoking cessation support has also shown promise in reducing nicotine dependence among young users (Struik et al., 2022).

In recent years, a range of health promotion programs delivered via different settings have been developed to prevent or cease (or both) e-cigarettes use in children and adolescents. Public and community-based interventions, delivered via social media, text messages and online modalities, have indicated that they are potentially effective approaches to reduce adolescent e-cigarette use and increase abstinence rates (Graham 2021; Hieftje 2021; Huang 2017; Vallone 2017). School-based programs targeting school policy and curriculum changes regarding the use of e-cigarettes in schools, in combination with targeting students via social media and online programs have shown promise in increasing adolescent knowledge of the potential harms and reducing adolescent intent to try e-cigarettes (Gaiha 2021; Kelder 2020). Although early non-controlled evidence suggests such programs may be beneficial, few rigorous evaluations have been conducted.

The implementation of school-based prevention programs targeting e-cigarette use has shown promising results in improving adolescents' knowledge, perceptions, refusal skills, and intentions. Effective components such as interactive curricula, refusal skills training, and social-emotional learning (SEL) have been key in fostering positive behavioral changes. Additionally, integrating SEL into school environments enhances self-regulation, decision-making, and resistance to peer pressure, further reducing substance use among teenagers. Complementing these efforts, family-based interventions and social media campaigns have demonstrated potential in addressing e-cigarette use outside the classroom setting. However, despite early positive outcomes, there remains a need for systematic evaluations and long-terms studies to fully understand the lasting impacts of these programs on youth behavior and nicotine addiction prevention. Combining these strategies could maximize their effectiveness in combating this public health concern.

### **Synthesis of State-of-the-Art**

All the related studies presented and reviewed have similarities with the present study.

The studies of Shaikh et al. (2017), Barrington-Trimis JL et.al (2016), Padon et al. (2018), National Institute on Drug Abuse (2021), Wiseman et al. (2019), Cooper et al. (2017), Pepper et al. (2016), Choi et al. (2017) and Hansen et al. (2018) were found similar to present study since it deals with the perceptions of high school students in cigarettes and e-cigarette use. Shaikh et al. (2017), conducted in Karachi it was revealed that more than half of the surveyed teenagers had limited knowledge, about e-cigarettes. Barrington-Trimis JL et.al (2016), supported that previous findings that an environment in which e-cigarette marketing is unregulated and available to adolescents is associated with susceptibility to future tobacco product use. Padon et al. (2018), it studied the influence of advertisements on adolescents' opinions towards e-cigarettes and their beliefs and susceptibility to trying e-cigarettes and tobacco. National Institute on Drug Abuse (2021), reported

that e-cigarette use among high school students has skyrocketed, with many thinking that vaping is less harmful. Wiseman et al. (2019), found that 48% of e-cigarette users perceived e-cigarettes as less addictive than cigarettes, and the low addiction perception was associated with ever e-cigarette use. Cooper et al. (2017), found that 71% of respondents perceived e-cigarettes as not or somewhat addictive, and the perception was associated with current e-cigarette use. Pepper et al. (2016), this mistaken belief accompanied by the delicious taste varieties of e-cigarettes have made vaping increasingly popularized among teenagers and has exceeded regular cigarette usage. Choi et al. (2017), youths who hold these perceived advantages are more likely to try e-cigarettes, which has implications for the possible normalization of vaping among teenagers and its gateway function to conventional tobacco products. Hansen et al. (2018), these interactions require holistic educational approaches and strict regulation of e-cigarette advertising to effectively curb their consumption among young people, hence safeguarding this vulnerable group against the negative consequences of nicotine dependency and associated health complications.

The study conducted by Kearney et al. (2020), Kumar and Sharma (2021), Lindstrom and Rosvall (2018), East et al. (2019) and Choi and Forster (2020) were found similar to present study since it deals with the parental influence contribute to initiation of cigarettes and e-cigarette use of high school students. Kearney et al. (2020) revealed that adolescents with at least one smoking parent are more likely to use cigarettes and e-cigarettes. Kumar and Sharma (2021), emphasized that strong parental supervision and communication about the risks of smoking serve as protective factors, reducing tobacco use in adolescents. Lindstrom and Rosvall (2018), emphasized that parents who fail to communicate clear anti-smoking messages indirectly encourage adolescent smoking. East et al. (2019), explored how parental monitoring and household rules impact e-cigarette use. Their findings revealed that weak parental supervision and absence of strict no-smoking rules correlate with higher rates of e-cigarette use among adolescents, showing the protective role of parental control. Moreover, a study conducted by Choi and Forster (2020), reported that parental e-cigarette use strongly influences adolescents' perceptions.

Degenhardt et al. (2021), Simons-Morton et al. (2016), Wills et al. (2017), Roditis and Halpern-Felsher (2018), Cho et al. (2020) and Nguyen et al. (2023) were found similar to present study since it deals with the peer influence contribute to initiation of cigarettes and e-cigarette use of high school students. Degenhardt et al. (2021) conducted a longitudinal study that showed adolescents whose friends smoke are more likely to initiate smoking. Simons-Morton et al. (2016) found that adolescents who have friends who smoke are significantly more likely to start smoking themselves. Wills et al. (2017) discovered that peer modeling and social acceptance are strong predictors of e-cigarette use, as adolescents often view vaping as a behavior that enhances social status within their peer groups. Roditis and Halpern-Felsher (2018) supported these findings by highlighting how peer normalization of e-cigarette use encourages adolescents to engage in vaping. Cho et al. (2020) explored how peer networks and social media exposure influence smoking and vaping habits. They found that even indirect exposure to peer smoking behavior through social platforms increases adolescents' susceptibility to tobacco use. Nguyen et al. (2023) demonstrated that peer encouragement and positive reinforcement significantly motivate adolescents to use cigarettes and e-cigarettes. Their mixed-methods study revealed that approval and praise from friends regarding smoking or vaping strongly affect an individual's likelihood to continue or escalate the behavior.

Farzeen et al. (2024), Dai and Hao (2016), Mantey et al. (2019), Kong et al. (2021), Gaiha et al. (2022) and Rodriguez et al. (2024) were found similar to present study since it deals with the accessibility that contribute to initiation of cigarettes and e-cigarette use of high school students. Farzeen et al. (2024) in Pakistan found that nearly half of the surveyed children could easily access tobacco shops, contributing to higher rates of e-cigarette and nicotine pouch use. Policies limiting access are crucial to reduce youth tobacco consumption. Dai and Hao (2016) highlighted the role of physical accessibility, noting that the geographic density of vape shops and convenience stores near schools correlates with higher e-cigarette use among students. Mantey et al. (2019) examined online accessibility, finding that many e-commerce platforms lack rigorous age verification systems, allowing minors to purchase e-cigarettes easily. Kong et al. (2021) further explored social accessibility, emphasizing how adolescents often obtain cigarettes and e-cigarettes through friends, siblings, or older individuals. Gaiha et al. (2022) also pointed to marketing strategies and price promotions as contributing factors to accessibility. They observed that discounts and promotional campaigns reduce the financial barrier for students, making cigarettes and e-cigarettes more attainable to underage users.

