



Attitudes Towards Substance Use: Its Impact on Academic Performance and Psychological Well-Being

Dr. Mary Jane A. Galang

De La Salle University, Manila, Philippines

Abstract— Substance use among college students is a significant concern, potentially impacting academic performance and psychological well-being. However, limited research has explored these effects within the context of Filipino college students, particularly their attitudes toward substance use. This study examined the relationship between substance use attitudes and their impact on academic performance and psychological well-being, focusing on whether developmental level (adolescence versus young adulthood) moderates these effects. Conducted at De La Salle University, Manila, during the 2023-2024 academic year, the study involved 52 students aged 19-22. The quantitative analysis employed Structural Equation Modeling (SEM) to test three hypotheses: that favorable attitudes toward substance use predict lower academic performance (H1), predict diminished psychological well-being (H2), and that developmental level moderates these relationships (H3). The findings supported H1 and H2, showing significant negative correlations between favorable attitudes toward substance use and academic performance ($\beta = -0.384$, $p = .001$) and significant positive correlations between favorable attitudes toward substance use and psychological well-being ($\beta = 0.228$, $p = .039$). However, H3 was not supported, as developmental level did not significantly moderate these effects on either academic performance ($\beta = -0.070$, $p = .304$) or psychological well-being ($\beta = -0.083$, $p = .270$). Qualitative analysis further revealed that college students often perceive substance use as a coping mechanism for academic stress and personal pressures, which can lead to a cycle of dependency and negative outcomes. Key themes included "Escape and Distraction," reflecting the use of substances to avoid real-life problems, and "Negative Academic Impact," which highlighted the decline in focus, motivation, and academic performance. The study also identified "Negative Psychological Effects," including increased anxiety and depression, as significant outcomes of substance use. The study underscores the importance of early interventions, such as school-based prevention programs, to address substance use attitudes and promote healthier coping strategies among students. These findings are crucial for informing educational policies and mental health support services in universities. Future research should aim to include a more diverse sample to enhance the generalizability of the results and explore the long-term effects of substance use attitudes on academic and psychological outcomes.

Keywords— substance use attitudes, academic performance, psychological well-being, Filipino college students, developmental stages.

INTRODUCTION

Substance use among college students is a pervasive issue with significant implications for both academic performance and psychological well-being. Recent studies indicate that alcohol is the most consumed substance among college students, with a prevalence rate of 75%, followed by tobacco at 28%, and marijuana at 22% (Forster et al., 2019). These high rates of substance use are associated with a range of adverse outcomes, including

diminished academic performance, increased mental health issues, and heightened risks of negative social experiences such as sexual assault (Welsh et al., 2019). The transitional nature of the college experience, particularly during the first semester, often exacerbates these issues, with greater social engagement linked to increased substance use and a smoother transition correlating with fewer mental health challenges (Arterberry et al., 2024).

Attitudes toward substance use play a crucial role in determining students' likelihood of engaging in these behaviors. Research shows that individuals who hold favorable views toward substance use are more likely to underestimate the risks and engage in experimentation, often leading to dependency (Järvinen & Otersgård, 2011). However, there is a notable gap in the literature regarding how these attitudes impact academic performance and psychological well-being specifically among Filipino college students. Additionally, the influence of developmental stages, such as adolescence and young adulthood, on these outcomes has not been thoroughly explored.

Understanding the relationship between substance use attitudes and student outcomes is essential for developing targeted interventions. College students are at a critical juncture where the consequences of substance use can significantly influence their educational trajectories and long-term well-being. This study aims to fill this gap by investigating the impact of substance use attitudes on academic performance and psychological well-being among Filipino college students, with a particular focus on the moderating effects of developmental stages. By addressing these issues, the study seeks to inform the development of culturally sensitive, school-based prevention programs that can mitigate the negative effects of substance use and promote healthier coping strategies among students.

Research has shown that individuals who hold more favorable views toward substance use are more likely to experiment with drugs, as they often perceive the risks as minimal (Järvinen & Otersgård, 2011). Additionally, Bryan et al. (2000) found that more than half of the participants had experimented with drugs at least once, viewing this behavior as normal. Although this study has not been revisited, it underscores the complexity of the issue and the need for further research. De Lara et al. (2014) highlighted the lack of studies investigating knowledge, attitudes, and perceptions related to illegal drug use. Nanda and Smriti (2017) echoed this concern, noting the limited research on attitudes toward drug use, despite clear evidence linking these attitudes to behavior prediction. Building on existing research, this study aims to explore the attitudes of college students toward substance use, focusing on its impact on academic performance and psychological well-being. Additionally, the study seeks to examine whether developmental stages (e.g., adolescence and young adulthood) influence the relationship between attitudes toward drug use and academic performance, and psychological well-being.

Substance Use and Academic Performance:

In the existing literature, studies have been conducted on the academic performance of college students. One study, which focused on the impact of substance use on academic performance among adolescents in Kwara State, Nigeria, reported a significant difference in academic performance between those who abuse drugs and those who do not (Akani et al., 2015). Furthermore, research in the USA supports the idea that substance use and alcohol consumption negatively affect university students' grades (Rees, 2019). Additionally, findings from other studies



indicate that students who misuse illicit drugs tend to underperform academically. For example, a study conducted in the Netherlands provided strong evidence of the causal relationship between marijuana use and the academic performance of university students (Marie and Zölitz, 2017 as cited by Rees, 2019). Bugbee et al. (2019) note that there is a scarcity of research focused on the correlation between total abstinence from all substances and academic achievement. Nonetheless, there appears to be a gap in the literature specifically concerning how attitudes toward substance use influence academic performance among Filipino respondents.

Substance Use and Psychological Well-being:

Another aspect of this study examines attitudes towards substance use and their effects on psychological well-being. The term "psychological well-being" is subjective and is used to describe a state of life that is flourishing and marked by a sense of overall well-being and successful functioning (Tus et al., 2021). It is a term frequently employed by psychologists and mental health professionals, with varying meanings depending on the context. According to Shek (1992, as cited by Tus et al., 2021), psychological well-being represents the state of an individual who exhibits a range of positive mental health traits, such as adaptability and dynamic adjustment to life circumstances.

In the context of this study, psychological well-being is conceptualized as optimal psychological functioning and experience (Ryff, 1989, as cited by Tus et al., 2021) and encompasses aspects such as well-being and happiness, including autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance (Ryff et al., 2007, adapted from Ryff, 1989).

