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Academic anxiety as a predictor of drug abuse tendencies mediated by peer conformity

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Abstract: This Drug abuse among college students is a serious problem that is influenced by various psychological and social factors, including academic anxiety and peer conformity. This study aims to investigate the influence of academic anxiety on drug abuse tendencies by examining the mediating role of peer conformity. This study used a correlational type quantitative approach. The research subjects consisted of 349 college students aged 18 to 25 years old who were selected by accidental sampling technique. The measuring instruments used include multidimensional test anxiety scale to measure academic anxiety, peer pressure inventory to measure peer conformity, and substance use risk profile scale to measure drug abuse tendency. The mediation analysis showed that academic anxiety has a significant influence on drug abuse tendency, both directly (ß = 0.270; $p < 0.001$) and indirectly through peer conformity (ß = 0.128; $p < 0.001$). Thus, peer conformity partially mediated this effect. These findings support Problem-Behavior Theory, which emphasizes the importance of the interaction between internal pressure and social influence on negative behaviors

Keywords: Academic anxiety; Peer conformity; Drug abuse tendency; University students.

Introduction

Drug abuse among students is an increasingly worrying issue in the field of mental and social health. Data from the National Narcotics Agency (BNN) and the Indonesian Institute of Sciences (LIPI) show that the prevalence of drug abuse in the population aged 15-64 years increased from 1.77% in 2017 to 2.4% in 2019. The student age group accounted for around 3.2% or around 2.3 million people, with 2.29% of them having tried drugs (BNN & LIPI, 2019). In addition, the Indonesian National Police (Polri) recorded a significant increase in drug cases, from 44,983 cases in 2022 to 53,672 cases in November 2024 (Polri,

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2024). This fact shows that university students are a group that is very vulnerable to drug abuse behavior and needs special attention in prevention strategies.

Students are in a transitional phase of development from adolescence to early adulthood, where they face various academic, social, and psychological pressures (Hisyam et al., 2025). At this time, students are more vulnerable to environmental influences because they are in the process of exploring self-identity and forming independence. The pressure to excel, adapt to the new campus environment, and the need to be accepted in peer groups can trigger risky behaviors, such as substance abuse (Ramadhan & Darwis, 2023; Rodriguez et al., 2019). If not managed adaptively, these pressures can trigger escape behavior, one of which is drug use.

One of the internal factors that influence this tendency is academic anxiety. Academic anxiety is an emotional condition characterized by worry, fear, and tension related to academic demands such as exams and assignments (Putwain et al., 2020). This anxiety can have an impact on cognitive, emotional, and physical aspects, such as impaired concentration, muscle tension, and negative thoughts (Bulbul & Odaci, 2023; Lusi et al., 2023). Students who experience high anxiety tend not to have adaptive coping strategies, making them more vulnerable to using addictive substances as an escape mechanism (Saxena, et al., 2019; Omeje et al., 2023).

An influential external factor is peer conformity. Peer conformity refers to the tendency of individuals to adjust attitudes, behaviors, and values to the norms of their social group (Santor et al., 2000). Forms of conformity can take the form of normative, informational, or identification pressure, depending on the closeness of the relationship and the need to be accepted (Firdaus & Kawuryan, 2024). Students with high levels of anxiety often seek more support from their social environment, so they tend to follow group behavior, even if the behavior is deviant (Laursen & Faur, 2022; Henneberger et al., 2021).

Some studies suggest that group norms that are permissive of drug use can increase the likelihood of individuals engaging in such behavior, especially if academic pressure is not balanced with good stress management skills (Cushion et al., 2019). Conversely, peers with positive values can actually serve as protectors from deviant behavior (Sarilah & Endriani, 2024). This shows that conformity has two sides that can act as a risk or protection against student involvement in drug abuse.

However, most previous studies have separately examined academic anxiety and peer conformity in relation to substance abuse behavior. Studies specifically exploring the mediating role of peer conformity in the relationship between academic anxiety and substance abuse tendencies are limited (Watts et al., 2024). In reality, psychological and social factors cannot stand alone and instead influence each other in shaping individual behavior. Therefore, it is important to review the relationship of the three variables together.

