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Relationship of Vaping and Anxiety among High School Students in Kanluran, Calauan, Laguna, 2023

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Abstract

Background: Young people use vaping cigarettes to improve their social standing and become more popular with friends. Thus, anxiety has also been associated with vape cigarette use among young individuals. An increase in impulsivity has also been linked to increased smoking habits.

Purpose: The purpose of this study was to bring the findings to the attention of policymakers and managers in our healthcare systems to recognize the severity of the situation thoroughly and lay the groundwork for the appropriate interventions to address the condition of our high school students.

Methods: The study utilized a non-experimental quantitative research design, specifically the correlational technique, through a validated questionnaire, mean, and Pearson r.

Results: Analysis of the results showed that the respondent's results for the indicator "Feel anxious after vaping" (0.014) were found to be significant with a p-value of less than 0.05, indicating that respondents' exhibiting emotional and social anxiety was significantly related to their feeling anxious after vaping.

Conclusion: This study found that vaping does not have a beneficial effect on the emotional, mental, and social aspects of the respondents, which would have resulted in diminished anxiety levels and improved moods. There was evidence of a statistically significant effect on the respondents' anxiety. Hence, further research is needed to determine the impact of vaping on anxiety levels.

Keywords: Vape cigarettes, Anxiety, Senior High school students, Philippines

Introduction

Anxiety has been associated with cigarette use among young individuals. An increase in impulsivity has also been linked to increased smoking habits. Young individuals use vape cigarettes for social enhancement, such as to become more popular with their friends and improve their social standing. Esteban-Ipac, N. A. R., & Torres-Ticzon, V. M. (2022) Another potential risk of vape cigarettes is that those who have never smoked or are new smokers can find a more alluring nicotine delivery method than traditional cigarettes. It is typically flavored, less acrid, and tastes and smells pleasant.

The Vaporized Nicotine and Non-Nicotine Products Regulation Act, which regulates vaping product sales, promotion, and packaging, lowered the minimum Age at which individuals may buy or use them. Under the controversial vape bill, people as young as 18 may now smoke e-cigarettes and legally use other vaping products. Corinna Victoria M. Puyat, MD (2023) et al. The new law, ratified in January of the previous Congress by the Senate and the House, is thought to have extensive health and trade implications. By

effectively expanding the market for e-cigarettes to include more high school students, the measure expands the market. "This is the number of learners who will become legally allowed to be marketed the harmful products once the bill becomes law," read a statement from DepEd opposing the measure in March. According to information provided by the Department of Education (DepEd), approximately 1.1 million students were enrolled. There is less consensus regarding the specific dangers posed by vaping cigarettes. It has been linked to asthma, increased innate immune response in the lungs, impaired lung function, and cardiovascular disease. While other studies have not, some have found a strong link between anxiety and vape-cigarette use. Still, less is known about the correlations between vaping and anxiety and how these correlations compare to those between vaping and smoking. The study aimed to assess and answer the following questions about the profile of the high school students in terms of Age, Gender, and grade level, the level of anxiety of the respondents in terms of their emotional, mental, and social aspects, and the significant relationship on the levels of anxiety in vape of the respondents in terms of Age, Gender, and grade level. Furthermore, as there is a lack of data in previous studies, it is essential to carry out this study to fill the knowledge gap and make it worthwhile. The research aimed to provide solutions for the anxiety of high school students. Consequently, the current issues and discoveries would expand our base knowledge.

Methods

The researcher used a validated researcher-made questionnaire to collect the information from the respondents. The questionnaire was brief and easy to understand. It offered a general understanding of the research study and orientation about the topic. Furthermore, to determine the reliability of the questionnaire, a pre-test was conducted on a sample of 30 respondents.

Throughout the study, significant ethical considerations were identified. The researcher had taken all necessary precautions to ensure the respondents' safety. Before the study, full assent and consent were obtained from the senior high school students who were using vape cigarettes aged 14 to 18 years enrolled at Dayap Integrated School, Calauan, Laguna. A non-probability and purposive sampling technique selected hundred (100) respondents to participate in this study within the school premises. The voluntary participation of respondents in the research was treated as very important; they had the right to withdraw from the study at any stage if they wished.