While previous research has examined the connection between psychological well-being and academic performance among 545 Filipino college students (Tus et al., 2021), the present study narrows its focus to just two of these variables. Notably, there is a lack of research specifically investigating how attitudes toward substance use are related to psychological well-being within the Philippine context.

Substance Use and Developmental Level

According to the World Health Organization (WHO), adolescence is defined as the period between the ages of 10 and 19, while individuals older than 19 are categorized as adults. Research highlights the variation in drug use across different age groups. In the United States, a significant amount of research focuses on the relationship between drug use and college students (Howell, 2021).

Adolescents are particularly prone to initiating drug use during this formative stage of their lives, which is seen as a critical period for such behaviors (Kandel & Logan, 1984, as referenced by Howell, 2021). These studies suggest that individuals who begin using drugs after the age of 21 are less likely to continue than those who start earlier. Nevertheless, there is limited research exploring differences in attitudes toward substance use and how these attitudes affect the academic performance and psychological well-being of Filipino college students across different developmental stages, such as adolescence and early adulthood.



School-based Prevention Program

In 2017, a workshop on "Illicit Drug Abuse in the Philippines" was organized to collaboratively develop a policy statement to address the drug abuse issue effectively, allowing for dissemination to both participants and key policymakers in the Philippines and internationally (Kine, 2017). Furthermore, the Philippine government has emphasized the necessity of creating strategies to prevent and control drug and substance abuse.

School administrators and educators believe that providing students with education about drugs can influence their values, beliefs, and behaviors concerning drug use. As outlined by the Youth Global Network (2002), modern strategies for school-based substance use prevention fall into three primary categories: (1) training in social resistance skills; (2) providing normative education; and (3) enhancing competence through skills development. These strategies can be applied individually or combined within a single intervention. Therefore, incorporating evidence-based refusal skills training into higher education institutions (HEIs) could effectively support interventions aimed at reducing alcohol and substance use.

Perspectives, Beliefs, and Opinions on Substance or Illicit Drug Use Among Filipino College Students

Investigations into how college students view and engage in illicit drug use reveal a complex interplay of factors. Studies indicate significant variability in substance use rates over the past year, depending on the type of drug. For instance, Kollath-Cattano et al. (2020) report that this rate can range between 6% and 21%, depending on the substance in question. Various elements such as gender, living conditions, peer influence, and the level of drug-related knowledge play pivotal roles, as highlighted by Alves et al. (2020). Moreover, the impact of religious and spiritual beliefs is substantial, either serving as a protective factor or, in some cases, inadvertently encouraging drug use (Prosek et al., 2020). The reasons behind substance use are often rooted in a desire to manage negative emotions, cope with academic stress, peer pressure, and a lack of understanding regarding the risks involved (Doraiswamy et al., 2020). Notably, those currently using marijuana are at greater risk of transitioning to other illicit drugs, which underscores the importance of targeted prevention strategies. These strategies should consider injunctive norms, perceived drug availability, and delivery methods that resonate with the college demographic (Kollath-Cattano et al., 2020; Doraiswamy et al., 2020). Collectively, these findings emphasize the need for a multifaceted intervention approach, addressing both individual and environmental influences on substance use among college students.

The Impact of Substance Use on the Academic Performance

The negative impact of substance use on the academic achievements of college students is well established. Over recent years, there has been a noticeable uptick in the use of substances like cannabis, stimulants, and other illicit drugs among students, correlating closely with a decline in academic performance (Welsh et al., 2019). The relationship between drug use and academic success is well-documented, with studies such as Alebiosu and Oluyemisi (2022) showing significant negative correlations. For example, consistent use of alcohol and marijuana has been linked to lower grades (Rees, 2019). Research by Hailu et al. (2021) in Ethiopia supports these findings, indicating that students who use substances tend to have lower average CGPAs compared to non-users. Other factors, such as involvement in Greek life, perceived academic stress, and peer pressure, have also been identified



as significant risk factors for substance use, further contributing to poor academic outcomes and even dropout rates (Welsh et al., 2019; Rees, 2019). These findings highlight the critical need for early intervention strategies that address the underlying causes of substance use and provide students with the necessary support to maintain their academic performance.

Impact of Substance Use on the Psychological Well-Being of College Students

Substance use among college students not only affects academic performance but also has severe implications for their psychological health. Psychological abuse has been identified as a risk factor for substance use, with emotional distress acting as a mediator (Gökmen Arslan, 2022).

The COVID-19 pandemic has exacerbated these issues, leading to increased substance use and a deterioration in students' quality of life, with many reporting higher levels of anxiety and depression (Firkey et al., 2021).

Specifically, alcohol and cannabis use have been linked to maladaptive coping strategies and problematic behaviors, creating a vicious cycle of worsening mental health (Paul et al., 2024).

While some research, such as that by Apare and Enakpoya (2024), suggests that the relationship between substance use and psychological well-being may not be direct, most studies highlight a complex interaction between these factors.

This complexity suggests that effective interventions must be comprehensive, addressing both the psychological drivers of substance use and the broader mental health challenges students face.

Educational institutions are encouraged to implement robust mental health programs that consider these multifaceted issues to better support students' overall well-being.

Significance of the Study

This research is designed to fill the existing gap in the scholarly literature by examining the relationship between attitudes toward substance use and its impact on the academic performance and psychological well-being of Filipino college students. The findings from this study are expected to make a significant contribution to the existing body of research on attitudes toward substance use within the Philippine context, highlighting the implications for future studies.

Moreover, the results will enhance scientific knowledge in the domains of counseling and psychology, particularly through the development of a school-based prevention program designed to support college students dealing with substance-related issues and individuals who use drugs (PWUDs).

This prevention initiative aligns with the government's efforts to assist students facing challenges related to substance use and supports the Commission on Higher Education's (CHED) initiative to establish "drug-free" campuses across all institutions.

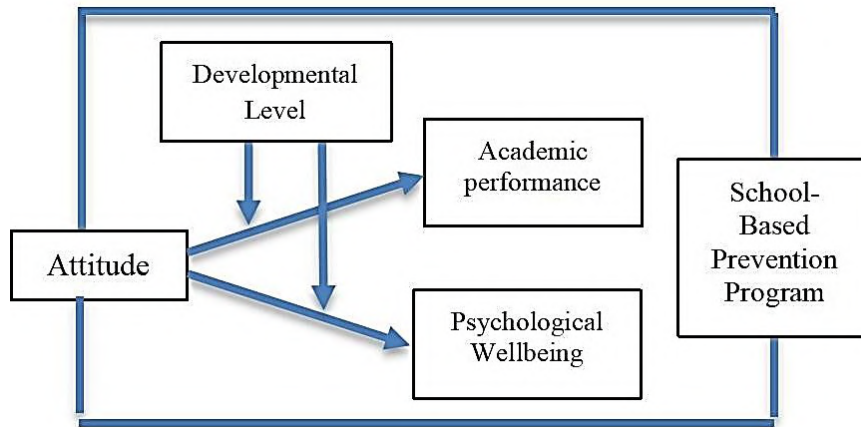


Figure 1: Path Model on Attitudes Toward Substance Use and Academic Performance and Psychological Well-being with the moderating influence of Developmental Level (e.g., Adolescence and Young Adulthood) on the effects. This serves as a basis for the creation of a school-centered prevention program for Persons Who Use Drugs (PWUDs).