Rodriguez et al. (2024) focused on institutional accessibility. Their study found that weak enforcement of school policies and community regulations concerning tobacco sales contributes to greater product availability and higher smoking rates among high school students.

Choi et al. (2021), Pepper et al. (2016), Villanti et al. (2017), Bold et al. (2018), Kong et al. (2021) and Ramirez and Lee (2024) were found similar to present study since it deals with curiosity that contribute to initiation of cigarettes and e-cigarettes use of high school students. Choi et al. (2021) discovered that curiosity, particularly regarding flavored e-cigarettes, was a strong motivator among high school students. Pepper et al. (2016) found that curiosity is one of the strongest predictors of e-cigarette initiation among adolescents. Their study revealed that students who expressed curiosity about vaping were significantly more likely to experiment with e-cigarettes within the following year. Villanti et al. (2017) emphasized that marketing and the novelty of e-cigarettes spark curiosity in young individuals. Their research indicated that appealing flavors and sleek device designs attract students' attention, prompting them to try these products out of interest. Bold et al. (2018) demonstrated that curiosity-driven experimentation often leads to continued use. Kong et al. (2021) highlighted the role of peer discussions and social media exposure in fueling curiosity. Adolescents who encounter frequent conversations or posts about vaping develop a heightened interest in trying it themselves. A recent study by Ramirez and Lee (2024) explored how curiosity, particularly among younger high school students, serves as a gateway to nicotine dependence.

Wu et al. (2022), Soneji et al. (2016), Pokhrel et al. (2017), Choi and Forster (2019), Tsai et al. (2021) and Lee and Roberts (2024) were found similar to present study since it deals with stress that contribute to initiation of cigarettes and e-cigarette use of high school students. Wu et al. (2022) found that high school students experiencing high levels of academic and social stress were significantly more likely to smoke or vape. Soneji et al. (2016), stress related to academic pressures and social relationships is closely linked to the initiation and continuation of e-cigarette use. Pokhrel et al. (2017) emphasized that psychological distress, including stress and depressive symptoms, increases susceptibility to both cigarette and e-cigarette use. Choi and Forster (2019) also identified stress as a predictor of smoking behavior. Their research indicated that high school students reporting elevated levels of stress are more likely to engage in regular cigarette use, particularly when lacking effective coping strategies. Tsai et al. (2021) highlighted that the COVID-19 pandemic exacerbated stress levels among adolescents, leading to increased e-cigarette use. The study noted that isolation, uncertainty, and academic disruptions contributed to heightened stress and substance use. Lee and Roberts (2024), findings suggested that students experiencing chronic stress are at a higher risk of becoming dependent on e-cigarettes, using them to temporarily relieve negative emotions.

Primack et al. (2020), Mantey et al. (2016), Singh et al. (2017), Chen et al. (2019), Gorini et al. (2022) and Patel Rodriguez (2024) were found similar to present study since it deals with media exposure that contribute to initiation of cigarettes and e-cigarette use of high school students. Primack et al. (2020), conducted a systematic review and concluded that adolescents exposed to tobacco-related imagery in media were more likely to start smoking or vaping. Mantey et al. (2016) found that adolescents frequently exposed to e-cigarette advertisements on television and online platforms showed higher intentions to try e-cigarettes. Singh et al. (2017) highlighting that social media platforms such as Instagram, YouTube, and Facebook often contain pro-vaping content that influences youth behavior. Chen et al. (2019) conducted a longitudinal study showing that repeated exposure to tobacco advertisements leads to a higher risk of smoking initiation. Gorini et al. (2022), the portrayal of e-cigarettes in movies and IN streaming platforms. Their study found that adolescents exposed to characters using e-cigarettes in popular media displayed increased susceptibility to vaping. Patel Rodriguez (2024) revealed that algorithm-driven advertising on social media platforms often targets adolescents with tobacco-related content.

Giovacchini et.al (2017), Pane et.al (2023), Lippert, A. M. (2016), Leventhal et al., (2019), Villanti et al. (2016), Liao et.al and Morello P. et al (2016) were found similar to present study since it deals with significant relationships between perceptions and risk factors contributing cigarettes and e-cigarettes use among high school students. Giovacchini et.al (2017), found that e-cigarette use among high school students correlates negatively with personal perception of risk and positively with friends' views on e-cigarettes. Pane et.al (2023), discovered that perceptions of harm significantly influenced the intention to try e-cigarettes among high school students. Lippert, A. M. (2016) indicates that school-level e-cigarette prevalence

significantly influences student perceptions of e-cigarette addictivity and harm, as well as their use behaviors and intentions. In contrast in the study of Leventhal et al., (2019), found that there was no significant relationship between risk perception, or the belief that e-cigarettes are harmful, and their actual use.

Villanti et al. (2016), found that the effect of peer smoking decreases from early adolescence to middle adolescence, while the effect of family smoking is static across each developmental stage. Liao et al. also found that the effect of peer cigarette use was higher during junior high school than senior high school. Morello P. et al. (2016), the dynamics of smoking in social networks (i.e. closest friends, family, any household member) suggests that a social environment supportive of e-cigarette use or use of combustible tobacco is associated with greater susceptibility to and increased likelihood of using e-cigarettes or smoking.

Pbert et. al (2021), Schillo et.al (2022), Taylor et al. (2017), Davis et al. (2020), Lanza & Teeter (2018), Jackson et.al (2019), Kim et.al (2021), Struik et al. (2022), Graham (2021); Hieftje (2021); Huang (2017); Vallone (2017) and Gaiha (2021); Kelder (2020), were found similar to present study since it deals with preventive measures/interventions to reduce cigarette and e-cigarette use among high school students. Pbert et. al (2021), indicate that comprehensive programs incorporating interactive learning, peer education, and behavioral counseling are more effective than traditional lecture-based approaches. Schillo et.al (2022), conducted programs such as "Catch My Breath" and "Truth Initiative" have been successful in reducing vaping rates among high school students by emphasizing the health risks of nicotine and using engaging multimedia content. Taylor et al. (2017) integrated social-emotional learning (SEL) into school curricula has been shown to reduce substance use among adolescents. Davis et al. (2020), SEL programs focus on improving self-regulation, decision-making, and resistance to peer pressure, all of which contribute to lower smoking and vaping rates. Lanza & Teeter (2018), studies suggested that parental monitoring, open communication, and setting clear expectations significantly reduce the likelihood of youth tobacco use. Jackson et.al (2019), family-based interventions, such as the "Family Matters" program, have been effective in reducing adolescent smoking by enhancing parental engagement and educating families about the dangers of nicotine addiction. Kim et.al (2021), showed that counter-marketing messages on platforms like Tik Tok, Instagram, and YouTube can effectively dissuade adolescents from using e-cigarettes. Struik et al. (2022), used of artificial intelligence (AI)-driven chatbots for smoking cessation support has also shown promise in reducing nicotine dependence among young users. Graham 2021; Hieftje 2021; Huang 2017; Vallone 2017, studied that public and community-based interventions, delivered via social media, text messages and online modalities, have indicated that they are potentially effective approaches to reduce adolescent e-cigarette. Gaiha 2021; Kelder 2020, school-based programmes targeting school policy and curriculum changes regarding the use of e-cigarettes in schools, in combination with targeting students via social media and online programmes have shown promise in increasing adolescent knowledge of the potential harms and reducing adolescent intent to try e-cigarettes.