This study aims to examine whether academic anxiety has an influence on the tendency of drug abuse in college students, as well as whether peer conformity acts as a mediator in the relationship. The results of this study are expected to provide theoretical and practical contributions in efforts to prevent drug abuse in higher education. Theoretically, this study refers to the Problem Behavior Theory proposed by Jessor (1991), which explains that deviant behavior is the result of interactions between personality factors, social environment, and behavioral systems. By understanding the complex relationship between academic anxiety and peer conformity, this study is expected to provide a basis for more effective interventions.

Method

This study uses a quantitative approach with a type of correlational research with mediation. The correlational approach was chosen to examine the relationship between academic anxiety as the independent variable (X), drug abuse tendency as the dependent variable (Y), and peer conformity as the mediating variable (M). The selection of correlational techniques is also based on the research objectives that not only want to see the direct influence between the independent and dependent variables, but also see the mediating influence of peer conformity.

Participants

The population in this study were active students aged 18-25 years. The sample in this study amounted to 349 people, selected using accidental sampling technique according to the guidelines of the Isaac and Michael table which is used to measure the sample size in large populations that are not known with certainty.

Instrument

Data was collected using a google form questionnaire consisting of three validated scales.

This study is the multidimensional test anxiety scale (MTAS) developed by (Putwain et al., 2020), which consists of 16 items. This scale refers to four factors according to Putwain et al. (2020) namely Worry, Cognitive Interference, Tension, Physiological indicators. One of the items reads “I am afraid of writing wrong answers during tests/exams”.

Initially this scale was multidimensional, but in this study it was used as a unidimension with reference to the higher-order approach as suggested by Putwain et al. (2020), MTAS can be modeled as one general construct if the research objectives do not emphasize differences between dimensions. The results of validity and reliability tests, all items are declared feasible to use because they have item-total correlation values ranging from 0.498 to 0.629. The reliability test results show a Cronbach's Alpha value of 0.900, which indicates that this scale can be used in measuring academic anxiety variables in students.

The scale used to measure Drug Abuse Tendency is the substance use risk profile scale (SURPS) developed by Woicik et al. (2009). This scale assesses three personality dimensions that contribute to substance use. The three dimensions are anxiety sensitivity, impulsivity, and sensation seeking. This scale has 15 items adapted from 23 original items. One of the items of this scale is “I am attracted to experiences for their own sake even if they are illegal”. After conducting validity and reliability tests, 8 items were excluded because they had an item-total correlation below 0.30 or were not relevant to the research construct. The item-total correlation values of the 15 items used were within the range of 0.326 to 0.544, indicating that the items had adequate validity. The reliability test results show a Cronbach's Alpha value of 0.823, which indicates that this scale has good consistency and can be used in this study.

Then the scale used to measure Peer Conformity is the Peer Pressure Inventory (PPI) developed by Brown et al. (1986). This scale uses aspects of Peer Conformity, namely a person's tendency to adjust attitudes, behaviors, and personal values to conform to peer group norms. The scale items in this study were developed by researchers based on the original items from Brown et al.'s peer pressure inventory. (1986). This scale consists of 7 items adapted from 9 original items. One of the items in this scale is “I follow the way of speaking or the daily attitudes of my friends”. After conducting validity and reliability tests, the

final version of the scale consisted of 7 items with item-total correlation values ranging from 0.506 to 0.753, indicating good relationship strength with the total score. The reliability test results showed that the Cronbach's Alpha value was 0.871, with a 95% confidence interval between 0.849 to 0.890.

The entire scale in this study uses a 4-point likert assessment, with alternative answers 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), 4 (Strongly Agree).

Procedure

This research consists of three main stages, namely preparation, implementation, and data analysis. In the preparation stage, the researcher prepared a complete proposal that included background, problem formulation, objectives, theoretical studies, and methods. A literature study was conducted to determine the measurement tools that are in accordance with the research variables.

Furthermore, the research stage, this stage was carried out online by distributing questionnaires through several social media platforms such as Instagram, WhatsApp, Telegram, and X to distribute Google Form links. The invitation to participate distributed through social media was designed to attract respondents' attention with concise and clear language. The researcher briefly explained the purpose of the study, and assured that the data was only used for research purposes and that confidentiality was guaranteed.

