THE RELATIONSHIP OF ACADEMIC STRESS TO SMOKING BEHAVIOUR IN STUDENTS OF FACULTY OF GEOLOGICAL ENGINEERING

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ABSTRACT
The relationship between academic stress coping and smoking behaviour is crucial with the increase of adult smokers in Indonesia, especially among university students, adding urgency to the understanding of the relationship between academic stress and smoking behaviour. Objectives: So this study aims to determine the relationship between academic stress and smoking behaviour in students of the Faculty of Geological Engineering, Padjadjaran University. Methods: The method used in this study is an analytical descriptive design with a cross-sectional approach. The population in this study were active students of the 2020 and 2021 batches of the Faculty of Geological Engineering at Padjadjaran University totalling 259 people. The sample taken using the calculation of proportionate stratified random sampling was 157 students. Data were collected using The Perception of Academic Stress instrument developed by Gabriel and Bedewy (2015) containing 18 statements and Smoking behaviour developed by Komang Yunita (2021) containing 15 statements. Data analysis was carried out with a descriptive statistical approach and the Spearman Rank Correlation test. Results: The results of this study showed a p value> 0.05 (0.061), then H0 was accepted and Ha was rejected. Conclusion: The statement shows there is no significant relationship between academic stress and smoking behaviour but a positive relationship although very weak. Based on varibael, more than half of FTG Unpad students experience academic stress in the moderate category (53.5%) and almost half of students do not smoke (43.3%).

Keywords: academic stress; smoking behaviour; students

INTRODUCTION

Students are required to adapt to the University environment. To fulfil these demands, students must be able to work under pressure. In general, stressors come from academic load, environment, faculty interactions, and emotional issues outside the classroom (Kizhakkeveettil et al., 2017) Often, this stressful lifestyle can lead to higher stress levels. In addition, university students undergo a developmental transition from adolescence to adulthood, which can be challenging and make them more vulnerable to health problems (Zhang et al., 2018). Stress is the body's reaction or response to various factors, both internal and external, that cause a person distress (Marcus et al., 2021). Events or conditions (stimulus) that demand individual adjustment beyond what normally occurs in daily activities are known as academic stressors. Academic stress is a condition where students are unable to cope with academic demands. The change in learning style from secondary school to higher education causes students to have greater demands, heavier coursework loads, grade targets, academic achievement, demands to complete studies within the specified timeframe and other

academic problems. Half of university students experience psychological distress, while a third have a high risk of anxiety or depression (Levecque et al., 2017).

Previous research says that with the high level of stress experienced by students, the level of smoking behaviour is getting higher. This stressor comes from the academic burden so that students will try to reduce and divert it by doing coping mechanisms. Coping mechanism is an important factor in students to cope with stress, it refers to the strategies that individuals use to manage stress and negative emotions (Alkhawaldeh et al., 2023). An example of a negative strategy is smoking. There are differences in coping strategies between college students and university students. A study (Graves et al., 2021) says that women are more supportive of positive strategies compared to men. But this cannot be denied because some women also have negative coping strategies, one of which is smoking behaviour.

The prevalence of smoking in Indonesia has increased in the last 10 years, although there was a small decrease from 2011. According to the Global Adult Tobacco Survey (GATS) 2021 (for Disease Control, 2021), Indonesia's adult smoking prevalence reached 33.5% in that year, with men having a much higher prevalence rate than women. Data from the National Socio-Economic Survey (SUSENAS) (Badan Pusat Statistik Kota Bandung, 2021) shows that approximately 26.93% of West Java residents are smokers, with males dominating. This study focuses on smoking behaviour among students of the Faculty of Geological Engineering, Padjadjaran University. From a preliminary survey involving 17 respondents, most of them admitted to being smokers. The main reasons for smoking varied, ranging from academic stress to environmental influences. So this study aims to determine the relationship between academic stress and smoking behaviour in students of the Faculty of Geological Engineering students of Universitas Padjadjaran class of 2020 and 2021.