## Gap Bridged by the Study

After having reviewed all the literature and studies, it has been found that are no local studies about the presented study, most of the studies are foreign studies. Although there were some similarities cited between the study and the studies mentioned above, most of the studies evaluated about the perceptions and risk factors using different methods of investigation and approach.

## Theoretical Framework

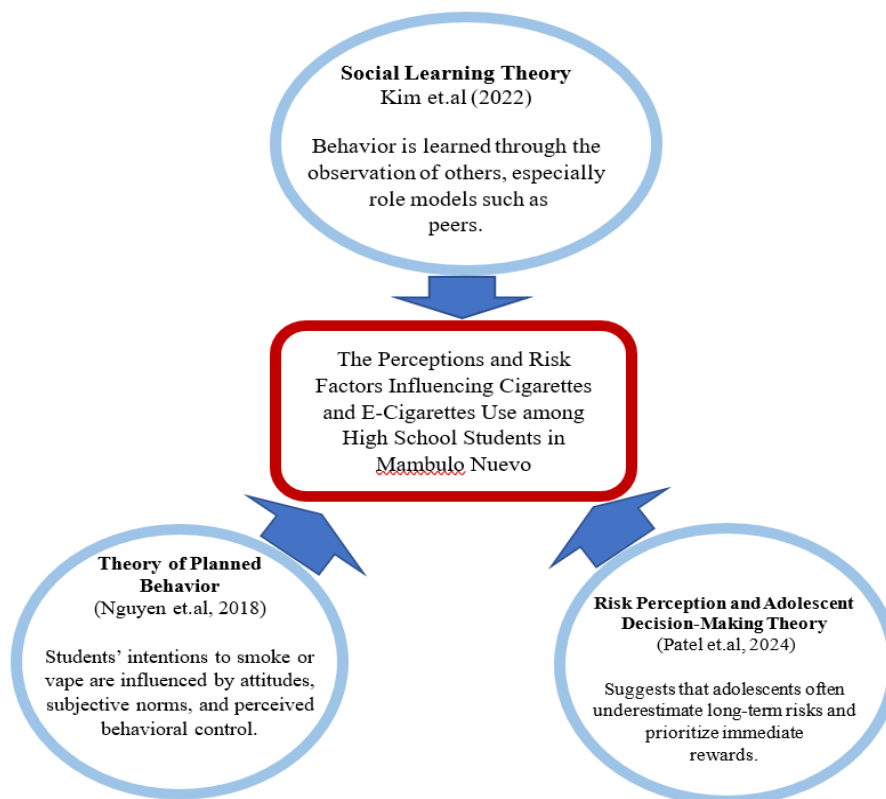
This study will be anchored on the following theories: The main theory of this study is the Social Learning Theory of Albert Bandura, while the supporting theories are Theory of Planned Behavior and Risk Perception and Adolescent Decision-Making Theory. Figure I illustrates the application of these theories.

The Social Learning Theory of Albert Bandura as cited by Kim et.al (2022); Wang et.al (2022); Zhao et.al (2023), states that behavior is learned through the observation of others, especially role models such as peers. Research indicates that peer influence is a pervasive theme; studies consistently highlight that adolescents with friends who smoke or vape are significantly more likely to initiate or continue using these product. This theory

explains how students may learn smoking or vaping behaviors by observing their peers who engage in these activities. In Mambulo Nuevo National High School, if students see their friends or older schoolmates smoking/vaping, they might view it as normal or “cool,” increasing the likelihood that they will try it themselves. This supports your research focus on peer influence as a major risk factor.

Another theory is the Theory of Planned Behavior of Icek Ajzen cited by Nguyen et al. (2021), suggests that students’ intentions to smoke or vape are influenced by attitudes, subjective norms, and perceived behavioral control. This can be applied to our study since adolescents who perceive vaping as socially acceptable and personally enjoyable are more likely to engage in the behavior, particularly if they feel they have control over their choices.

Another theory is the Risk Perception and Adolescent Decision-Making Theory of Laurence Steinberg cited by Patel et.al (2024), which suggests that adolescents often underestimate long-term risks and prioritize immediate rewards. In the study, confirms that teenagers engage in vaping without knowing it’s risks due to peer pressure, stress relief, and curiosity reinforcing the need to stronger preventive education. This theory explains why adolescents often ignore long-term health risks and focus more on short-term rewards like stress relief, fun, or fitting in with friends. In Mambulo Nuevo National High School, this can help you understand why students may continue vaping despite knowing it’s harmful effect— because of peer influence, curiosity, or instant satisfaction feel more important than future health consequences.



**Figure 1. Theoretical Paradigm**

The behavior is learned by attitude, subjective norms and behavioral controls that cause long term-risks.

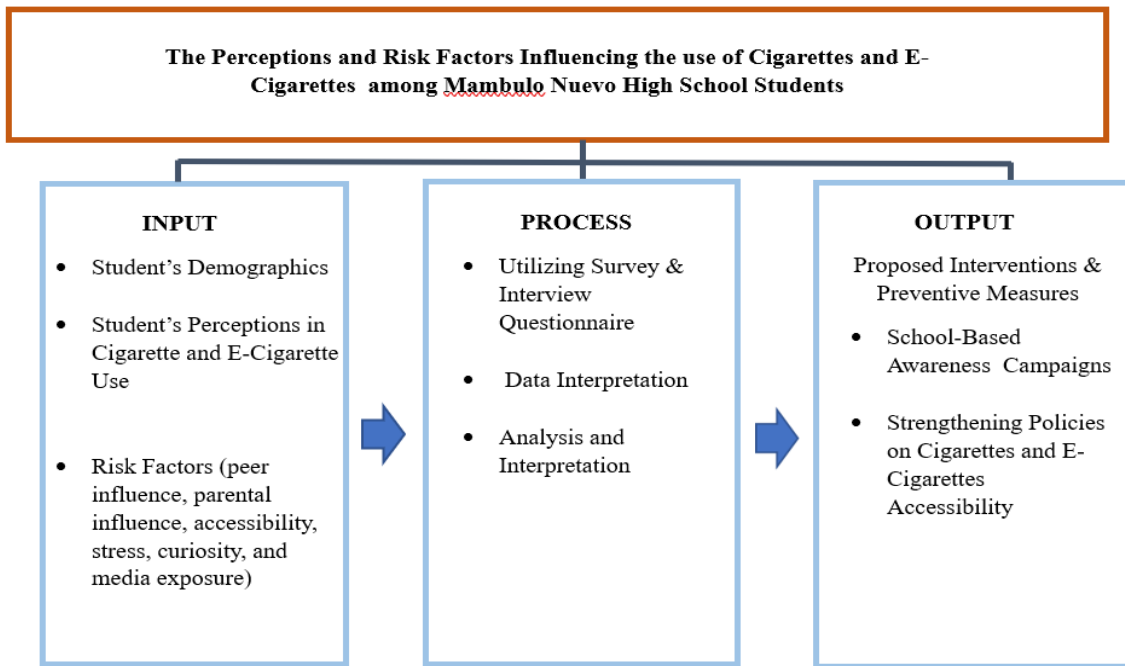
### Conceptual Framework

The study would focused on making interventions that can help reduce cigarettes and e-cigarettes use. The theories mentioned provide some basis for conceptualization of the descriptive method of this study. The conceptual paradigm is shown in Figure 2.