The data analysis stage began with checking the completeness and consistency of the entries. Invalid data were excluded. Next, the data were analyzed using JASP by testing validity (item-total correlation), reliability (Cronbach's Alpha), normality, Pearson correlation, and mediation regression. The results of the analysis were used to test hypotheses and develop conclusions and recommendations.

Result

Based on table 1, the number of respondents analyzed in this study was 349 people. The gender proportion of respondents showed a balanced distribution, with 175 female respondents (50.15%) and 174 male respondents (49.85%). In terms of age group, the majority of respondents were in the age range of 21 to 23 years old, with the highest number at the age of 22 years old as many as 120 people (34%), followed by 21 years old as many as 90 people (26%) and 23 years old as many as 48 people (14%). This age distribution shows that most respondents are in the mid-stage of their studies in college.

Table 1
Respondent Demographic Data

Respondent Demographic Data		Frequency	Presentation
Gender	Male	174	49.85%
	Female	175	50.15%
Age	18 years old	3	1%
	19 years old	17	5%
	20 years old	44	13%
	21 years old	90	26%
	22 years old	120	34%
	23 years old	48	14%
	24 years old	19	5%
	25 years old	8	2%

Tabel 2
Normality Test

Instrument	Skewness	Kurtosis	Note
Academic Anxiety	-0.491	-0.419	Normal
Drug Abuse Tendencies	-0.004	-0466	Normal
Peer Conformity	0.064	-1.148	Normal

Before hypothesis testing, the first step in data analysis is to ensure that the data distribution meets the assumption of normality. The normality test is conducted by looking at the skewness and kurtosis values, where data is considered normal if it is within the range of ±1.96. Based on Table 2, all variables have skewness and kurtosis values within these limits, namely academic anxiety (-0.491; -0.419), drug abuse tendencies (-0.004; -0.466), and peer conformity (0.064; -1.148). Thus, the assumption of normality is met.

This is in accordance with the opinion of Field (2009) and Demir (2022), who state that in large samples, the distribution can be considered normal if the skewness and kurtosis values are within the range of ±1.96 to ±2. Therefore, the analysis can proceed using parametric tests such as Pearson correlation and mediation analysis.

Table 3
Correlation Test

Variables			Pearson's	p
Academic Anxiety	-	Drug Abuse Tendencies	0.465	< .001
Academic Anxiety	-	Peer Conformity	0.545	< .001
Peer Conformity	-	Drug Abuse Tendencies	0.446	< .001

Based on table 3, the Pearson correlation test results show a significant positive relationship between academic anxiety and drug abuse tendency ($r = 0.465$, $p < 0.001$), so hypothesis H1 is accepted. Academic anxiety was also significantly related to peer conformity ($r = 0.545$, $p < 0.001$), supporting hypothesis H2. In addition, peer conformity is also positively correlated with drug abuse tendency ($r = 0.446$, $p < 0.001$), thus H3 is accepted. All three relationships were significant because the p value was <0.05, so they can be generalized with a 95% confidence level.

Table 4
Mediation Analysis

Direct Effects

					95% CI	
	Estimate	SE	z-value	p	Lower	Upper
Academic Anxiety - Drug Abuse Tendencies	0.270	0.047	5.783	< .001	0.179	0.362

Indirect Effects

					95% CI	
	Estimate	SE	z-value	p	Lower	Upper

Academic Anxiety - Peer Conformity - Drug Abuse Tendencies	0.128	0.028	4.638	< .001	0.074	0.182

Total Effect

					95% CI	
	Estimate	SE	z-value	p	Lower	Upper
Academic Anxiety - Drug Abuse Tendencies	0.398	0.41	9.813	< .001	0.319	0.478

Based on Table 5, academic anxiety has a significant direct effect on the tendency to abuse drugs (estimate = 0.270, SE = 0.047, z = 5.783, $p < 0.001$; 95% CI = [0.179, 0.362]), so the higher the academic anxiety, the greater the tendency to abuse drugs.

In addition, there is an indirect effect through peer conformity (estimate = 0.128, SE = 0.028, z = 4.638, $p < 0.001$; 95% CI = [0.074, 0.182]), which indicates a significant mediating role. That is, academic anxiety increases conformity, which then promotes drug abuse tendencies. Thus, hypothesis H4 is accepted.