METHOD
The method used in this study is an analytical descriptive design with a cross-sectional approach. The population in this study were active students of class 2020 and 2021 at the Faculty of Geological Engineering at Padjadjaran University totalling 259 people, the inclusion criteria of this study were as follows: 1) active students of class 2020 and 2021 at the Faculty of Geological Engineering, Padjadjaran University; 2) active students who have a smoking habit at the Faculty of Geological Engineering, Padjadjaran University; 3) active students who have complaints of academic stress at the Faculty of Geological Engineering, Padjadjaran University. The sample taken using the calculation of proportionate stratified random sampling as many as 157 students. Data collection uses the perceived academic stress instrument developed by (Bedewy & Gabriel, 2015) which contains 18 statements with a validity test result of 0.515 and the Cronbach alpha value obtained is 0.752 (Fitria & Putri, 2021). The smoking behaviour questionnaire adapted by (Yunita, 2021) which contains 15 statements conducts content validity through consultation with the supervisor, and the results of the face validity test get approval so that the questionnaire can be used as a measuring tool and no reliability test is carried out. Data collection started from 29 January - 5 March 2024 via Google Forms. Data analysis was carried out with a descriptive statistical approach and the Spearman Rank Correlation test. The research ethics test stage by obtaining a research ethics pass from the Research Ethics Commission of the Faculty of Nursing, Padjadjaran University with letter number: 103/UN6.KEP/EC/2024 which was set on 1 February 2024.

RESULTS
This research was conducted at the Faculty of Geological Engineering, Padjadjaran University. The research time started from 29 January - 5 March 2024. The subjects of this

study were active students of the Faculty of Geological Engineering, Padjadjaran University, Class of 2020 and 2021, both smoking and non-smoking. This study uses univariate and bivariate analysis. The results of the study are as follows.

Table 1.
Respondent characteristics (n= 157)

Respondent characteristics	f	%
Gender		
Male	108	68.8
Female	49	31.2
Age		
19	5	3.2
20	55	35.0
21	63	40.1
22	29	18.5
23	5	3.2
Class of		
2020	75	47.8
2021	82	52.2
Smoking		
Yes	89	56.7
No	68	43.3

Table 1, it can be described that the majority of respondents were male, with a total of 90 people (72%). The most common age among respondents was 21 years old, covering 63 people (40.1%) of the total sample. More than half of the respondents, namely 82 people (52.2%) are students of the class of 2021. In addition, most of the respondents, 89 people (56.7%) were smokers.

Table 2.
Distribution of students' academic stress level (n= 157)

Stress category	Score range	f	%
Low	≥ 66	15	9.6
Medium	42-65	84	53.5
Heavy	<42	58	36.9

Table 2, of the total 157 students who were respondents in this study, the majority experienced moderate levels of academic stress, namely 84 students or equivalent to 53.5% of the total respondents.

Table 3.
Distribution of student behaviour levels (n= 157)

Smoker category	Score range	f	%
No smoking	0	68	43.3
Light smokers	<10 cigarette/day	29	18.5
Moderate smokers	10-20 cigarette/day	42	26.8
Heavy smokers	≥ 20 cigarette/day	18	11.5

Table 3, of the total 157 students who were respondents in this study, 68 or 43.3% were non-smoking students. In smoking students, the majority fall into the category of moderate smokers, as many as 42 students or equivalent to 26.8% of the total respondents.

Table 4.
Relationship between academic stress level and smoking behaviour (n= 157)

		Total Academic Stress	Total Smoking Behaviour
Total Academic Stress	Correlation Coefficient	1.000	.150
	Sig. (2-tailed)	.	.061
	N	157	157
Total Smoking Behaviour	Correlation Coefficient	.150	1.000
	Sig. (2-tailed)	.061	.
	N	157	157

Table 4, showing the p value> 0.05 (0.061), then H0 is accepted and Ha is rejected.

DISCUSSION

Stress is a problem that often occurs in humans during life and can occur to anyone including children, adolescents, adults, and the elderly. In the scope of academics, stress is an experience that is often experienced by students due to the many pressures that students must face such as exams, assignments, and so on (Tua Lumban Gaol, 2016) .Academic stress is pressure arising from academic demands such as assignments, exams, and deadlines in an educational environment. Academic stress refers to the pressure felt by students both physically and emotionally as a result of educational demands from lecturers and parents to achieve satisfactory learning performance (Tasalim & Cahyani, 2021). Academic stress is a significant problem among students, especially at the Faculty of Geological Engineering, Universitas Padjadjaran. Based on research conducted on students of the Faculty of Geological Engineering, Padjadjaran University during the learning process, the results obtained regarding the description of the level of academic stress. Based on the analysis that has been done, more than half of the respondents experience moderate levels of academic stress, namely 83 students (53.3%). This can be concluded from the percentage that exceeds half of the total number of students who are respondents. The results of this study are in line with research conducted by (Agustiningsih, 2019) which found that the majority of students experience academic stress during learning, most respondents in the moderate category and a small proportion of respondents in the very severe category. But this research is not in line with the research of (Rosyidah, 2020) which found that in the first year of college most respondents were in the severe stress category, namely 90% of the total number of respondents.

