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Correlation among academic stress, academic self-efficacy and substance use among undergraduate students at Nnamdi Azikiwe University, Awka, Anambra.

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Abstract

Background: Students' academic self-efficacy and academic stress significantly affected their academic achievement and health. Students with low sense of academic self-efficacy choose to avoid challenges and academic stress, thereby resorting to substance use as the best way to relieve academic stress.

Objectives: To determine the prevalence of substance use, academic self-efficacy and academic stress of students, Compare the academic self-efficacy and academic stress between substance and non-substance user undergraduates of Nnamdi Azikiwe University.

Methods: The study is a cross-sectional survey research design that occurred between July 1 2023, and October 2, 2023, at Nnamdi Azikiwe University, Awka, Nigeria. Consecutive sampling technique was used to select 410 respondents from the four campuses. Data were gathered from the undergraduate students. The statistical analysis was conducted using the statistical package for social sciences (SPSS) version 25.

Results: Results showed that prevalence of substance use was (71.0%). Alcohol (54.3%) was the most commonly used substance. Students' self-efficacy and academic stress significantly affected their substance use respectively. The variables (gender, age, parent presence statue, self-efficacy and academic stress) contributed greatly in explaining students' substance use.

Conclusion: Students with high sense of academic self-efficacy show more stability in facing undesirable and academic stressful events and can more effectively solve problems, while students with low sense of academic self-efficacy choose to avoid challenges and academic stress, thereby resorting to substance use.

Keywords: Academic self-efficacy; Academic stress; Substance use; Undergraduate students

1 Introduction

Substance use has become a serious problem in the society especially among university students which has greatly hampered their academic performance and well-being. The rise in substance use among students in tertiary schools is a global public health concern and socio-economic problems associated with a negative impact on student's health, academic achievement as well as their professional and social life (1). Academic failure and dropouts are serious problems faced by universities worldwide (2). Substance use is the continued use of alcohol, illegal drugs, or the misuse of prescription or over-the-counter drugs with possible dependence and other negative consequences. These consequences may involve problems at work, school, home or in interpersonal relationships, problems with the law and health problem (3). The four primary categories of substances that are being used by students in an attempt to

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reduce academic stress or improve academic performance include alcohol, marijuana, sedatives and stimulants. Other substances includes hallucinogens, methamphetamine (methamphetamine is also called mkpurummiri in Igbo), heroin, kola nut, coffee, cocaine, inhalants, cigarette (tobacco) and other or unknown substances (4).

There are combination of influences that can increase a person's risk of using substances such as biological influences, intrapersonal influences, socio-cultural influences and interpersonal influences (5). Substances are used for a variety of reasons by people including celebration, relaxation, and social or cultural norms. However, they are also becoming widely utilized by younger populations as a coping mechanism, such as for stress, overwhelming emotions, and physical ailments, on a short term basis. Academic stress is the most common emotional or mental state that students experience during their studies. Academic stress and anxiety is one of the leading causes for alcohol and substance abuse among middle school, high school, and college students (6).

Academic stress is the harmful physical and emotional response which occurs when the requirement of the academic environment do not match the capabilities and resources of the students (7). The four components of academic stress usually identifiable in a student are academic frustration, academic conflicts, academic anxieties and academic pressures (8). The pressure students find themselves under during school leads to two primary reasons they may begin using substances. The use of substances may be to relieve the tension and emotional overwhelm they are experiencing from being academically overloaded. Alternatively, student's may turn to substances in an attempt to advance their performance in an academic setting (9).

Meng and Zhang, demonstrated that academic self-efficacy is a positive psychological variable in the prevention of students becoming academically burnt out and withdrawing from their studies (1). By increasing academic engagement and improving academic performance, academic self-efficacy can reduce the dropout rates and serious problems faced by students (1). According to *Zhao, Zhang and Dajun*, academic self-efficacy refers to the belief that one can successfully engage in and complete course-specific academic tasks, such as accomplishing course aims, satisfactorily completing assignments, achieving a passing grade, and meeting the requirements to continue to pursue one's major course of study. Positive academic emotions, such as pride, enthusiasm, and enjoyment, are likely to be influenced by the level of self-efficacy an individual holds (10).