The total effect of academic anxiety on drug abuse tendency of 0.398 ($p < 0.001$; 95% CI = [0.319, 0.478]) indicates that this model is a partial mediation, as the direct and indirect paths are both significant.

Discussion

The results showed that academic anxiety has a significant influence on drug abuse tendencies, both directly and indirectly through peer conformity. This finding supports the Problem Behavior Theory developed by Jessor (1991) which states that deviant behavior is not the result of a single factor, but rather the interaction between internal pressures such as anxiety, external influences such as social group norms, and individual behavioral systems. In the context of university students, unmanaged academic pressure can create psychological conditions that encourage the search for escape through substance use, especially if the social environment supports such behavior.

The link between academic anxiety and deviant behavior is also corroborated by previous findings from Rodriguez et al. (2019) and Saxena et al. (2020), which stated that students with high levels of anxiety are more likely to use drugs as a short-term coping strategy. Furthermore, Salazar Granizo et al. (2024) and Omeje et al. (2023) also revealed that protracted academic stress can trigger emotional disturbances and increase the risk of addictive substance use, especially if there is no adequate social support.

This finding also confirms that peer conformity acts as a mediator in the relationship between academic anxiety and drug abuse tendencies. That is, students who experience high anxiety tend to seek social acceptance, and if they are in a group that has permissive norms towards drugs, they will more easily conform to such behavior. Laursen and Faur (2022) and Watts et al. (2024) stated that emotionally unstable college students are more vulnerable to group pressure, and conformity is used as a social adaptation mechanism to anxiety. This is also reinforced by Cushion et al. (2019), who found that college students who idolized friends with negative behaviors had a higher likelihood of imitating those behaviors.

This study is also in line with the findings of Chen and Ma (2024) and Bica (2023), which state that emotional distress magnifies the tendency to submit to group norms, even if those norms conflict with personal values. In the Indonesian context, Sarfika et al. (2024) and Ramadhan and Darwis (2023) also

confirmed that university students are often unaware of the risks of drug abuse due to normalization in their social environment. Hasan et al. (2021) added that group pressure in the campus environment is a very dominant factor in shaping student deviant behavior.

The findings reveal the important aspect that peer conformity serves not only as an external social influence, but also as a psychosocial mechanism that reinforces the pathway of influence from internal pressure towards deviance. This research extends the theoretical understanding by adding the dimension of interaction between personal emotions and social norms, where college students experiencing anxiety not only seek emotional diversion, but also seek social acceptance through group behavior, albeit deviant.

These findings make an applicable contribution in the context of psychological interventions in the college environment. Effective interventions not only reduce academic anxiety through counseling and stress management training, but also strengthen supportive social environments such as positive study groups, active role of guardian lecturers, and proactive counseling. This kind of social support can serve as a shield against group pressure and deviant tendencies.

Overall, this study not only confirms the relationship between variables that have been widely studied separately, but also offers a mediation relationship model that describes the psychosocial dynamics of students more fully. Thus, this study provides a new contribution to the study of educational psychology and student deviant behavior, and can be used as a basis for developing intervention programs based on a systemic approach that includes personality and social environmental factors simultaneously.

Conclusions

This study shows that academic anxiety contributes to the tendency of drug abuse in college students, both directly and indirectly through peer conformity. This finding confirms that deviant behavior among college students is the result of the interaction between internal psychological stress and external social influences. In this context, conformity to peer groups is an important factor that strengthens the relationship, especially if students are in a social environment that is permissive of substance abuse. These results support the theoretical framework of Problem Behavior Theory and provide new insights into the psychosocial processes behind deviant tendencies in early adulthood.

Nonetheless, this study has some limitations. The use of a cross-sectional design limits the ability to explore cause-and-effect relationships temporally. The online sampling technique through accidental sampling also risks participation bias because it only reaches students who are active on social media. In addition, the exclusion of control variables such as religiosity, self-efficacy, or family support limits the scope of a more comprehensive analysis.

Future research is recommended to use a longitudinal approach and include other protective variables that can enrich understanding of the factors that influence drug abuse tendencies. Qualitative studies can also be conducted to explore students' subjective experiences in dealing with academic and social pressures. From a practical perspective, these findings suggest the importance of campus interventions that focus on strengthening counseling services, forming healthy study groups, and collaborating with student communities to create a supportive social environment free from negative influences.

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