The input consists Student’s Demographics, Student’s Perceptions in Cigarettes and E-Cigarettes Use, Risk Factors (parental influence, peer influence, accessibility, stress, curiosity, and media exposure). Student’s demographics refers to the personal information including age, gender, grade level, socioeconomic status,

and other personal characteristics that may influence smoking behavior. Student’s perceptions of Mambulo Nuevo National High School students regarding the use of cigarettes and e-cigarettes, this is how the students view smoking and vaping. Risk factors are the elements that influence students to use cigarettes and e-cigarettes.

The process was utilize survey & interview questionnaire and data interpretation. The survey & interview questionnaire will be utilized to gather student’s opinions, behaviors, and perceptions towards cigarette and e-cigarette use. After the data collected, it will be processed using qualitative analysis to identify significant correlations. The proposed interventions & preventive measures will serve as the output of the study.



**Figure 2. Conceptual Paradigm**

The understanding of perception and risk-factors on cigarettes and e-cigarettes use among high school students.

**Notes**

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## RESEARCH DESIGN AND METHODOLOGY

This chapter discussed the research process of the investigation to solve the problems under consideration. It include the research methodology, data gathering procedure, research instrument and statistical tools used in treating the data gathered.

### Method Used

In this study, the descriptive-qualitative-correlational method was used. Descriptive method was used to described the perceptions and risk factors influencing the use cigarettes and e-cigarettes among high school students.

Qualitative method was used to focused on understanding the perceptions and risk factors that influence students to use cigarettes and e-cigarettes.

Correlational method was used to determined the significant relationship between perceptions and risk factors contributing cigarettes and e-cigarettes use among high school students.

### Respondents of the Study

Table 1 presented the respondents of this study to whom the researcher conducted the survey and interview questionnaires. The respondents of this study were the 23 junior and senior high school students in Mambulo Nuevo National High School, school year 2025-2026 that had been chosen using purposive and convenience sampling.

**Table 1 Respondents of the Study**

Grade Level	N	n
7	177	0
8	192	3
9	137	5
10	123	3
11	86	7
12	124	5
<b>Total</b>	<b>839</b>	<b>23</b>

As shown in Table 1, there were zero students from Grade 7, three from Grade 8, five from Grade 9, three from Grade 10, seven from Grade 11 and five Grade 12 with the total of 23 junior and senior high school students, who identify involved in the use of cigarettes and e-cigarettes from Mambulo Nuevo National High School.

## Data Gathering Tools

The study used a survey questionnaire to gather information. The survey had three sections: first collecting basic information about the participants including their age, gender, grade level and smoking status. Second, it focus on the perceptions of students in cigarettes and e-cigarettes using Likert- scale for the responses. Third, assess the influence of risk factors contributing to smoking behavior. Lastly, identify if there is a significant relationship between perceptions and risk factors contributing to the use of cigarettes and e-cigarettes.

In addition to survey questionnaire, the respondents were be interviewed to get more in-depth information about their perceptions and risk factors influenced them in smoking or vaping, that fully help to understand the behavior towards smoking or vaping.

## Data Gathering Procedure

After the approval of the research proposal by the research committee, the researcher prepared survey and interview questionnaires.

To gather the data, a letter was been sent to school administrator to conduct the survey and parent consent along with agreement from the students. The questionnaire were submitted for evaluation by the panel of experts to ensure the reliability and validity. Revisions of the final questionnaires will be based on the suggested comments and suggestions.

Collecting the data of responses, the researcher were checked the accurateness and record for analysis It would ensure that the answers give by the respondents would keep confidential and only use for research purposes only.

## Statistical Treatment of Data

The data gather were treated, analyze and interpreted with the use of the statistical tool:

**Descriptive Statistics.** It involved summarizing and presenting data in a meaningful way to describe the basic features of a dataset through numerical measures, tables, and graphical representations. (Kaur et.al, 2018).

**Mean.** This was used in finding the average perception of students use cigarettes and e-cigarettes along respective aspects.

$$\bar{X} = \frac{\sum x}{N}$$

where:

$\bar{X}$  = mean

$x$  = score

$n$  = total number of respondents

$\sum x$  = sum of the score

**Chi-Square.** This tool was used in determining the significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes.

$$x^2 = \sum \frac{(O - E)^2}{E}$$

where:

$x^2$  - chi-square

$O$  - observed frequency

$E$  - expected frequency

### Notes

Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, 4(1), 60. Retrieved from <https://doi.org/10.4103/ijaijam>, August 12, 2025

## ANALYSIS AND INTERPRETATION

This chapter presented the analysis and interpretation of the data gathered relative to the perceptions and risk factors influencing the use of cigarettes and e-cigarettes among students in Mambulo Nuevo National High School, School Year 2025-2026. The answers to specific questions of this study were analyzed, discussed, and interpreted. Data were presented in tables to comprehend the interpretation.

The first part deal with the perceptions of Mambulo Nuevo National High School students regarding the use of cigarettes and e-cigarettes and the second part shows the risk factors contribute to the use of cigarettes and e-cigarettes among high school students along six components. These two variables were correlated to determine its relationship to the respective aspects.

### Perceptions on the use of Cigarettes and E-Cigarettes

Perceptions, it pertains the ability to see, hear, or become aware of something through the senses. In this study, perception refers to the understanding of students about cigarettes and e-cigarettes use. Table 1 shows the students' perceptions regarding the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students based on the statements provided.

The survey gained average perceptions of cigarettes and e-cigarettes, with a weighted mean of 2.82, indicating Agree. Three statements were rated strongly agree among the five statements, “*Using cigarettes/e-cigarettes is harmful to my health*” mean of 3.18, “*There are factors that influence me to use cigarettes/e-cigarettes*” mean of 3.13 and “*The use of cigarettes and e-cigarettes should be discouraged among youth*”, with a mean of 3.00.