Statement of the Problem

This research examined the relationship between attitudes toward substance use and its effect on academic achievement and mental well-being among Filipino college students, considering the moderating influence of developmental stages (e.g., adolescence and young adulthood) in this context.

The quantitative component of the study addressed the following hypotheses:

- H1: Attitudes toward substance use were predicted to correspond with lower academic performance among Filipino college students.
- H2: Attitudes toward substance use were expected to relate to diminished psychological well-being among Filipino college students.
- H3: Developmental stages, such as adolescence and young adulthood, were hypothesized to moderate the relationship between attitudes toward substance use and both academic performance and psychological well-being among Filipino college students.

For the qualitative study, the researcher conducted an in-depth exploration of the experiences and opinions of individual college students regarding their attitudes toward substance use and its influence on their academic achievement and mental well-being.

METHOD

Research Design

This study utilized a mixed-methods research design, which was commonly employed to address complex research inquiries within the fields of social sciences and health (Clark, 2019). The research deliberately integrated perspectives, approaches, data forms, and analyses linked to both quantitative and qualitative research to produce



nuanced and comprehensive findings. Both quantitative and qualitative components held relative importance, but the quantitative research was conducted before the qualitative research. This pertained to the explanatory sequential design in which the data collected from the quantitative research were analyzed first, followed by the gathering and analysis of qualitative data. This design was primarily utilized to clarify or expand upon the findings from the quantitative research.

According to Barclay (2018), a qualitative research method using semi-structured interviews combined a predefined set of open-ended questions that allowed for discussion and further exploration of themes or responses. The qualitative research captured information and documented the attitudes, feelings, and behaviors of the participants during the interviews. Additionally, the research included a moderation analysis where the degree of the relationship between the dependent and independent variables could change depending on the presence of a third variable, referred to as a moderating variable (Damyanov, 2023).

Respondents and Sampling

The quantitative study included fifty-two Filipino college students, aged 18-23, from various colleges at De La Salle University, Manila, during the 2023-2024 academic year. While participants who had used psychoactive substances were eligible to participate, it was not a primary requirement. Students with diagnosed mental health disorders were excluded from the study.

The demographic data revealed that 42.30% of respondents were adolescents (18-19 years old), and 57.70% were young adults (20-23 years old). Academic levels were distributed as follows: 36.54% were first-year, 32.69% were second-year, 21.15% were third-year, and 9.62% were fourth-year students. In terms of gender, 57.69% were female and 42.31% were male. Regarding substance use, 13.46% had used substances in the past 6-12 months, while 86.54% had not.

For the qualitative portion, 10 students aged 19-21 from the quantitative study participated in semi-structured interviews. These respondents were categorized by age, academic year, gender, substance use status, and developmental stage. The age distribution included 30% (f=3) who were 19 years old, 50% (f=5) who were 20, and 20% (f=2) who were 21. Academic levels were 30% first-year, 40% second-year, 10% third-year, and 20% fourth-year students. The gender split was 60% female and 40% male. Substance use data showed that 90% (f=9) had not used drugs, while 10% (f=1) had. Marijuana was the most reported drug, followed by shabu, ecstasy, and hallucinogens. Developmental stages were 30% adolescence and 70% young adulthood. Confidentiality and anonymity were maintained throughout the study.

Data Collection and Analysis

The Attitudes to Drug Use (ADU) Scale consisted of 12 items created to assess respondents' attitudes toward drug use (Harmon, 1993, as referenced by Howell, 2020). Respondents provided their answers on a 5-point Likert scale, with 1 representing strong disagreement and 5 indicating strong agreement. The scores were determined by summing the respondents' answers and dividing by the total number of items. Higher scores indicated a more



favorable attitude toward drug use, whereas lower scores reflected a less favorable attitude. The possible scores ranged from 1 to 5, with items 1, 4, 5, 9, and 11 being reverse scored. In line with Hulin et al. (2001), the scale showed acceptable internal reliability ($\alpha = .89$).

The Academic Performance Scale (APS) accurately reflected what one accomplished as a student and how one performed. The internal consistency was reported as .89, with a test-retest reliability of .85. Responses were measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Scale scores demonstrated strong internal consistency, 2-week test-retest reliability, and satisfactory concurrent validity. The APS proved useful to researchers with a particular interest in academic performance among students.

The Psychological Wellbeing Scale (PWBS)—the shortened 18-item version— was developed by psychologist Carol D. Ryff and was deemed suitable for use with data from Filipino teachers. The PWBS assessed six dimensions of well-being and happiness: autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance (Ryff et al., 2007, adapted from Ryff, 1989). The internal consistency of these six dimensions was acceptable ($\alpha = .62 - .85$). The results of the study indicated that these six dimensions were distinct (Villarosa and Ganotice, 2018). In terms of within-network validity, the CFA results were adequate and fell within acceptable fit indices, suggesting that Ryff's PWBS was applicable among Filipino teachers. Responses were collected on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

A guided semi-structured interview was utilized to delve into the detailed experiences of individual participants concerning substance use attitudes. The guide for the interview was a combination of open-ended and closed-ended questions, designed to give respondents the freedom to articulate their thoughts and opinions in their own language. One advantage of using a semi-structured interview was that it provided reliable, comparable qualitative data (RWJF, 2008 cited by Barclay, 2018).

Procedure

A guided semi-structured interview was utilized to delve into the detailed experiences of individual participants regarding substance use attitudes. The interview framework consisted of both open-ended and closed-ended questions, allowing respondents the freedom to share their perspectives and opinions in their own words. One advantage of a semi-structured interview was its ability to provide reliable and comparable qualitative data (RWJF, 2008 cited by Barclay, 2018).