The researcher had observed that university students faced increasing financial difficulties, a lack of social connections and sense of belonging, and insecurity regarding the future and huge task of establishing a sense of identity, all of which hampered their academic performance and well-being. Having trouble in school, examination and lack of tuition fees have been causing academic stress to University and College students. Students believe that the best way to relieve academic stress and forget negative thoughts is to use drugs and substances. However, this could lead to addiction and substance abuse which may result in negative health implications and adversely affect performance in examination contrary to the expectation of students.

The researcher noted that academic self-efficacy is an important contributor against substance use in improving university students' academic performance and relieving academic stress so as to help students achieve their goals in life.

To the researcher's knowledge, no previous study has taken cognizance of academic self efficacy and academic stress among the students in relation to substance use, hence the need to do so in this study. This study was therefore conducted to fill these gaps. Therefore, the purpose of this is to investigate the correlation among the academic stress, academic self efficacy and substance use among the undergraduate students in Anambra State.

2 Materials and methods

2.1 Study Design and Setting

Cross-sectional study design was used. The researcher involved the undergraduate students in four campuses in Nnamdi Azikiwe University (Awka, Nnewi, Agulu and Ifite-Ogwari). Variables of interest were academic self-efficacy, academic stress, age, gender, level of study, location of campus and substance use. This was a point prevalence study conducted between July and October, 2023.

2.2 Study Population and Data Collection

It has a total population of about 36,159 undergraduate students. The University has a total of 15 faculties and 105 departments. Data were gathered from all the fifteen faculties in the University. Consecutive sampling technique was used to select 410 respondents from the four campuses

2.3 Outcome Measures

The outcome measures were academic self-efficacy, academic stress and substance use and their correlation.

2.4 Study Analysis

The data collected were analysed using Statistical Package for Social Sciences (SPSS) version 25. The results were represented in a simple frequency table and percentages.

2.5 Ethical approval

The present study was approved by hospital's Ethics Committee (Nnamdi Azikiwe University Teaching Hospital Nnewi) with reference number: NAUTH/CS/66/VOL.15/VER.3/344/2023/89.

3 Results

In this study, a total of 410 participants were analyzed. Table 1 on demographic information of the respondents indicates that most of the respondents (55.4%) were females while 43% of them were males. Greater percentage of the respondents (42.7%) were between 17 and 21 years old. This was followed by 31.9% who were between 22 and 26 years old.

Table 1 Students' demographic Information

Variables	Response Option	Frequency	%
Sex	Male	179	43.0
	Female	231	55.4
Age Group	Below 17 years	19	4.6
	17-21 years	178	42.7
	22-26 years	133	31.9
	27-31 years	68	16.3
	32 & Above	12	2.8
Marital Status	Married	47	11.3
	Single	352	84.5
	Divorced	2	0.5
	Separated	3	0.7
	NR	6	1.4
Current level of study	100 level	57	13.7
	200 level	61	14.6
	300 level	107	25.7
	400 level	88	21.1
	500 level	59	14.6
	600 level	12	2.9
	Other	14	3.4
	NR	12	2.9

Table 2 shows that the prevalence of substance use was 71.0% and the substances included alcohol (54.3%), sedatives and stimulants (33.6%), Caffeine (8.0%) among others. of the term “substance use”. Most, (36.3%) were introduced into substance use from school, followed by peer pressure (21.7%); social media closely followed by (62.7%); (18.7% and 16.5%) were introduced through median influence and curiosity respectively. More than half, (52.1%) were less than 20 years old and similarly proportion of respondents (25.7%) were in 300 level, while majority (58.7%) were in Awka campus (Table 2).