**Table 2 Mean Distribution of Perceptions**

Statement	Mean	Interpretation
Using cigarettes/e-cigarettes is harmful to my health.	3.18	Strongly Agree
E-cigarettes are less harmful than regular cigarettes.	2.37	Agree
Smoking is a normal behavior among teenagers/students.	2.43	Agree
The use of cigarettes and e-cigarettes should be discouraged among youth.	3.13	Strongly Agree
There are factors that influence me to use cigarettes/e-cigarettes.	3.00	Strongly Agree
Weighted Mean	<b>2.82</b>	<b>Agree</b>

### Legend:

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

This indicated that students do not perceive smoking or vaping as typical or acceptable among their peers, showing that they are generally conscious of its negative effects and social unacceptability. It can be inferred that students are aware that smoking and vaping should be discouraged and influenced by peers. This implied that they recognize the negative effects and do not see these behaviors as normal among their peers.

This finding is supported by the study of Padon et al. (2018) revealed that youth-targeted advertisements significantly influence adolescents' opinions towards e-cigarettes and their beliefs and susceptibility to trying them. Misleading marketing can cause young people to believe that vaping is less harmful than traditional smoking. Nguyen et al. (2023) demonstrated that peer encouragement and positive reinforcement significantly motivate adolescents to use cigarettes and e-cigarettes. According to Hansen et al. (2018), educational approaches and strict regulation of e-cigarette advertising are effective in reducing consumption among adolescents. This shows that effective control programs can influence how youth perceive smoking, making it less socially acceptable. Another study by Pbert et al. (2021), educational interventions in schools have been widely used to prevent tobacco use among students, and comprehensive programs incorporating peer education and behavioral counseling are more effective.

### Risk factors contribute to the use of Cigarettes and E-cigarettes

Risk factors, is defined as something that increases risk or susceptibility. In this study, it is the reason for the increasing number of cigarette and e-cigarette users continues to persist along parental influence, peer influence, accessibility, curiosity, stress and media exposure.

Parental Influence. It refers to the significant role that parents play in shaping their children's participation motivation by expressing beliefs and expectations, modeling attitudes and behaviors, and providing support and encouragement. The nature of parental influence may change as children transition from childhood to adolescence, but parents remain important sources of motivation throughout their children's development. In this study, parental influence was about how parents or family members impact student's use of cigarettes and e-cigarettes. Table 3 addresses the role of the family unit, specifically the actions and attitudes of parents, in shaping the student's perspective on smoking and vaping. The results reveal that while parental actions are highly influential, their permission and the normalization of the behavior within the family are not strongly compelling to the youth.

**Table 3 Mean Distribution of Parental Influence**

Factors	Mean	Interpretation
My parents' actions about smoking really affect how I feel about it.	2.43	Agree
If my parents are okay with smoking, I want to try it more.	2.34	Agree
I see family members smoking or vaping a lot, which makes it feel normal.	2.61	Agree
My parents tell me their stories about smoking, making it easier to discuss.	2.17	Agree
They don't really stop me from trying cigarettes or e-cigarettes.	2.29	Agree
<b>Weighted Mean</b>	<b>2.37</b>	<b>Agree</b>

#### Legend:

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

The data presented in Table 3 demonstrated that parents significantly influence how young people perceive and view smoking, with an overall agreement level reflected by a mean score of 2.37. This suggests that many respondents believe their parents' attitudes and behaviors around smoking impact their own attitude. This result was supported by the study conducted of Choi and Forster (2020), reported that parental e-cigarette use strongly influences adolescents' perceptions. When parents use e-cigarettes, adolescents perceive the products as less harmful, making them more likely to experiment with e-cigarettes themselves.

Notably, the highest score of 2.61 indicates that frequent observation of family members smoking or vaping normalizes the behavior, potentially making it more acceptable to youth. Conversely, the lowest score of 2.17, while still indicating agreement, shows that stories or discussions about smoking by parents are less influential compared to direct behavior observation. It linked in the study carried by Lindstrom and Rosvall (2018) emphasized that parents who fail to communicate clear anti-smoking messages indirectly encourage adolescent smoking. The study demonstrated that lack of parental disapproval or passive attitudes toward smoking heightens the chance of tobacco use among teenagers.

Overall, these findings highlighted that children are more affected by what they see their parents do than by what they are told. This underscored the importance for parents to be mindful of their actions, as they may unintentionally shape their children's views on smoking. The results imply that prevention strategies should extend to parents, encouraging responsible behavior and open conversations at home to help reduce the likelihood of youth starting to smoke.

This findings was similar to the study of Kearney et al. (2020) that revealed adolescents with at least one smoking parent are more likely to use cigarettes and e-cigarettes. Likewise, Kumar and Sharma (2021) emphasized that strong parental supervision and communication about the risks of smoking serve as protective factors, reducing tobacco use in adolescents.

**Peer Influence.** This means it is a process by which members of the same social group influence other members to do things that they may be resistant to, or might not otherwise choose to do. In this study, this is one of the risk factors involving peer influence to cigarettes and e-cigarettes use of high school students. Table 1.3 investigated the powerful sociological dynamics of peer groups, examining both direct pressure and the subtle, internal feelings of needing social acceptance.

Based on the survey results, students showed a high level of peer influence contributing to the use of cigarettes and e-cigarettes, with a weighted mean of 3.14, indicating strongly agree. This suggested that many students feel their friends have a considerable impact on their thoughts and choices regarding smoking or vaping. Similar findings was revealed in the study of Simons-Morton et al. (2016) found that adolescents who have friends who smoke are significantly more likely to start smoking themselves.

The statement with the highest mean (3.99) sometimes feel pressure from friends to try smoking or vaping" - highlights how peer pressure is a major influence on students' behavior. Additionally, students strongly agree (3.31) that being accepted by friends is more important than avoiding smoking or vaping, emphasizing the strong role social acceptance plays in their decisions. This findings was supported by the study of Degenhardt et al. (2021) conducted a longitudinal study that showed adolescents whose friends smoke are more likely to initiate smoking. The desire to fit in and peer influence plays a crucial role in the initiation and continuation of cigarette and e-cigarette use among high school students.

**Table 4 Mean Distribution of Peer Influence**

Factors	Mean	Interpretation
I sometimes feel pressure from friends to try smoking or vaping.	3.99	Strongly Agree
A lot of my friends think smoking or vaping is normal.	2.83	Agree
When my friends smoke or vape, I feel like I'm missing out.	2.65	Agree
Some friends have asked me to try cigarettes or e-cigarettes with them.	2.91	Agree
Being accepted by my friends feels more important than not smoking or vaping.	3.31	Strongly Agree
<b>Weighted Mean</b>	<b>3.14</b>	<b>Strongly Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

Other statements received Agree ratings, indicated that while not all students encounter direct pressure, many perceive smoking or vaping as normalized within their peer groups. These findings suggested that peer influence is a key factor driving students' curiosity and their willingness to try smoking or vaping. The desire for social acceptance and peer pressure may lead students to engage in these risky behaviors, even if they are aware of potential health consequences. In the study of Roditis and Halpern-Felsher (2018) further supported these findings by highlighting how peer normalization of e-cigarette use encourages adolescents to engage in vaping. Their research revealed that students who perceive vaping as popular or harmless among peers are more likely to participate in the behavior.