The researcher obtained support from the Research Committee of the Office of Counseling and Career Services, along with other university counselors within the same office, to recruit students as participants for the quantitative study. The invitation was extended across various colleges within the university through the assistance of the associate deans. This approach helped mitigate researcher bias and prevent conflicts of interest. Fifty-two college students indicated their willingness to participate.



The Orientation Program was arranged for participants via Zoom as preferred. During the orientation, the rationale and objectives of the research were outlined. Confidentiality and anonymity were assured for all participants. The students who accepted the invitation were of legal age, specifically 19 to 22 years old. Each participant was provided with an Informed Consent Form to complete before testing. The three research tools employed were: the Attitudes to Drug Use Scale, the Academic Performance Scale, and the Psychological Well-being Scale, all of which were prepared using Google Forms (for online testing).

The quantitative data were analyzed using structural equation modeling (SEM), which was considered appropriate for exploring the relationships between variables and latent constructs. For the qualitative study, the recorded interviews of the 10 participants were transcribed and used in thematic analysis.

RESULTS

This study provided a nuanced understanding of Filipino college students' perspectives on illicit drug or substance use and its impact on academic performance and psychological well-being. Conducted with students from De La Salle University, Manila, during the 2023-2024 academic year, it included participants aged 19-22, belonging to adolescence and young adulthood.

In the quantitative study, the path model of attitudes to drug use and its impact on academic performance and psychological well-being, with the moderating effects of developmental level (e.g., adolescence and young adulthood), used Structural Equation Modeling or SEM, which was generally analyzed and interpreted sequentially, in three distinct stages. The procedure involved the evaluation of the measurement model (i.e., validity and reliability), followed by the assessment of model fit using quality indices, and then the structural model (i.e., effects of latent variables on the others). For the measurement model, it was crucial to present the following: convergent validity, discriminant validity, reliability, and common method bias. For the structural model, please see the diagram and the table next to the diagram.

Table 1. Convergent validity statistics: Indicator loadings, cross-loadings, and AVEs

Attitude Use (Ave = .51) on Drug (ADU)	ADU	AP	WB	P-value
ADU2	0.66	0.06	-0.03	0.000
ADU5	0.58	0.07	-0.18	0.000
ADU7	0.75	-0.08	0.01	0.000
ADU8	0.59	-0.08	0.28	0.000
ADU12	0.61	0.05	-0.09	0.000
Academic Performance (AP) (Ave=.50)				
AP1	-0.21	0.79	0.12	0.000
AP2	0.11	0.58	-0.16	0.000
AP4	0.07	0.72	-0.06	0.000
AP5	-0.05	0.73	0.07	0.000
AP6	0.21	0.72	0.19	0.000
AP7	-0.09	0.69	-0.22	0.000
Well-Being (Ave =.62)				
AUT	-0.23	-0.13	0.65	0.000
ENV	0.09	0.16	0.84	0.000



PG	-0.23	-0.20	0.83	0.000
SA	0.32	0.14	0.82	0.000

The results presented in Table 1 demonstrate the convergent validity of the constructs measured in this study: Attitude on Drug Use (ADU), Academic Performance (AP), and Well-Being (WB). Each construct's indicators exhibit factor loadings above the threshold of 0.50, with values ranging from 0.58 to 0.75 for ADU, 0.58 to 0.79 for AP, and 0.65 to 0.84 for WB. These loadings indicate that the indicators are well-aligned with their respective constructs, confirming that they are valid measures. The low cross-loadings further support discriminant validity, as each indicator loads significantly higher on its intended construct than on any other, demonstrating that the constructs are distinct from one another. The Average Variance Extracted (AVE) values for ADU (0.51), AP (0.50), and WB (0.62) meet or exceed the recommended threshold of 0.50, indicating that the constructs explain a sufficient amount of variance in their indicators.

Additionally, the p-values for all indicators are significant ($p < 0.01$), further affirming the reliability of the measurements.

These findings imply that the measurement model is both reliable and valid, providing a solid foundation for further analysis of the relationships between substance use attitudes, academic performance, and psychological well-being among Filipino college students. The robustness of the constructs in this model underscores the importance of addressing attitudes toward substance use as a critical factor influencing both academic and psychological outcomes in this population.

Convergent validity was additionally evaluated using the average variance extracted (AVE), where values of .50 or higher provided evidence of convergent validity (Fornell & Larcker, 1981; Kock & Lynn, 2012; Kock, 2022). In this research, the AVE values were all above .50, which confirmed the presence of convergent validity.

Table 2. Discriminant validity statistics: Correlations, square roots of AVEs, and HTMT2

	ADU	AP	WB	DevLevel
ADU	0.71	0.23	0.25	NA
AP	-0.21	0.71	.27	NA
WB	0.17	0.30	0.79	NA

DevLevel -0.27 0.22 -0.13 1.00

Table 2 presents the discriminant validity statistics for the constructs measured in this study, including Attitude on Drug Use (ADU), Academic Performance (AP), Well-Being (WB), and Developmental Level (DevLevel). The table includes correlations among the variables, square roots of the average variance extracted (AVE), and Heterotrait-Monotrait ratios (HTMT2).

The square roots of the AVEs, shown on the diagonal, are higher than the correlations between the constructs (values below the diagonal), indicating good discriminant validity (Fornell & Larcker, 1981).



For instance, the square root of the AVE for ADU is 0.71, which is greater than its correlations with AP (0.23) and WB (0.25).

Similarly, the square root of the AVE for AP is 0.71, higher than its correlations with WB (0.27) and DevLevel (0.22). The HTMT2 values (upper diagonal in blue) are all below the threshold of 0.85, which further confirms strong discriminant validity (Henseler et al., 2015; Roemer et al., 2021).

These findings suggest that each construct in the model is distinct and captures unique variance not explained by other constructs in the study.

The strong discriminant validity evidenced in this table supports the robustness of the constructs used in the study, reinforcing the reliability of the subsequent analyses examining the relationships between substance use attitudes, academic performance, and psychological well-being among Filipino college students.

This robust discriminant validity is crucial for ensuring that the observed relationships between these constructs are not confounded by overlap between the constructs themselves, thus lending credibility to the study's findings and implications for targeted interventions, performance and psychological well-being among Filipino college students.

Table 3. Full Collinearity VIF and Variables Reliability

	Composite Reliability	Cronbach's Alpha	Full Collinearity VIF
ADU	.78	.64	1.24
AP	.86	.80	1.25
WB	.87	.79	1.22

Table 3 provides the composite reliability, Cronbach's alpha coefficients, and full collinearity variance inflation factors (VIFs) for the constructs of Attitude on Drug Use (ADU), Academic Performance (AP), and Well-Being (MB).