Table 2 The prevalence of substance use among undergraduate students in Nnamdi Azikiwe University

Substance use	Response	Frequency	Percentage
Currently using at least one substance	Yes (Use substance)	296	71.0
	No (Do not use substance)	114	27.36
Age of First Time of Substance Use	<12	19	4.6
	12-20	215	52.1
	>20	176	42.9
Types of substances currently being used	Alcohol	223	54.3
	Caffeine	33	8.0
	Marijuana	13	3.1
	Sedatives and stimulants	118	33.6
	Hallucinogen	5	1.2
	Methamphetamine/Mkpurummiri	29	7.0
	Tobacco	10	2.4
	Cocaine	23	5.6
Who introduced the use of substance to students	Cigarette	34	8.2
	Father	17	4.1
	School stress	149	36.3
	Media influence	77	18.7
	Curiosity	68	16.5
Peer pressure	89	21.7	

*Multiple Responses

Table 3 shows the respondents' Mean Scores on Academic Self-efficacy and Academic Stress. The minimum and maximum ratings of academic self-efficacy and academic stress by the respondents were 11.00 and 130.00; and 15.00 and 40 respectively. The mean scores for each of the variable was 80.5957 and 28.7200 respectively.

Table 3 Respondents' Mean Scores on Academic Self-efficacy and Academic Stress

Variables	Frequency (N)	Mean	Standard Deviation	Standard Error of Mean	Minimum	Maximum
Academic Self Efficacy	410	80.5957	25.5397	1.8627	11	130
Academic Stress Level	410	28.7200	5.6440	0.4120	15	40

Table 4 shows the spearman's Rank Order Correlations result of association between Academic Self Efficacy, Academic Stress Level and substance use among the respondents. Spearman's Rank Order Correlations result showed a correlation coefficient of 0.3820 indicating the existence of strong relationship between academic self efficacy and academic stress level among undergraduate students. The test was significant at 0.001 significant level, and led to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

Table 4 Spearman's Rank Order Correlations result of association between Academic Self Efficacy, Academic Stress Level and substance use among the respondents

Mann-Whitney U					
Variables	Substance Use	Frequency (N)	Mean Rank	U	P
Academic Stress Level	User	114	123.00	1680	0.001
	Non User	296	87.98		
Academic Self Efficacy	User	114	74.20	1967	0.014
	Non User	296	99.14		

4 Discussions

4.1 Academic self-efficacy between substance and non-substance user undergraduates of Nnamdi Azikiwe University

Findings of this study reveals that students that use substance have lower academic self-efficacy compared to those that do not use substance, considering the fact that the mean academic self-efficacy score of students that use substance was 74.20 while that of students that do not use substance was 99.14. Students who are not using substance had 24.94 more academic self-efficacy score compared to those who use substance. This finding is confirmed by another finding of this study which noted that there is a significant relationship between student's academic efficacy and drug use. This implies that the more students' have self-efficacy, the less likely they would use substance.

This finding supports the findings of Hossein (11), who indicated that the high levels of self-efficacy of students can play a protective role against drugs use. This implies that students with a history of smoking in friends and parents have lower self-efficacy and a higher preparedness for addiction. In addition, the results of O'Brien indicated that self-efficacy affects a person's performance in a variety of topics; thus, adolescents' tendency to use substances is influenced by their beliefs about self-efficacy.

This finding also complements findings of Dhankar et al. who noted that individuals with a higher sense of self-efficacy may be better equipped to regulate the consumption of drugs. If a person having a higher sense of self-efficacy decides to quit using drugs, they may be able to quit effectively. However, if a person having low self-efficacy decides to quit using drugs, they may not be able to regulate their behavior effectively. The results of this study are consistent with findings of Slessnick who revealed that higher abstinence self-efficacy was found in relation to lower drug or substance abuse among students of age 17 to 24. This finding is in consonants with Mileviciute who disclosed that high self-efficacy for resisting negative peer influences predicted lower rates of alcohol use. People with high self-efficacy are courageous and have a high self-esteem, which has a significant impact on the evaluation of situations and behaviors.

The researcher observed that students with high self-efficacy show more stability facing undesirable and stressful events and do not accept negative thoughts about themselves and their abilities. Accordingly, the feeling of self-efficacy helps them to avoid substances and control their behaviors. People usually feel frustrated when they fail to achieve their goals in life due to their inefficiency, and this negative emotion can lead them to use substances.