**Accessibility.** Means it is capable of being used, seen, or known: obtainable. In this study, accessibility refers to the easy access of cigarettes and e-cigarettes product due to marketing and advertising. Table 4 shifts the focus from psychological and social drivers to the structural and environmental factors that facilitate the use of cigarettes and e-cigarettes, specifically addressing ease of access.

The overall results indicated a level of strongly agree accessibility to cigarettes and e-cigarettes products, weighted mean of 3.09 (Strongly Agree), suggested that access is particularly easy to students. This statement *"There are stores nearby that sell to kids without checking age"*, garnered a higher average of 4.00 (Strongly Agree), indicated that weak enforcement of age restrictions and the presence of nearby stores notably enhance youth access. It can be inferred that youth access to cigarettes and e-cigarettes is largely driven by weak enforcement of age restrictions at retail stores. This implied that strengthening vendor compliance and regulatory oversight could significantly reduce underage access. This align in the study of Dai and Hao (2016) highlighted the role of physical accessibility, noting that the geographic density of vape shops and convenience stores near schools correlates with higher e-cigarette use among students. Their longitudinal study suggested that proximity makes tobacco products more available, despite regulatory restrictions on sales to minors. Another study of Rodriguez et al. (2024) focused on institutional accessibility. Their study found that weak enforcement of school policies and community regulations concerning tobacco sales contributes to greater product availability and higher smoking rates among high school students.

**Table 5 Mean Distribution of Accessibility**

Factors	Mean	Interpretation
It's easy to buy cigarettes or vapes near my school or home.	3.09	Strongly Agree
I know someone who could get cigarettes or vapes for me easily.	2.79	Agree
There are stores nearby that sell to kids without checking age.	4.00	Strongly Agree
I've seen other students bring cigarettes or vapes to school.	2.74	Agree
It doesn't seem hard for people my age to get cigarettes or e-cigarettes.	2.82	Agree
Weighted Mean	<b>3.09</b>	<b>Strongly Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

Other statements, also rated as agree, reflect students' observations that peers often bring cigarettes or vapes to school and that many of their classmates can easily obtain these items. The results imply that easy accessibility to cigarettes and e-cigarettes increases the chances that students will try or regularly use these products. Weak enforcement of age restrictions may unintentionally encourage underage smoking and vaping.

This agree statements was align in a recent research conducted by Farzeen et al. (2024) in Pakistan found that nearly half of the surveyed children could easily access tobacco shops, contributing to higher rates of e-cigarette and nicotine pouch use. Policies limiting access are crucial to reduce youth tobacco consumption. Additionally, Kong et al. (2021) further explored social accessibility, emphasizing how adolescents often

obtain cigarettes and e-cigarettes through friends, siblings, or older individuals. Social networks act as significant channels through which students gain access, increasing the prevalence of use. Furthermore, in the study conducted by Mantey et al. (2019) they examined online accessibility, finding that many e-commerce platforms lack rigorous age verification systems, allowing minors to purchase e-cigarettes easily. This online availability bypasses traditional barriers and enhances students' access to such products.

**Curiosity.** It refers to the impulse or desire to investigate, observe or gather information, particularly when material is novel or interesting. In this study, curiosity means knowing, learning, and exploring more about cigarettes and e-cigarettes used. The data in Table 6 focused on intrinsic motivations, particularly the role of curiosity in predisposing students to smoking and vaping.

The study revealed that students demonstrated a high level of curiosity about smoking and vaping, with an overall weighted mean of 3.22, indicating a Strongly Agree. The results imply that curiosity plays a significant role in shaping students' perception of smoking and vaping. Since all of them fully agree with trying these habits, their curiosity and interest make them consider it.

**Table 6 Mean Distribution of Curiosity**

Factors	Mean	Interpretation
I've thought about trying smoking or vaping just to see what it's like.	3.82	Strongly Agree
I'm curious about the taste and flavors of different cigarettes or vapes.	3.13	Strongly Agree
I want to try smoking or vaping at least once in my life.	3.13	Strongly Agree
My curiosity makes me think about using cigarettes or vapes.	3.05	Strongly Agree
I often wonder why some people choose to smoke or vape.	2.95	Agree
<b>Weighted Mean</b>	<b>3.22</b>	<b>Strongly Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

But, a specific statement *"I've thought about trying smoking or vaping just to see what it's like"*, received a higher mean of 3.82, it can be inferred that many students contemplate trying smoking or vaping to understand the experience. This finding is in congruence with the study of Ramirez and Lee (2024) explored how curiosity, particularly among younger high school students, serves as a gateway to nicotine dependence. Their findings suggested that unaddressed curiosity may escalate into habitual use without proper education and prevention strategies.

The low mean (2.95) was for *"I often wonder why some people choose to smoke or vape,"* which was interpreted as Agree. This indicated that students' curiosity tends to focus more on personal experience rather than understanding others' reasons. This was supported of the study by Kong et al. (2021) highlighted the role of peer discussions and social media exposure in fueling curiosity. Adolescents who encounter frequent conversations or posts about vaping develop a heightened interest in trying it themselves.

The overall results implied that curiosity is a significant factor that can lead students to try smoking or vaping. Even if they do not strongly endorse smoking behaviors, their interest and desire to experience it may put them at risk of starting. This findings indicated an important opportunity for preventive education, as students' curiosity has not yet solidified into firm intentions. The result was supported by Choi et al. (2021) discovered that curiosity, particularly regarding flavored e-cigarettes, was a strong motivator among high school students. Addressing the appeal of flavors and novelty can help reduce this risk. Align with this, Villanti et al. (2017) emphasized that marketing and the novelty of e-cigarettes spark curiosity in young individuals. Their research indicated that appealing flavors and sleek device designs attract students' attention, prompting them to try these products out of interest.

**Stress.** It can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. In this study, stress refers the pressure or tension that been exerted on cigarettes and e-cigarettes of students. Table 7 examines the role of psychological vulnerability and the perceived function of smoking and vaping as coping mechanisms for stress and negative emotions.

The findings suggest that stress is a significant factor influencing students' perceptions of smoking and vaping. All statements related to this variable received mean scores classified as "agree," with an overall weighted mean of 2.88. This indicates that respondents generally believe that smoking or vaping may serve as a coping mechanism for stress, emotional difficulties, or challenging situations both at school and at home. This results was supported by Lee and Roberts (2024) investigated stress and its association with vaping behaviors. Their findings suggested that students experiencing chronic stress are at a higher risk of becoming dependent on e-cigarettes, using them to temporarily relieve negative emotions.

This conforms to the findings of Pokhrel et al. (2017) emphasized that psychological distress, including stress and depressive symptoms, increases susceptibility to both cigarette and e-cigarette use. Adolescents facing emotional difficulties tend to use nicotine products as a form of self-medication. This is also supported by the study of Choi and Forster (2019) they identified stress as a predictor of smoking behavior. Their research indicated that high school students reporting elevated levels of stress are more likely to engage in regular cigarette use, particularly when lacking effective coping strategies.