The composite reliability values for ADU (.78), AP (.86), and WB (.87) all exceed the recommended threshold of .70, indicating good internal consistency and reliability for these constructs (Kock, 2023).

Similarly, the Cronbach's alpha coefficients for AP (.80) and (.79) are well above the acceptable level of .70, with ADU slightly below at .64, which suggests adequate reliability, though it may benefit from further refinement.

The full collinearity VIF values for all constructs are well below the threshold of 3.3, with ADU at 1.24, AP at 1.25, and WB at 1.22.

These values indicate that there is no significant collinearity among the constructs, thus minimizing the risk of common method bias in the study (Kock, 2015; Kock & Lynn, 2012).

The absence of collinearity confirms that the observed relationships between the variables in the model are not influenced by multicollinearity, ensuring the validity of the study's findings.

This reliability and collinearity assessment strengthens the credibility of the data, supporting the use of these constructs in analyzing the impact of substance use attitudes on academic performance and psychological well-being among Filipino college students.

Table 4: Model Fit and Quality Metrics.

	Value	F ² -value	Criteria*	Remark
Mean path coefficient (MPC)	.191	.036	P should be less than .05	Acceptable. <i>p</i> value is significant
Mean R-squared (MRS)	.109	.048	P should be less than .05	Acceptable. <i>p</i> value is significant.
Mean adjusted R-squared (MARS)	.073	.049	P should be less than .05	Acceptable. <i>p</i> value is significant.
Average block variance inflation factor (VIF)	2.064	NA	Acceptable if ≤ 5 ; ideally ≤ 3.3	Ideal
Average full collinearity VIF (AFVIF)	1.195	NA	Acceptable if ≤ 5 ; ideally ≤ 3.3	Ideal
Tenenhaus Goodness-of-fit (GoF)	.278	NA	small ≥ 0.1 , medium ≥ 0.25 , large \geq	Medium to Large

* The criteria are taken from Kock (2023)

Table 4 presents the model fit and quality metrics for the study, indicating that the relationships between Attitude on Drug Use (ADU), Academic Performance (AP), Well-being (WB), and the moderating role of Developmental Level were evaluated using Structural Equation Modeling (SEM). The mean path coefficient (MPC) of .191 ($p = .036$) is significant, confirming the existence of a relationship between the variables in the model. The mean R-squared (MRS) value of .109 ($p = .048$) and mean adjusted R-squared (MARS) value of .073 ($p = .049$) further suggests that the model explains a modest but significant portion of the variance in both academic performance and psychological well-being. Additionally, the variance inflation factors (VIFs), both average block and full collinearity, are well within acceptable limits (VIF = 2.064, AFVIF = 1.195), indicating no issues with multicollinearity. The Tenenhaus Goodness-of-Fit (GoF) statistic is .278, which falls within the medium-to-large range, suggesting that the model fits the data reasonably well.

Figure 1 illustrates the relationships outlined in Table 4, showing that favorable attitudes toward drug use (ADU) are significantly linked to lower academic performance (AP) and high psychological well-being (WB). Specifically, ADU negatively correlates with AP ($\beta = -0.384$, $p = .001$) and positively correlates with WB ($\beta = -0.228$, $p = .039$), underscoring the detrimental effects of positive attitudes toward substance use. Notably, developmental level (adolescence vs. young adulthood) does not significantly moderate these relationships, as indicated by the non-significant path coefficients for AP ($p = .304$) and WB ($p = .270$).

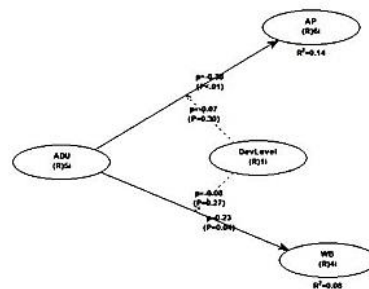


Figure 1 Research Model with parameter estimates

Implications of these findings are crucial for educational strategies and policy development. The strong negative impact of pro-drug attitudes on both academic and psychological outcomes emphasizes the need for universal prevention programs that address substance use attitudes across all age groups in college. This universal approach is necessary to combat the adverse effects on student performance and mental health, ensuring broader and more effective interventions.

The thematic analysis provides a comprehensive understanding of the quantitative study findings and shows how substance use has an impact on the different aspects of academic life, that is, from motivation and dependency to psychological health. The four critical themes that emerged are Decreased Focus and Motivation, Academic - Substance Dependency Performance, Psychological Health Impact on Academic Performance, and Negative Academic Outcome.

Theme 1: Decreased Focus and Motivation

This theme highlights the detrimental effects of substance use, which manifest as a loss of focus, decreased motivation, and a lack of interest in studies. The subordinate themes of loss of focus, decreased motivation, and being unmotivated to attend classes, along with the codes of reduced engagement and lack of interest in studies, underscore the wide range of academic challenges faced by students who use substances. Students who are disengaged often miss out on opportunities for learning and personal development, essential components of academic success.

The narratives provided by students demonstrate the detrimental effects of substance use on their concentration and motivation. For example, Participant 2 highlighted, "Students...would lose focus when it comes to their requirements and their studies in general." Participant 7 noted, "You won't be able to work properly...eventually stop school because of your performance."

Participant 8 remarked, "It can lower the academic performance of college students," succinctly summarizing the overall negative impact. These statements collectively emphasize that substance use significantly hinders students' academic engagement, leading to poorer performance and broader mental health challenges.

Theme 2: Academic - Substance Dependency Performance

Substance dependency creates a cycle where students become increasingly reliant on drugs to manage their academic responsibilities. The withdrawal symptoms experienced when students are not using drugs further



exacerbate the situation. This ongoing battle with withdrawal not only affects their current academic performance but also hinders their ability to plan and work towards long-term academic goals.

Participant narratives provide clear insights into these issues: Participant 1 noted, "I feel like it can grow...like those who grow too reliant, they realize they've gone addicted, or they can't focus without them."

Participant 10 observed, "I view it as decreased in motivation, decreased in determination." These narratives collectively highlight the severe impact of substance dependency on academic performance. The inability to study without drugs, the reliance on substances for academic tasks, and the challenging withdrawal symptoms all contribute to a downward spiral in students' academic achievements.

Theme 3: Health-Related Academic Decline

Substance use leads to psychological and physical health issues, such as anxiety, depression, and other health-related problems. This distress, coupled with mental health deterioration, creates a challenging environment for academic achievement, as students struggle to perform due to compromised mental health. The insights from the participants provide a deeper understanding of this theme. Participant 7 emphasized the emotional instability caused by substance use, saying, "It also affects your mental being because...you'll get mood swings."

