



ACADEMIC SELF-EFFICACY AND SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS OF NNAMDI AZIKIWE UNIVERSITY, AWKA, ANAMBRA STATE.

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ABSTRACT: *Students' academic self-efficacy significantly affects 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. This is a cross-sectional study conducted between July 2023 and October 2023 to determine the prevalence of substance use and influence of academic self-efficacy and certain socio-demographic variables on substance use among undergraduate students of Nnamdi Azikiwe University, Awka. Consecutive sampling technique was used to select 373 respondents from the four campuses and pre-tested questionnaire on substance use (QSU) and General self-efficacy scale (GSE) were used to collect data. Data were analyzed using SPSS version 25 and then summarized in tables of frequency and percentages. Mann-Whitney U test was used to determine differences in academic self-efficacy between substance and non-substance users. Chi-square was used to test the influence of age, gender, academic level of study, location of campus on substance use and binary logistic regression was used to determine the predictor effect of gender and age on substance use. Results showed high prevalence of substance use (46.5%). Alcohol was the most commonly used substance (42.2%). Substance users have low mean score (29.08) of academic self-efficacy compared to non-substance users (32.40) and this is significant ($p = 0.014$). Age, gender, current level of study and location of campus showed significant influence to substance use ($P < 0.001$). Supportive academic environments which can promote students' self-efficacy should be created by lecturers and university management.*

KEYWORDS: Academic self-efficacy, Substance use, Undergraduate students, Socio demographic characteristics



INTRODUCTION

Substance use has become a serious problem in the society especially among university students which has greatly hampered their well-being and academic performance. According to Centers for Disease Control and Prevention (CDC; 2021) substance use is the use of selected substances, including alcohol, tobacco products, drugs, inhalants, and other substances that can be consumed inhaled, injected, or otherwise absorbed into the body with possible dependence and other detrimental effects. 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 (Metuge, 2020). High school students are being sexually active. Studies show that more than half of all sexually transmitted diseases each year occur within the age bracket of 15-24 year olds and that majority of the people who were either physically and/or sexually abused and abusers use illicit drugs to help them cope with the emotional problems caused by their difficult experiences (Chukwudalu et al, 2022).

Academic failure and dropouts are serious problems faced by universities worldwide (Meng & Zhang 2023). Substance use is the continued use of alcohol, illegal drugs, or the misuse of prescription or over-the-counter drugs with negative consequences and health problem (American Psychiatric Association [APA], 2023). The four primary categories of substances that are being used by students in an attempt to reduce academic stress or improve academic performance include alcohol, marijuana, sedatives and stimulants. Other substances includes hallucinogens, methamphetamine, heroin, kola nut, coffee, cocaine, inhalants, cigarette (tobacco) and other or unknown substances (National Institute on Drug Abuse [NIDA], 2022).

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 (Olley & Alade, 2016). 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. Studies conducted in Anambra, South-East Nigeria noted high prevalence of substance use among in-school adolescents. The overall prevalence of substance use was 58.4% (Aniemena, Nwosu and Adogu , 2021).

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. By increasing academic engagement and improving academic performance, academic self-efficacy can reduce the dropout rates and serious problems faced by students (Meng & Zhang , 2023). According to Xu Chen et al. (2022), 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 can promote good academic performance and development in students, such as pride, enthusiasm, and enjoyment, are likely to be influenced by the level of self-efficacy an individual holds (Xu Chen et al., (2022). According to social-cognitive theory, people are



considered to be self-organizing, self reflective, self-regulative, and to make judgments about themselves based on their own activity (Badura, 2012).

The researcher had observed that undergraduate students faced insecurity regarding the future and huge task of establishing a sense of identity, a lack of social connections and sense of belonging, and increasing financial difficulties, all of which hampered their well-being and academic performance. 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 expectations of such students.

Academic self-efficacy is a positive psychological variable against substance use in improving undergraduate 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 among the students in relation to substance use, hence the need to do so in this study. Understanding the relationship between academic self-efficacy and substance use as well as patterns of use among different age groups and gender could help in the development of targeted and more effective prevention and treatment interventions. This study was therefore conducted to fill these gaps.

The study aimed at assessing the academic self efficacy and substance use among the undergraduate students using the following objectives to achieve the aim: To determine the prevalence prevalence of substance use; academic self-efficacy of the substance and non-substance users and influence of some selected social demographic variables (age, gender, academic level of study, location of campus) on substance use among undergraduate students in Nnamdi Azikiwe University, Awka. Significance difference in academic self- efficacy between substance use and non-substance use was also determined.