**Table 7 Mean Distribution of Stress**

Factors	Mean	Interpretation
Sometimes I think smoking or vaping could help me feel better when I'm stressed.	2.92	Agree
When I feel down, I look for something like smoking or vaping to feel better.	2.91	Agree
When things are tough, I think smoking could help me escape.	2.78	Agree
I've thought about using cigarettes or vapes to get away from my problems.	2.83	Agree
Stressful times at school or home make me think about trying smoking or vaping.	2.96	Agree
Weighted Mean	<b>2.88</b>	<b>Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

The statement "*Stressful times at school or home make me think about trying smoking or vaping*" achieved the highest mean score of 2.96, corresponding to "Agree." This underscored the idea that stressors originating from academic pressures and family environments are notable triggers that influence students' considerations of smoking or vaping. Such results highlighted the importance of stress management and emotional support initiatives within prevention programs, as students appear most vulnerable during periods of increased stress. These findings imply that emotional and stress-related factors significantly shape positive perceptions of smoking and vaping among students, even if they do not necessarily translate into actual use. This findings aligned with the study of Wu et al. (2022) found that high school students experiencing high levels of academic and social stress were significantly more likely to smoke or vape. Likewise, Soneji et al. (2016), stress related to academic pressures and social relationships is closely linked to the initiation and continuation of e-cigarette use. Their study found that students often use e-cigarettes to alleviate feelings of anxiety and tension.

**Media Exposure.** Is defined as the amount and type of media that people are exposed to, including television, social media, radio, print and online platforms. It can also refer to the publicity a person,

company, or product receive. In this study, it refers to the role of media literacy and its potential effects for influencing cigarettes and e-cigarettes use.

Table 8 explored the influence of the digital environment, specifically social media and online content, on the students' perceptions and curiosity regarding smoking and vaping. The overall mean results is 2.87 indicating agree responses.

Data indicated that media exposure plays a noticeable role in shaping students' perceptions of smoking and vaping. The overall weighted mean of 2.87, interpreted as "Agree," suggested that students are frequently exposed to content related to smoking and vaping, particularly on social media platforms. The statement *"I see a lot of smoking and vaping content on social media"* received the highest mean score of 3.18, classified as "Strongly Agree," highlighted the extensive presence of such content online. These results imply that social media tends to normalize and sometimes positively portray smoking and vaping, which can increase curiosity and perceived acceptability among students. Consequently, media exposure may indirectly influenced attitudes toward these behaviors.

Social media platforms further glamorize vaping, contributing to increased use among youth. This can be linked to the study of Primack et al. (2020) conducted a systematic review and concluded that adolescents exposed to tobacco-related imagery in media were more likely to start smoking or vaping. Also, the study of Singh et al. (2017) highlighting that social media platforms such as Instagram, YouTube, and Facebook often contain pro-vaping content that influences youth behavior.

**Table 8 Mean Distribution of Media Exposure**

Factors	Mean	Interpretation
I see a lot of smoking and vaping stuff on social media.	3.18	Strongly Agree
Vaping seems cool based on what I see online.	2.56	Agree
I notice that famous people I follow post pictures or videos of themselves vaping.	3.09	Strongly Agree
Social media has made me more curious about smoking or vaping.	2.96	Agree
I often see smoking or vaping shown in a good light online.	2.57	Agree
Weighted Mean	<b>2.87</b>	<b>Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

Their research indicated that adolescents who regularly see peers or influencers vaping are more likely to perceive it as socially acceptable and less harmful.

**Relationship between Perceptions and Risk Factors**

Table 9 presents data on the significant relationship between perceptions and risk factors contributing to the use of cigarettes and e-cigarettes.

As revealed in the table, two out of five statements were highly significant related to some perceptions and risk factors such as *"My perception of smoking is affected by what I see in my environment."* and *"It's okay to smoke/vape if your parents agree with it."* with the same chi-square value of 3.5218. It indicate that external influences, particularly environmental exposure, are more significant than internal factors like personal beliefs or stress in shaping students' attitudes toward smoking

**Table 9. Significant Relationship between Perceptions and Risk Factors**

Factors	Agree (O)	Disagree (O)	Expected (E)	X <sup>2</sup> Value	Interpretation
My perception of smoking is affected by what I see in my environment.	16	7	11.5	3.5218	Highly Significant
Risk factors like stress and peer pressure can change how I view smoking.	15	8	11.5	2.1304	Moderately Significant
I am more likely to try smoking if I think it is not harmful.	13	10	11.5	0.3912	Not Significant
My decision not to smoke is influenced by my understanding of its risks.	14	9	11.5	1.0870	Slightly Significant
It's okay to smoke/vape if your parents agree with it.	7	16	11.5	3.5218	Highly Significant
<b>Average</b>	<b>13</b>	<b>10</b>	<b>11.5</b>	<b>2.1304</b>	<b>Moderately Significant</b>

**Legend:**

- ≥3.00 - Highly Significant
- 2.00 - 2.99 - Moderately Significant
- 1.00 - 1.99 - Slightly Significant
- 0.00 - 0.99 - Not Significant

Also, parental approval emerged as a highly significant factor, indicating that family norms and attitudes play a crucial role in student smoking behaviors. This significant relationship results along environmental exposure and parental influence were supported by researches made by Morello P. et al (2016), the dynamics of smoking in social networks (i.e. closest friends, family, any household member) suggests that a social environment supportive of e-cigarette use or use of combustible tobacco is associated with greater susceptibility to and increased likelihood of using e-cigarettes or smoking.

On the other hand, *“I am more likely to try smoking if I think it is not harmful.”* had no significant relationship between perceptions and risk factors. It means that there is no strong evidence to suggest a clear relationship between one’s belief about smoking’s harm to the smoking behavior of students. This findings was supported by the study of Leventhal et al., (2019), found that there was no significant relationship between risk perception, or the belief that e-cigarettes are harmful, and their actual use. Although some participants perceived benefits from using e-cigarettes, this did not lead to an increase in usage.

The overall computed outcome X<sup>2</sup> value of 2.1304, established researcher’s hypothesis that the relationship between perceptions and risk factors contributing to the use of cigarettes and e-cigarettes among high school students were moderately significant related.

It can glean several key insights about how students’ perceptions and attitudes toward smoking are shaped by different risk factors especially environmental exposure and parental influence. Thus, the findings show that some perceptions are indeed influenced by risk factors, but not all in the same way or to the same degree.

**Preventive measures/interventions to reduce the use of Cigarettes and E-cigarettes among high school students**

The findings demonstrated a very strong endorsement of preventive strategies among students. All responses were interpreted as "Strongly Agree," with a high weighted mean of 3.80. This reflects that students strongly support school-based seminars, parental involvement, peer counseling, stricter policies on sales to minors, and more vigorous anti-smoking and anti-vaping media campaigns.

These results implied that, despite the influence of stress and media exposure, students recognized the importance of prevention efforts and are receptive to interventions aimed at reducing smoking and vaping. This indicates a promising outlook for the successful implementation of educational programs and policies within schools.