Participant 8 pointed out the widely recognized negative impact on mental health, stating, "Better for their psychological well-being because these substances or drugs do have the reputation of negatively impacting one's mind."

These narratives suggest that the use of substances severely undermines students' mental and physical health, creating a barrier to academic success. The pattern of increased anxiety, depression, and health issues disrupts students' study habits and academic focus.

Theme 4: Negative Academic Outcomes

Substance use impairs students' ability to focus on their academic tasks, leading to a decline in their overall performance. The inability to meet academic requirements and maintain satisfactory grades often forces students to leave their studies prematurely. This outcome is compounded by the missed deadlines that frequently accompany substance use, as students struggle to manage their time and complete assignments on schedule.

Students' responses provide clear evidence of these negative academic outcomes: Participant 2 highlighted the issue, stating, "Students...would lose focus when it comes to their requirements and their studies in general." Participant 8 succinctly summarized, "It can lower the academic performance of college students." Finally, Participant 9 pointed out, "Cutting classes, not being able to make it on their 7:00 a.m. classes...deadlines would be an issue," reflecting the challenges in maintaining attendance and meeting academic deadlines. These narratives highlight the pressing need for targeted interventions to combat substance use among college students.

Furthermore, the findings of this current study showed that favorable attitudes to drug use increase the psychological well-being of Filipino college students. Conversely, unfavorable attitudes to drug use decrease their



psychological well-being. The body of research does not report findings on the impact of attitudes to drug use on the students' psychological well-being in the Philippine context.

Three critical themes emerged providing a deeper understanding of the quantitative findings, namely: Psychological Relief; Functionality Drug-Related Dependency Disorder for favorable attitudes toward drugs; and Negative Psychological Effects for disfavorable attitudes toward drugs.

Theme 1: Psychological Relief

The category of Temporary Relief, encompassing aspects such as anxiety relief, stress relief, feeling good, and temporary relief from depression, highlights the short-term benefits perceived by students. These effects create a sense of immediate, albeit fleeting, well-being that helps students manage their psychological challenges. Students' responses provide insights into how substance use temporarily alleviates psychological distress: Participant 1 shared, "Able to release any of those anxieties they have. I feel like that's the positive impact it has on their psychological well-being."

Participant 4 mentioned, "Using marijuana in this case mainly mitigated the effects of my depression and my negative thoughts." The analysis of these narratives highlights that while students experience immediate psychological relief from substance use, these effects are transient and often come with a cost. The fleeting nature of the relief means that students may repeatedly turn to substances to manage their psychological well-being, potentially leading to dependency.

Theme 2: Functionality Drug-Related Dependency Disorder

This reliance often starts as a coping mechanism for managing stress, anxiety, or other psychological challenges. The inability to feel normal without drugs is a significant aspect of this theme. Students who become dependent on substances often report that they need to use drugs to feel like themselves or to achieve a baseline level of functioning. Participants' responses highlight the pervasive impact of this dependency: Participant 5 stated, "If you do it on a regular basis, your personal identity may also be compromised."

Participant 8 remarked, "Better for their psychological well-being because these substances or drugs do have the reputation of negatively impacting one's mind." This dependency can lead to a cycle where students rely on substances to manage their psychological well-being, which in turn exacerbates their mental health issues.

Theme 3: Negative Psychological Effects

This theme is characterized by increased anxiety and depression, highlighting the significant rise in these conditions due to disfavorable attitudes toward substance use. Participants' responses provide vivid illustrations of these negative psychological effects: Participant 2 stated, "No drugs can give you anxiety, and depression in a sense because of the lack of support."

Participant 10 stated, "Decline in mental health," succinctly summarizing the broad adverse impact with disfavorable attitudes toward drugs. Interventions should focus on providing robust support systems, promoting healthy coping mechanisms, and addressing the root causes of substance dependency.



Finally, the current study investigated the moderating effect of developmental level on the path model of attitudes to drug use and the variables of academic performance and psychological well-being. Findings showed that developmental levels (adolescence and young adulthood) do not moderate the path model. These findings suggest that the impact of attitudes to drug use on academic performance and psychological well-being will be the same regardless of developmental level.

The thematic analysis identified two themes: Escape and Distraction and Negative Academic Impact. These themes encapsulate the diverse and multifaceted views of college students, regardless of age group, on substance use, highlighting both the perceived benefits and significant risks associated with drug use during their academic journey and psychological well-being.

Theme 1: Escape and Distraction

The attributes of this theme include seeking an altered state of mind to avoid dealing with real-life issues and using substances as a coping mechanism. Codes such as "escape from reality" and "distraction from problems" highlight the primary reasons students turn to drugs for relief. The desire for an altered state of mind is particularly prevalent among students who feel overwhelmed by their academic and personal responsibilities. This coping mechanism is seen as a quick fix, offering temporary relief from anxiety, depression, and other emotional burdens.

Students' responses provide clear insights into this theme. Participant 1 mentioned, "They use it as a means to...to distract themselves, try to feel things that aren't exactly related to maybe problems they're experiencing." Participant 4 shared, "I think college students use substances, like drugs, so

they can escape, in a way...maybe they could feel something that they can't really feel when they aren't on drugs." Participant 6 observed, "Alcohol & nicotine have a general impact on their health and that would...umm of course like affect academic performance...I think it's ok at a certain point but not at excess but I'm still not favorable with the drug part," highlighting a nuanced view where some substances are seen as acceptable to a point, but drugs are generally viewed unfavorably due to their impact on health and academics.

Turning to drugs as a means of distraction enables students to avoid facing their problems head-on, which can result in a continuous dependence on substances for emotional relief.

Theme 2: Negative Academic Impact

Many students initially believe that substances might provide a boost in motivation or help them cope with academic pressures. However, this belief is often followed by the realization that drug use impairs their academic capabilities. Students' responses provide clear insights into this theme. Participant 2 highlighted, "Students...would lose focus when it comes to their requirements and their studies in general," indicating a direct link between substance use and diminished concentration.

Participant 7 noted, "You won't be able to work properly...eventually stop school because of your performance," underscoring the drastic effect of substance use on academic continuity. Finally, Participant 10 added, "Decline in academic performance, decline in mental health," connecting the academic decline to broader



mental health issues. These narratives reveal that substance use leads to significant academic challenges, affecting students' ability to focus, stay motivated, and perform well in their studies.