MATERIALS AND METHODS

Study Design

This was a point prevalence study conducted between July and October, 2023. The study adopted correlational cross-sectional study design to determine relationship between academic self-efficacy, academic stress, age, gender, level of study, location of campus and substance use.

Study Setting

The research setting include all the four campuses of Nnamdi Azikiwe University Awka, Anambra State comprising of Agulu, Awka, Ifite-Ogwari and Nnewi campuses.



Population and sampling

Multi-stage sampling technique was used to select 373 respondents from a total population of 40,010 undergraduate students in the four campuses (UNIZIK Academic Planning Unit, 2023) .

Instrument

Pre-tested researcher questionnaire on substance use (QSU) and General self-efficacy scale (GSE) were used to collect data from the respondents. QSU consisted of items used to elicit general information on socio-demographic characteristics of the respondents (age, gender, academic level of study, location of campus) and the prevalence of substance use among undergraduate students.

The GSE scale is a self-report measure of self-efficacy that was originally developed by Mathias Jerusalem and Ralf Schwarzer in 1995 and has been used in many studies. It is a 10- item psychometric scale that is designed to assess optimistic self-beliefs to cope with a variety of difficult demands in life. The scale is comprised of 4-point rating scales, rated from 1 point for 'not at all true', 2 points for 'hardly true', 3 'points for moderately true' and 4 points for 'exactly true'. The total score is calculated by finding the sum of all the items. The total score ranges between 10 and 40, with a higher score indicating more self-efficacy (Schwarzer & Jerusalem, 1995).

Ethical Approval

The study was approved by Research Ethics Committee of Nnamdi Azikiwe University Teaching Hospital Nnewi with reference number: NAUTH/CS/66/VOL.15/VER.3/344/2023/89. Ethical principles of autonomy and confidentiality were adhered to as only respondents who gave consent were interviewed. In addition, the respondents were assured of freedom to withdraw from the study at any time without consequences. Confidentiality of information from the respondents was maintained as the questionnaire did not make provision for individual identity.

Method of Data Collection

Two research assistants were recruited and intimated on purpose and objectives of the study. Data collection lasted for 3 months. 396 instrument was administered and 373 was properly responded to making a return rate of 94.19%. Data collection lasted for 3 months.

Statistical Analysis

The data collected were analysed using Statistical Package for Social Sciences (SPSS) version 25. The results were summarized and presented in tables of frequency and percentages. Mann-Whitney U test was used to determine differences in academic self- efficacy between substance use and non-substance use. Chi-square was used to test the influence of age, gender, academic level of study, location of campus on substance use and binary logistic regression was used to determine the predictor effects of gender and age on substance use. Statistical significance was set at $p < 0.05$.



RESULTS

Findings about socio-demographic characteristics show that most of the respondents were females (47%), 45.6% were between 17 and 21 years old; 28.7% were in 300 level; 48% were in Awka campus (table 1).

The prevalence of substance use among undergraduates of Nnamdi Azikiwe University was 46.5%. As displayed in Table 2, among students that used substance, (46.0%) were females while 54.2% of them were males.

Greater percentage of the students (36.7%) were between 17 and 21 years old. This was followed by 39.0% who were between 22 and 26 years old. Students' below 17 years and those between 32 years and above represented 2.3% and 4.0% of the total respondents respectively.

Most of the students (48.0%) were from Awka campus, 25.4 % were from Nnewi while Ifite-Ogwari campus (9.0%) was the least represented.

Students based on level of study shows that (27.4%) were in 300 level. This was followed by (25.7%) that were in 400 level. The third highest represented level (18.9%) was 200 level. Most students (42.2%) used alcohol. This was followed by those using caffeine (20.3%) and 11.5% that used sedatives and stimulants. Majority of the users (31.6%) were introduced to substance due to school stress, while 23.2% were introduced by peer pressure (table 2).

The mean score of academic self-efficacy of substance users was 29.08 while the mean score of academic self-efficacy of non-substance users was 32.40 (table 3).

Gender, age, current level of study and location of campus showed significant influence to substance use: $P = 0.008, 0.004, 0.043$ and 0.004 respectively (table 4).

Significant difference existed between the mean academic self-efficacy score of substance and non-substance users, $p = 0.014$ (table 5).

Binary logistic regression analysis shows that female students were 55.9% (AOR: 0.560; 95% CI: 0.352, 0.892) less likely to use substance than male students; students within age 17 – 21 years were 2.053 (AOR: 1.053; 95% CI: 0.612, 6.887) times more likely to engage in substance than students within age 12 – 16 years, students within age 22 – 26 years were 3.568 (AOR: 2.568; 95% CI: 1.048, 12.140) times more likely to engage in substance than students within age below 17 years, students within age 27 – 31 years were 13.644 (AOR:14.644 ; 95% CI: 3.336, 64.292) times more likely to engage in substance than students below 17 years, students aged 32 and above were 3.570 (AOR:4.570 ; 95% CI: 0.781, 26.757) times more likely to engage in substance than students below 17 years (table 6).