4.2 Academic stress level between substance and non-substance user undergraduates of Nnamdi Azikiwe University

Findings showed that the mean academic stress score of students using substance was 123.00 while that of students not using substance was 87.98. Students using substance had 35.02 more academic stress score compared to those that do not take substance. This implies that students who use substance report more academic stress than those that do not use substance. The use of substances may be to relieve the tension and emotional overwhelm they are experiencing from being academically overloaded. These results agree with the findings of Katusiime (3) who noted that students

who are stressed tend to turn to substance use as a way to help them relax. Similarity exists between the findings of this study and one carried out by Duran who reported that students who are going through stressful events are more likely to turn to substance use as a way of feeling better about themselves. In contrary, this impairs their overall health and well-being, depression and anxiety symptoms can further adversely affect academic achievement. Also, Thawabieh observed that stress can cause changes in the brain like those caused by addictive drugs. Some people who experience stress may be more vulnerable to drug addiction or drug relapse. Those who become addicted to drugs may already be hypersensitive to stress. These findings also comply with the finding of who noted that individuals that experienced some form of childhood stress may present in adulthood, consequences that manifest into mental disorders such as anxiety, personality disorders and the problematic use of alcohol and other substances.

4.3 Correlations of association among academic self efficacy, academic stress level and substance use among undergraduate students of Nnamdi Azikiwe University.

The analysis showed a correlation coefficient of 0.3820 indicating the existence of strong association among academic self efficacy, academic stress level and substance use among undergraduate students. The test was significant at 0.001 significant level, and led to the rejection of the null hypothesis and acceptance of the alternative hypothesis. Thus it is discovered that there is significant association among academic self efficacy, academic stress level and substance use among undergraduate students of Nnamdi Azikiwe University.

This finding supports the report by Hosseini *et al.* , (11) that the high levels of academic self-efficacy of students can play a role against substance use. The findings is also in line with Katusiime (3) who who noted that students who are academically stressed tend to turn to substance use as a way to help them relax.

4.4 Implication of the Findings

This study revealed that students with a higher sense of academic self-efficacy are better adapted to cope appropriately with academic stress and resist substance use. Low academic self-efficacy influences the stress levels of an individual that is likely to experience stress. This implies that students with low academic self-efficacy cannot face undesirable and stressful events and they accept negative thoughts about themselves and their abilities resulting to academic burn out and withdrawal from their studies.

4.5 Limitations of the Study

This study covered only Nnamdi Azikiwe University, Awka. Considering the importance of academic self - efficacy among students , the study ideally should cover the entire tertiary institutions in Anambra State.

5 Conclusion

Students who experience more academic stress tend to turn to substance use as a way to help them relieve the tension and emotional overwhelm they are experiencing from being academically overloaded. In contrary, this impairs their overall health and well-being, depression and anxiety symptoms can further adversely affect academic achievement. Based on the findings of the study, the following recommendations were made by the researchers: Universities should facilitate supportive external environments which can promote students' self-efficacy that will enable them to face academic challenges with confidence. Universities should have more counselling centers where students can go to when they are struggling with low self-efficacy, academic stress or substance use. Surveillance of alcohol and other substance should be amplified within the campus.

Compliance with ethical standards

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Disclosure of Conflict of Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author contributions

All the authors were involved in the overall conceptual design and implementation of the project, and overall revision of the manuscript. ACO, NEA, CCH, JCA., ACA, MOO, AGA and GUE. ACO, NEA and CCH were involved in the overall conceptual design and implementation of the project, and overall revision of the manuscript. JCA., ACA, MOO and AGA contributed to data collection, analysis, and manuscript writing. GUE was involved in the writing of this manuscript and overall revision. The authors read, approved the final manuscript, and agreed to be accountable for all aspects of the work.

Disclosure Statement for Publication

All authors have made substantial contributions to conception and design of the study, or acquisition of data, or analysis and interpretation of data; drafting the article or revising it critically for important intellectual content; and final approval of the version submitted. This manuscript has not been submitted for publication in another journal.

Statement of Ethical Approval

The study was approved by the Ethics Review Board of the hospital (Reference number: NAUTH/CS/66/VOL.15/VER.3/344/2023/89; date of approval: date of approval 7th November, 2023).

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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