DISCUSSION

Although substantial research has explored the negative effects of substance use on academic performance and psychological well-being globally, the specific dynamics among Filipino college students have been understudied. Furthermore, the role of developmental stages, such as adolescence and young adulthood, in moderating these effects has not been thoroughly examined. This study aimed to address these gaps by investigating how attitudes toward substance use influence academic performance and psychological well-being among Filipino college students, with a focus on the potential moderating role of developmental levels.

Impact of substance use attitudes on academic and psychological outcomes in Filipino college students

The present study investigated the relationship between attitudes toward substance use and their impact on academic performance and psychological well-being among Filipino college students, specifically considering the potential moderating role of developmental stages (adolescence versus young adulthood). The findings from the Structural Equation Modeling (SEM) analysis provide critical insights into these relationships, addressing the three hypotheses posed in the study.

Table 5. Impact of the variables on the other variables in the model

Hypotheses	Path coefficient	β	p-value	Effect size	Remark
H1: ADU → AP	-0.384	.120	.001	.126	Effect is significant
H2: ADU → WB	.228	.127	.039	.061	Effect is significant
H3: DevLevel *ADU → AP	-0.070	.135	.304	.017	Effect is non-significant
H4: DevLevel *ADU → WB	-0.083	.134	.270	.015	Effect is non-significant

* **Effect Size:** f^2 is the Cohen's (1988) effect size: 0.02=small, 0.15=medium, 0.35=large.

* **R-squared:** R^2 for AP = .143, R^2 for WB = .076

Hypothesis 1 (H1): The hypothesis that favorable attitudes toward substance use predict lower academic performance was supported by the SEM results. The significant negative path coefficient ($\beta = -0.384$, $p = .001$) indicates that students who view substance use more favorably tend to have poorer academic outcomes. This result is consistent with prior research, such as studies by Akani et al. (2015) and Rees (2019), which suggest that substance use can detract from academic focus, motivation, and cognitive abilities. The strong association



observed in this study emphasizes the importance of addressing substance use attitudes in efforts to improve academic performance among college students.

Hypothesis 2 (H2): The study also hypothesized that favorable attitudes toward substance use would be associated with increased psychological well-being. Conversely, unfavorable attitudes toward substance use would be associated with diminished psychological well-being. This hypothesis was validated, as indicated by the significant path coefficient ($\beta = 0.228, p = .039$). These findings align with broader literature, including the work of Tus et al. (2021), which highlights the negative impact on mental health, often leading to increased levels of stress, anxiety, and depression. The consistency of these findings across different studies suggests that favorable attitudes toward substance use significantly compromise students' psychological well-being, potentially hindering their overall life satisfaction and personal development.

Hypothesis 3 (H3): The final hypothesis proposed that developmental level (Adolescence versus Young Adulthood) would moderate the relationship between attitudes toward substance use and their impact on academic performance and psychological well-being. However, the SEM analysis revealed non-significant interaction effects for both academic performance ($\beta = -0.070, p = .304$) and psychological well-being ($\beta = 0.083, p = .270$). These findings indicate that the negative consequences of favorable attitudes toward substance use are consistent across both developmental stages, challenging the assumption that adolescence is a particularly vulnerable period for the long-term impact of substance use (Howell, 2021). This lack of significant moderation suggests that interventions should be broadly applied to college students regardless of their developmental level, as the detrimental effects of substance use attitudes appear to be universal.

The results of this study underscore the critical need for comprehensive prevention programs that target substance use attitudes among college students. The findings suggest that such programs should not be limited to specific age groups but rather be universally implemented across the college population to effectively mitigate the adverse impacts on both academic performance and psychological well-being. Moreover, the robustness of the constructs used in this study, as evidenced by their strong convergent and discriminant validity, reinforces the reliability of these findings and the importance of integrating substance use attitude interventions into educational policies.

Experiences and Opinions Among College Students Towards Substance Use and Its Impact on Performance and Wellbeing

The thematic analysis of this study reveals a comprehensive understanding of how substance use influences various aspects of academic life and psychological well-being among Filipino college students. The findings underscore the critical themes of decreased focus and motivation, academic-substance dependency, health-related academic decline, and negative academic outcomes. Each of these themes highlights the pervasive effects of substance use on students' academic and psychological experiences, supported by both qualitative insights and quantitative data.

Decreased Focus and Motivation emerged prominently, showing that substance use significantly impairs students' ability to engage in their studies. Participants reported a loss of interest and reduced engagement, which mirrors

the quantitative findings that favorable attitudes toward substance use are associated with lower academic performance ($\beta = -0.384, p = .001$). This aligns with existing research by Doraiswamy et al. (2020), which identifies academic stress as a primary factor driving substance use, leading to further academic challenges. Additionally, Forster et al. (2019) report that high rates of alcohol consumption, which is prevalent among college students, are linked to diminished academic performance and increased mental health issues. These findings suggest that interventions targeting substance use must address the root causes of decreased academic motivation, such as academic pressure and stress, to be effective.

The cycle of academic-substance dependency is another significant theme that emerged, where students increasingly rely on substances to manage their academic responsibilities, exacerbating their academic struggles. The participants' accounts of dependency and its negative effects, such as the inability to study without substances, parallel the study's quantitative findings, highlighting the substantial impact of substance use on academic performance. This relationship is further evidenced by Kollath- Cattano et al. (2020), who discuss the escalating nature of drug dependency, particularly among students who may initially perceive substance use as a coping mechanism. Moreover, research by Järvinen and Otersgård (2011) supports the idea that favorable attitudes toward substance use often lead to underestimating its risks, increasing the likelihood of dependency. The academic decline observed among students who develop such dependencies underscores the importance of early intervention programs that specifically address substance use as a maladaptive coping strategy.

Substance use is closely linked to health-related academic decline, as it leads to psychological and physical health issues like anxiety and depression, which directly affect academic performance. Participants reported emotional instability and mood swings that hindered their ability to perform academically, a theme that is supported by the quantitative findings. This theme is consistent with the findings of Alves et al. (2020), who noted that mental health challenges, exacerbated by substance use, create significant barriers to academic success. The COVID-19 pandemic has further complicated these issues, with studies by Firkey et al. (2021) showing an increase in substance use and a corresponding decline in students' quality of life. The connection between substance use, mental health, and academic performance highlights the need for comprehensive mental health programs in educational institutions that address these intertwined issues.