**Table 4.1: Students' demographic Information****n -373**

Variables	Response Option	Frequency	%
Sex	Male	179	47.0
	Female	194	52.0
Age Group	Below 17 years	9	2.4
	17-21 years	146	39.1
	22-26 years	123	32.9
	27-31 years	83	22.2
	32 & Above	12	3.2
Marital Status	Married	47	12.6
	Single	316	84.7
	Divorced	2	0.5
	Separated	3	0.7
	NR	6	1.4
Faculty	Agriculture	55	14.7
	Education	87	23.3
	Health Sciences & Technology	88	23.5
	Law	55	14.7
	Pharmaceutical Sciences	36	9.6
	Social Sciences	52	13.9
Location of Campus			
	Agulu	36	9.6
	Awka	194	52.0
	Ifite-Ogwuari	55	14.7
	Nnewi	88	23.5
Current level of study	100 level	47	12.6
	200 level	50	13.4
	300 level	107	28.7
	400 level	98	26.2
	500 level	71	19.0



Table 2: The prevalence of substance use among undergraduate students in Nnamdi Azikiwe University n=373

Substance use	Frequency/ %
Currently using at least one substance	
Yes (Use substance)	177 (46.5)
No (Do not use substance)	196 (51.4)
Total	373(100)
Gender: Yes (Use substance)	
Male	96 (54.2)
Female	81(46.0)
Total	177(100)
Age: Yes (Use substance)	
Below17years	4 (2.2)
17-21years	34(19.2)
22-26years	69(38.9)
27-31years	65(36.7)
32 & above	5(2.8)
Total	177(100)
Current Level : Yes (Use substance)	
100 Level	9(5.1)
200 Level	18(10.9)
300 Level	45(25.4)
400 Level	57(32.2)
500 Level	48(27.1)
Total	177(100)
Location of Campus: Yes (Use substance)	
Awka	116(65.5)
Agulu	13(7.3)
Nnewi	21(11.8)
Ifite-Ogwuari	27(15.2)
Total	177(100)
Types of substances currently being used	
Alcohol	81(42.2)
Caffeine	39 (20.3)
Marijuana	9(4.7)
Sedatives and stimulants	11.5(0.5)



Hallucinogen	1(10.5)
Methamphetamine/Mkpurummiri	9(4.7)
Tobacco	7(3.6)
Cocaine	9(4.7)
Cigarette	15(7.8)
Total	192(100)

Reasons Students started using substances

Father	17(9.6)
School stress	56(31.6)
Media influence	30(16.9)
Curiosity	33(18.6)
Peer pressure	41(23.2)
Total	177(100)

*Multiple Responses

Table 3: Academic Self-efficacy of substance and non-substance users undergraduates of Nnamdi Azikiwe University.

Substance Use	N	Mean
yes	177	29.08
No	196	32.40
Total	373	30.82



Table 4: Chi-square analysis of influence of students' socio-demographic characteristics on use of Substance
n = 373

Demographic variables		Substance use			Chi-square	p-value
		User	Non User	Total		
Age (Years)	Below 17	4	5	9	34.87	.0004
	17 – 21	34	112	146		
	22 – 26	69	54	123		
	27 – 31	65	18	83		
	32 & above	5	7	12		
	Total		177(47.5)	196(52.5)		
Gender	Male	99	68	167	13.12	0.008
	Female	78	125	206		
	Total		177(47.5)	196(52.5)		
Level of study	100 level	9	47	47	41.83	0.0043
	200 level	18	32	50		
	300 level	45	62	107		
	400 level	57	41	98		
	500 level	48	23	71		
	Total		177(47.5)	196(52.5)		
Location of Campus	Agulu	13	23	36	49.55	0.0004
	Awka	116	78	194		
	Ifite-Ogwari	27	28	55		
	Nnewi	21	67	88		
	Total		177(47.5)	196(52.5)		

Table 5: Mann-Whitney U test of difference in academic self-efficacy score of substance and non-substance users

Mann-Whitney U						
Variables	Substance Use	Frequency (N)	Mean Rank	U	P	
Academic Efficacy	Self- NonUser	196	74.20	1967	0.014	
	User	177	99.14			



Table 6: Binary logistic regression analysis of association between gender, age and substance use