**Table 10 Mean Distribution of Preventive measures/interventions**

Factors	Mean	Interpretation
Schools should offer regular seminars about the dangers of smoking and vaping.	3.82	Strongly Agree
Parents should be more involved in educating their children about smoking.	3.74	Strongly Agree
Peer counseling can help prevent cigarette and e-cigarette use.	3.82	Strongly Agree
Stricter policies should be implemented on the sale of cigarettes and vapes to minors.	3.82	Strongly Agree
Media should promote more anti-smoking/vaping campaigns.	3.82	Strongly Agree
<b>Weighted Mean</b>	<b>3.80</b>	<b>Strongly Agree</b>

**Legend:**

- 4.00 – 3.00 - Strongly Agree
- 2.99 – 2.00 - Agree
- 1.99 – 1.00 - Disagree
- 0.00 – 0.99 - Strongly Disagree

As an example, studies suggested that parental monitoring, open communication, and setting clear expectations significantly reduce the likelihood of youth tobacco use (Lanza & Teeter, 2018). According to Pbert et al., (2021), educational interventions in schools have been widely used to prevent tobacco use among students. Studies indicate that comprehensive programs incorporating interactive learning, peer education, and behavioral counseling are more effective than traditional lecture-based approaches.

In connection with this, study by Schillo et al. (2022) programs such as "Catch My Breath" and "Truth Initiative" have been successful in reducing vaping rates among high school students by emphasizing the health risks of nicotine and using engaging multimedia content. Moreover, school-based programs targeting school policy and curriculum changes regarding the use of e-cigarettes in schools, in combination with targeting students via social media and online programs have shown promise in increasing adolescent knowledge of the potential harms and reducing adolescent intent to try e-cigarettes (Gaiha 2021; Kelder 2020)

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## **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

This chapter presented the summary, the conclusions drawn and the proposed recommendations.

### **Summary**

This study dealt with the perception and risk factors influencing the use of cigarettes and e-cigarettes among Mambulo Nuevo High School Students School year 2025-2026. Specifically, it determined the following: (1) the perceptions of high school students in Mambulo Nuevo regarding the use of cigarettes and e-cigarettes; (2) risk factors contribute to cigarettes and e-cigarettes among high school students in

Mambulo Nuevo along: parental influence, peer influence, accessibility, curiosity, stress, and media exposure; (3) significant relationship between perceptions and risk factors contributing cigarettes and e-cigarettes among high school students; and, (4) preventive measures/interventions can be proposed to reduce the use of cigarettes and e-cigarettes among high school students in Mambulo Nuevo.

The study was premised on the assumption that perceptions and risk factors are the contributors for the use of cigarettes and e-cigarettes among high school students.

The study tested the hypotheses: (1) There is significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students (2) There is no significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students.

The descriptive-qualitative-correlational method employed. Data sources were 23 students from junior and senior high school in Mambulo Nuevo National High School, 2025-2026 that had been chosen using purposive and convenience sampling.

Survey questionnaire was the research instrument used in gathering the data. The data were treated statistically using mean and Chi-Square.

### **Problem 1**

**What are the perceptions of Mambulo Nuevo National High School students regarding the use of cigarettes and e-cigarettes?**

### **Findings**

The average computed for perceptions level of students in using cigarettes and e-cigarettes was 2.82 weighted mean interpreted as agree.

### **Conclusion**

Students' opinions demonstrate that they are aware of the harmful effects of cigarettes and e-cigarettes on their health. However, their perception of these behaviors is still shaped by peer influence and environmental factors (accessibility and media exposure) Although the majority of students are aware of the negative effects of smoking and vaping, they are still vulnerable to outside pressures.

### **Recommendations**

To guide students toward healthier choices, schools should lead awareness campaigns that correct misconceptions about smoking and vaping. Educators and school administrators also health workers can use relatable materials and discussions to highlight real risks. Peer-led programs are also key, as students often listen more to their peers than to adults.

### **Problem 2**

**What risk factors contribute to cigarettes and e-cigarettes among Mambulo Nuevo National High School students along: a. parental influence b. peer influence, c. accessibility, d. curiosity, e. stress, f. media exposure?**

### **Findings**

The risk factors obtained an overall mean of 2.95, interpreted as strongly agree. Among six factors, three factors received strongly agree interpretation: curiosity (3.22), peer influence (3.14), and accessibility (3.09).

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## Conclusion

Among all the factors, curiosity, peer influence, and accessibility stand out as the strongest reasons why students start smoking or vaping. The easy access of cigarettes and e-cigarettes, along with the lack of strict rules in the community, also makes it simpler for minors to buy and use these products.

## Recommendations

Educators and school administrators can help by organizing workshops that teach students how to deal with stress without using cigarettes/e-cigarettes. To address this issue, local authorities and school officials should enforce stricter regulations on selling tobacco and vaping products near schools. Parents also play a key role by discussing the dangers of smoking with their children and keeping an eye on their activities, both online and in their daily lives.

## Problem 3

**Is there a significant relationship between perceptions and risk factors contributing cigarettes and e-cigarettes among high school students?**

## Hypotheses

There is significant relationship between perceptions and risk factors contributing the use of cigarettes and e-cigarettes among high school students.

## Findings

The calculated over-all outcome of chi-square value is 2.1309 indicating moderately significant.

## Conclusions

The results showed that students' perceptions are strongly connected to the risk factors around them. This means their thoughts about smoking or vaping are influenced by environmental exposure (accessibility and media exposure) and parental influence. When these influences are strong, students are more likely to try or continue using cigarettes or e-cigarettes.

## Recommendations

Schools should strengthen their anti-smoking and anti-vaping programs and make them more relatable to students. Teachers, parents, and local officials should work together to promote a smoke-free lifestyle. Future researchers are also encouraged to explore the emotional and psychological reasons behind students' decisions to smoke or vape.

## Problem 4

**What preventive measures/interventions can be proposed to reduce the use of cigarettes and e-cigarettes among Mambulo Nuevo National High School students?**

## Findings

The proposed preventive measures/interventions received weighted mean of 3.80 indicating strongly agree. Among the five statements, four received highest response such as peer counseling (3.82), stricter policies (3.82), school should promote regular seminar (3.82) and media should promote more anti-smoking/vaping campaigns (3.82).

## Conclusion

Reducing cigarette and e-cigarette use requires a team effort involving the home, school, and government. By working together, these sectors can create a stronger support system that helps students make healthier choices and avoid smoking or vaping.

## Recommendations

Student organizations and peer-support groups can be encouraged to promote a smoke-free lifestyle. Enforcement of the Tobacco Regulation Act of 2003 (Republic Act 9211) should be strengthened in schools and nearby communities to limit access to these products. Schools should regularly hold seminars and programs that teach students about the health risks and good coping mechanism of smoking and vaping. While local health agencies should provide educational materials and outreach programs to help raise awareness about the dangers of smoking and vaping.

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