Negative academic outcome is another critical theme that illustrates how substance use leads to declining academic performance, often resulting in missed deadlines, poor grades, and even dropout rates. Participants' observations about the difficulty in maintaining attendance and meeting academic requirements due to substance use align with the quantitative data, which shows a significant correlation between positive attitudes toward substance use and poor academic outcomes. This theme reflects findings by Rees (2019), who documented the adverse effects of substance use on students' academic success, particularly in terms of lower grades and increased dropout rates. Furthermore, research by Akani et al. (2015) in Nigeria demonstrated a significant difference in academic performance between students who abuse drugs and those who do not, reinforcing the critical need for early intervention strategies that address the underlying causes of substance use and its impact on academic outcomes.



Integration of Quantitative Findings

The quantitative results provide a robust foundation for understanding the thematic findings. For example, the significant path coefficients in the structural equation model demonstrate the negative effects of favorable attitudes toward substance use and academic performance, and its positive effects on psychological well-being. Moreover, the non-significant moderation effect of developmental level (adolescence vs. young adulthood) suggests that the impact of substance use attitudes is consistent across different age groups, which is a critical insight for designing universal prevention programs.

The study's findings have significant implications for educational institutions and policymakers. The thematic analysis, combined with the quantitative results, underscores the need for targeted interventions that address favorable attitudes toward substance use. These interventions should focus on improving students' academic engagement and psychological well-being by offering support systems that promote healthy coping mechanisms and reduce dependency on substances. The findings suggest that school-based prevention programs should not only target at-risk students but should also be implemented universally across different age groups to effectively mitigate the negative outcomes associated with substance use. Additionally, considering the role of social and environmental factors in substance use, as highlighted by Prosek et al. (2020), interventions should also address these broader influences to create a more supportive and healthier educational environment.

CONCLUSION

This study provides crucial insights into the relationship between attitudes toward substance use and its impact on academic performance and psychological well-being among Filipino college students. The quantitative findings revealed that students with favorable attitudes toward substance use consistently exhibited lower academic performance and increased psychological well-being. These students frequently face challenges in maintaining focus, motivation, and overall mental health, thus validating the study's hypothesis that favorable attitudes toward substance use predict adverse academic performance. Conversely, favorable attitudes toward substance use predict high psychological outcomes. Notably, the developmental level—whether adolescence or young adulthood—did not significantly moderate these effects, suggesting that the harmful impacts of substance use attitudes are consistent across these developmental levels.

Complementing the quantitative results, the qualitative analysis offered a deeper understanding of students' personal experiences with substance use. The themes of "Escape and Distraction" and "Negative Academic Impact" were particularly revealing. Students often resorted to substance use as a coping mechanism to handle academic pressures and personal stressors, which frequently led to a cycle of dependency. This, in turn, exacerbated their academic difficulties and psychological challenges. Additionally, the belief that substances might initially alleviate academic pressures often gave way to the realization that such use ultimately impairs academic performance, leading to poorer grades, decreased motivation, and declining mental health.

The significance of this study lies in its contribution to the relatively underexplored area of substance use attitudes among Filipino college students, particularly regarding how these attitudes influence both academic and psychological outcomes. By integrating quantitative data with rich qualitative insights, this research provides a



comprehensive perspective on the detrimental effects of favorable attitudes toward substance use. These findings underscore the urgent need for targeted interventions, including school-based prevention programs that aim to reshape students' attitudes toward substance use and promote healthier coping mechanisms.

The study highlights the importance of early intervention and the necessity for robust mental health support systems within educational institutions. Such measures are crucial in preventing the onset of substance dependency and mitigating its associated academic and psychological consequences. Moreover, the study calls for the enhancement of mental health resources, counseling services, and academic support to create a healthier and more productive academic environment for students. However, the study's limitations, including its focus on a single university and the sensitive nature of the topic, suggest that further research with a more diverse sample is necessary to generalize these findings to the broader population of Filipino college students.

RECOMMENDATIONS

Based on the findings of this study, substance use has a significant impact on the academic performance and psychological well-being of Filipino college students. To effectively address these issues, educational institutions must implement targeted strategies that not only prevent substance use but also support students who may already be struggling. The following recommendations outline key areas where action is needed to promote healthier behaviors, enhance student well-being, and ensure academic success.

- 1. Development of Comprehensive Prevention Programs:** Educational institutions should prioritize the creation and implementation of school-based prevention programs that directly address the root causes of substance use, particularly stress, academic pressure, and social influences. These programs should focus on teaching students healthy coping mechanisms, stress management techniques, and refusal skills to resist peer pressure and the temptation to use substances. Programs should be evidence-based, culturally sensitive, and inclusive of strategies that resonate with the student population.
- 2. Enhancement of Mental Health and Academic Support Services:** Universities need to strengthen their mental health and academic support services by providing accessible and effective counseling, mental health resources, and peer support systems. These services should specifically target students who are at risk of or already struggling with substance dependency. Additionally, tailored academic advising and intervention strategies should be implemented to help these students maintain or improve their academic performance, ensuring that they do not fall behind due to substance-related issues.
- 3. Fostering a Supportive Campus Environment:** A supportive and inclusive campus culture is essential in mitigating the negative social and psychological impacts of substance use. Universities should actively promote a sense of community and belonging among students, encouraging them to seek help without fear of stigma. Initiatives such as peer mentoring, wellness programs, and substance-free events can play a significant role in fostering healthier behaviors and reducing substance use.
- 4. Expansion of Research:** Future research should aim to expand the study population to include a more diverse and representative sample of students from various universities across different regions. This will allow for a



broader understanding of the impacts of substance use on academic performance and psychological well-being across different demographics and cultural contexts. Additionally, longitudinal studies could provide valuable insights into the long-term effects of substance use attitudes and behaviors, helping to inform more effective intervention strategies.

Limitations and Strength

A key limitation of this study is its focus on students from De La Salle University, Manila, which may restrict the generalizability of the findings to the broader population of Filipino college students. Additionally, the sensitive nature of the topic might have led to participants' reluctance, potentially affecting the richness and accuracy of the data, while the reliance on self-reported data introduces the possibility of bias due to underreporting or misrepresentation of substance use behaviors. The study's primary strength lies in its mixed-methods approach, which combines quantitative and qualitative data, providing a comprehensive and nuanced analysis that captures both statistical trends and personal experiences, thereby enhancing the depth and validity of the findings. However, a significant weakness is the potential bias in self-reported data, coupled with the study's focus on a single university, which limits the diversity of the sample and might overlook variations across different institutions or regions. Furthermore, the cross-sectional design restricts the ability to establish causality between attitudes toward substance use and the resulting academic and psychological outcomes.

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