In handling the data, an adequate level of confidentiality was ensured. They were assured that any data gathered during the procedure would remain private. The questionnaires they had completed would be kept in a safe folder away from the general public and anyone else who might want to see them. An analytic cross-sectional research design was used in this study since the researcher wanted to establish only the relationship between vaping and anxiety. Any form of misleading information and biased representation of primary data findings were avoided. On the other hand, maintaining the highest level of objectivity in discussion and analyses throughout the research were considered. The data were analyzed statistically using simple percentage, frequency, weighted mean, and chi-square tests that provided appropriate and straightforward analyses, forecasts, and interpretations of the collected data.

Results

The Demographic Profile of Respondents; Distribution of Respondents in terms of their Age. The frequency and percentage distribution of respondents in terms of their Age. It was shown that the majority

of respondents were aged 16 years old, which is 25% and 22% of the respondents were 18 years old. The distribution also shows that thirty-eight percent (38%) of the respondents were aged 17 (19%) and 14 years old (19%), while 15% of respondents were 15 years old. Distribution of Respondents in terms of their Gender**.** The frequency and percentage distribution of respondents in terms of their Gender. It was shown that most of the respondents were male students. Sixty-nine percent (69%) of the respondents were male, while the remaining thirty-one (31%) were female. Distribution of Respondents in terms of their Year Level. The frequency and percentage distribution of respondents in terms of their year level. It is shown from the table that sixty percent (60%) of the respondents were Grade 12 (30%) and Grade 10 (30%). Twenty-one percent (21%) of the respondents were Grade 11, and nineteen percent (19%) were Grade 9.

VAPE Usage; Respondents VAPE Usage. The usage of respondents on VAPE. It was found that sixty percent (60%) of the respondents smoked, or at least experienced, or tried VAPE, and forty percent did not. Fifty-one percent (51%) said they have a strong urge to smoke VAPE when feeling anxious, while forty-nine percent (49%) said no. Forty-seven percent of the respondents feel calm after smoking VAPE, while only forty percent (40%) feel anxious after vaping.

Level of Anxiety. The respondents' level of anxiety in terms of the emotional aspect. It was found that overall, the respondent was neutral on the statements that determined their level of anxiety in terms of emotional factors, with an overall weighted mean score of 2.91. This indicates that emotional stress is sometimes manifested among the respondents. The statements with the highest weighted mean score, which has the higher level of agreement from the respondents that indicate the lower manifestation of anxiety, are statements such as "As an individual, I am able to handle my emotion even on the occurrence of unnecessary events" (3.46) and "As an individual, I am able to enjoy my daily activities even under grace pressure" (2.56). On the other hand, the statements with the lowest weighted mean score, which has a lower level of agreement from the respondents and indicates a higher manifestation of anxiety are the statement, “As an individual, I am able to feel calm when I feel anxious about myself” (2.53) and "As an individual, I am able to have empathy for other people and compose myself even on the presence of rejection" (2.56).

Respondents’ Level of Anxiety in terms of Mental Aspect. The respondents' level of anxiety in terms of the mental aspect. It was found that overall, the respondent agreed with the statements that determine their level of anxiety in terms of the mental aspect, with an overall weighted mean score of 4.10. This indicates that mental anxiety is seldom manifested among the respondents. The statements with the highest weighted mean score, which has the higher level of agreement from the respondents that indicate the lower manifestation of anxiety, are statements, "In the different life challenges I tend to focus on the solution than the problems" (4.50) and "In the different life challenges I stay optimistic when I solve a problem" (4.07). On the other hand, the statements with the lowest weighted mean score, which has a lower level of agreement from the respondents and indicates a higher manifestation of anxiety, are the statements “In the different life challenges I would rather act than to react” (3.89) and “In the different life challenges I consider the beneficial matters” (3.98).

Respondents’ Level of Anxiety in terms of Social Aspect. The respondents' level of anxiety in terms of the social aspect. It was found that overall, the respondent also agreed with the statements that determine their level of anxiety in terms of the social part, with an overall weighted mean score of 3.90. This indicates that social anxiety is seldom manifested among the respondents. The statements with the highest weighted

mean score, which has the higher level of agreement from the respondents that indicate the lower manifestation of anxiety, are statements "In dealing with others I can make friends" (4.45) and "In dealing with others I can treat others with respect" (4.09). On the other hand, the statements with the lowest weighted mean score, which has a lower level of agreement from the respondents and indicates a higher manifestation of anxiety, are the statements “In dealing with others I can easily adapt to new social situations” (3.42) and “In dealing with others I can communicate with other people outside” (3.47).