In this study, the symptoms of academic stress in students had the highest average in the aspects of workload and examinations. The curriculum in the education system continues to increase its standards along with the level of education pursued. This results in increasingly fierce competition between students, more time spent studying, and increased workload for students. Although some of these factors have an important role in the progress of education in the country, it cannot be ignored that they have the potential to increase the level of stress faced by students (Barseli et al., 2017).In line with research conducted by (Hamzah et al., 2020)where burdensome academic conditions can affect stress levels in students. This is caused by an increase in the number of coursework assignments, including independent assignments, quizzes, and group assignments, which causes a pile of work. In addition, busy class schedules often result in a lack of rest time for students, which can cause symptoms such as physical and emotional exhaustion. This concept is in line with the theory (Smeltzer and Bare in (Retnaningsih et al., 2015)) which states that the body's inability to adapt to a new environment can cause bodily imbalances and increase the risk of stress.

Some students use smoking as a coping mechanism to deal with the pressure and stress they experience during their studies. Therefore, an understanding of the factors that influence smoking behaviour among university students is highly relevant in the context of managing the overall well-being of university students. From the results of the research conducted, it is illustrated that most students do not smoke, but about a quarter of the total respondents belong to the category of moderate smokers. This shows the variation in smoking behaviour among students with some having no smoking, while others have significant smoking behaviour. The adolescent age group, which falls within the age range of the respondents in this study, is a crucial developmental stage in the formation of habits and behaviours. This age factor is in line with the phase where they are learning to strengthen their decision-making abilities and pursue personal satisfaction in accordance with their developmental stage (Sawitri et al., 2020). Dependence on cigarettes in students, especially those who smoke with consumption patterns that reach 10-20 cigarettes every day, shows that smoking behaviour is still an issue that needs serious attention in prevention and control efforts. This is in line with the research of (Alexander Setiawan & Virlia, 2022) namely students experience smoking dependence because they started smoking before entering college which then has the potential to develop into dependence due to the stress they face.

Smoking behaviour can occur due to various factors, in this study personality factors almost affect half of the respondents who smoke (47.2%). In line with research conducted by (Istiana et al., 2021) said that the factors that influence smoking behaviour in adolescents in coastal areas are personality factors. Adolescents' perceptions of smoking are influenced by the belief that cigarettes can provide a feeling of calmness or relaxation. They may believe that there are chemicals in cigarettes that can produce a calming effect when smoking. However, it is important to remember that such understandings are often mistaken, as cigarettes carry serious health risks, such as various diseases and even premature death. Nonetheless, in the context of stress and pressure adolescents often use cigarettes as a coping mechanism to overcome the anxiety and pressure they experience (Husna et al., 2019).

Some of the factors that contribute to student stress include demanding academic conditions with accumulated coursework, time management skills, and financial aspects. Each individual has different ways of coping with stress, such as going on holiday, eating, sleeping, and smoking. Cigarettes are often used as an option to reduce negative feelings such as anger, anxiety, anxiety, or stress in the hope that cigarette consumption can provide peace of mind (Bawuna et al., 2017)Research conducted by Anisa Rahmadianti (Rahmadianti & Leonardi, 2023) shows that there is a significant positive relationship between academic stress levels and smoking behaviour in students. However, this study found different results. Correlation analysis between academic stress variables and smoking behaviour showed that there was no significant relationship between the two, with a p value > 0.05 (0.061). Although the correlation coefficient indicates a weak relationship, statistically the relationship is not considered significant. This finding is in line with Chintia Amalia's research (Chintia Amalia, 2018), which showed that there was no correlation between stress levels and smoking behaviour in students. Although there is no significant relationship between academic stress and smoking behaviour in students of the Faculty of Geological Engineering, Padjadjaran University, this does not reduce the urgency to make efforts to prevent smoking behaviour among students. Other factors such as the influence of the social environment, smoking habits, and perceptions of the dangers of smoking can have a greater impact in shaping student smoking behaviour. Therefore, prevention efforts are not only aimed at individuals who smoke, but also at creating a healthy environment that is free from harmful smoke.

CONCLUSION
This study involved 157 students of the Faculty of Geological Engineering, Padjadjaran University, where more than half of them experienced academic stress in the moderate category, while 89 students were identified as smokers. Although correlational tests showed no significant relationship between academic stress and smoking behaviour, prevention efforts and psychosocial support from the Faculty of Nursing remain important. Promotion of healthy lifestyles and a supportive campus environment need to be improved to encourage students to stay away from smoking and manage stress more effectively. Future research is expected to expand the sample and consider additional factors such as social support, coping, and social environment that influence smoking behaviour.

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