Significant Relationship between VAPE use and level of anxiety. Chi-Square Test: Significant Relationship between VAPE Use and Level of Emotional Anxiety of Respondents. The vital relationship between VAPE use by respondents and their level of emotional anxiety. The result shows that indicators "Smoking VAPE or at least experienced smoking VAPE” (0.102), “Strong urge to smoke VAPE” (0.307), and "Feeling calm after smoking VAPE" (0.188) have p-values all greater than the 0.05 level of significance which indicates the non-significant result. This implies that the emotional anxiety of respondents is not significantly related to their VAPE use in terms of these indicators. However, results in terms of the indicator "Feel anxious after vaping" (0.014) are found to be significant with a p-value less than 0.05, which implies that the feeling of being anxious after vaping is significantly related to the manifestation of emotional anxiety among respondents.

Chi-Square Test: Significant Relationship between VAPE Use and Level of Mental Anxiety of Respondents. The significant relationship between VAPE use by respondents and their level of emotional anxiety. The result shows that indicators "Smoking VAPE or at least experienced smoking VAPE" (0.102), "Strong urge to smoke VAPE" (0.307), "Feeling calm after smoking VAPE" (0.188), and "Feel anxious after vaping” (0.326) has p values all greater than the 0.05 level of significance which indicates the non-significant result. This implies that the manifestation of mental anxiety among respondents is not significantly related to their VAPE use in terms of these indicators.

Chi-Square Test: Significant Relationship between VAPE Use and Level of Emotional Social of Respondents. The significant relationship between VAPE use of respondents and their level of social anxiety. The result shows that indicators "Smoking VAPE or at least experienced smoking VAPE" (0.654), "Strong urge to smoke VAPE" (0.348), and "Feeling calm after smoking VAPE" (0.456) have p-values all greater than the 0.05 level of significance which indicates the non-significant result. This implies that the social anxiety of respondents is not significantly related to their VAPE use in terms of these indicators. However, results in terms of the indicator "Feel anxious after vaping" (0.043) are found to be significant with a p-value less than 0.05, which implies that the feeling of being anxious after vaping is significantly related to the manifestation of social anxiety among respondents.

Discussion

The salient findings from this study suggest that most respondents were male, belonging to the grade 12 level. There was evidence of a statistically significant effect of vape consumption on the respondents' anxiety levels. Nonetheless, analysis of the results showed that the most essential details were that the respondents feeling anxious after vaping was significantly related to the manifestation of their emotional and social anxiety. Somewhat surprisingly, the respondents were neutral on the statements that determined their level of anxiety in terms of their mental aspect. The manifestation of mental anxiety among respondents was not significantly related to their vape use. Research suggests that vaping does not benefit the respondents' emotional, mental, and social aspects, which would have resulted in diminished anxiety

levels and improved moods. Overall, this study suggests a significant relationship between vape use by respondents and their level of anxiety. Hence, further research is needed to determine the effects of vaping on the levels of anxiety before generalized conclusions can be drawn.

Conclusion and Recommendation

Analysis of the result means that a significant effect occurred between the relationship between Vaping and Anxiety of Senior High School students**.** A significant change in anxiety levels is observable; a shift from their emotional and social anxiety is evident. Thus, vaping has a negative effect on smokers and is not a suitable method for improving the anxiety of the concerned respondents. After thorough assessment and considering the initial findings and conclusions of the study, the following recommendations were presented. First, the Senior High School Students of Dayap Integrated High School of the municipality of Calauan, Laguna, who were settling to vape cigarettes, should participate in physical activities and exercises, including sports, as a reliable way to crush their cravings. Through this diversion, we can transfer their attention and help speed up quitting. Reveling in achievements while they are quitting can boost resistance to stress and desires. Second, at the end of the school year, a post-assessment should be conducted for those students who participated. If their anxiety levels remain high, appropriate and extensive intervention should be provided in the succeeding year until they reach a reduced level. This cycle will continue until students are relieved of the said anxiety levels. Lastly, school officials may consider creating combined efforts to develop a new policy that would support the full implementation of the proposed intervention program to decrease the students' involvement in vape consumption.

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