Demographic characteristics	Substance use		Adjusted Odds Ratio and 95% CI
	Yes	No	
Gender			
Female	81	113	1
Male	96	83	0.560(0.352 – 0.892)
Age			
Below 17	4	5	1
17 – 21	34	112	2.0531 (0.612 – 6.887)
22 – 26	69	54	3.568 (1.048 – 12.140)
27 – 31	65	18	14.644 (3.336 – 64.292)
32 & above	5	7	4.570 (0.781, 26.757)

DISCUSSIONS

Findings of this study reveal high prevalence of substance use 46.5% among undergraduate students. This finding is supported by the finding of Durowade et al. (2021) who noted high prevalence of substance use (71.9%) among undergraduate students of Afe Babalola University, Ado-Ekiti, Nigeria. This might be attributed to the finding of this study which showed that 91.96% of the respondents were within the age range (17 – 31 years) and considered high risk to substance use (tables 2 & 6). The odd of students substance use increased with age until after 31 years when there was great reduction from what it was for those in age 27 to 31 (table 6). This finding supports the notion of Christiansen (2023) who noted that age is an important factor that influences the vulnerability of an individual to substance use. According to him, higher rate of addiction is seen in adolescents and young adults.

We noted in this study that students who use substances have lower academic self-efficacy (29.08) compared to those that do not use substance (32.40). Statistically academic self-efficacy had significant influence on use of substances among undergraduate students with $p = 0.014$.

This finding is confirmed by another finding of this study which noted that there is a significant influence between student's academic efficacy and substance use (table 5). This implies that the more students' have self-efficacy, the less likely they would use substance. According to Hosseini et al. , the high levels of self-efficacy of students can play a protective role against drugs use. O'Brien (2019) 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 Mileviciute (2018) 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 (Tajri, 2022).



The researchers 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. Self-regulation among persons with high self-esteem works more efficiently because the belief in potential capabilities enables individuals to achieve ambitious goals Chan et al. (2017). 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.

Findings of this study showed significant association between genders, age, levels of study, location of campus and substance use (table 4). This finding is in line with Olley and Alade (2016) who noted academic stress, academic self-efficacy, age, gender, level of study, location of campus as factors influencing substance use. From the findings of this study, female students were 55.9% (AOR: 0.560; 95% CI: 0.352, 0.892) less likely to use substance than male students. This finding is in line with National Institute on Drug Abuse (NIDA; 2022) who stated that men are more likely to use different substances than women. According to McHugh et al. (2018), substance use disorder is characterized by greater prevalence in men. Similarly Cotto et al. (2010) noted overall significant higher rate of substance use among males than for females ($p = 0.01$) in a national population survey analysis carried out. Durowade et al. (2021) on the other hand noted being a female as among the predictors of substance use as female used in their study were 1.54 times more likely to use substance than male. This disparity could be appropriate as it was noted by Cotto et al. (2010) that patterns of use differs and dependent on the type of substance.

Students within age 17 – 21 years were 2.053 (AOR: 1.053; 95% CI: 0.612, 6.887) times more likely to engage in substance than students within age 12 – 16 years, students within age 22 – 26 years were 3.568 (AOR: 2.568; 95% CI: 1.048, 12.140) times more likely to engage in substance than students within age 12 – 16 years, students within age 27 – 31 years were 13.644 (AOR:14.644 ; 95% CI: 3.336, 64.292) times more likely to engage in substance than students within age 12 – 16 years, students aged 32 and above were 3.570 (AOR:4.570 ; 95% CI: 0.781, 26.757) times more likely to engage in substance than students within age 12 – 16 years. This shows consistent higher increase in substance use among youths from 17 - 31 years. This finding is consonant with the finding of Cotto et al. (2010) who noted significant greater use of marijuana among 12 – 17 years old and greater use of alcohol, marijuana and other psychotic drugs among 18 – 25 years old.

CONCLUSION

This study revealed that students with a higher sense of academic self-efficacy are better adapted to cope appropriately and resist substance use. Students who have low academic-self efficacy 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. Low academic self-efficacy influences the stress levels of an individual that is likely to experience stress. In contrary, this impairs their overall health and well-being, depression and anxiety symptoms can further



adversely affect academic achievement. 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. Understanding the relationship between academic self-efficacy and substance use as well as patterns of use among different age groups, gender, level of study and location of campuses could help in the development of targeted and more effective prevention and treatment interventions.

Universities management including lecturers should facilitate supportive external and internal environments which can promote students' self-efficacy that will enable them to face academic challenges with confidence. Universities should provide functional and effective counselling opportunities where students with challenges in academic and substance use could be attended to. Surveillance of alcohol and other substance should be amplified within the campus.

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.

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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 and CCHO were involved in the overall conceptual design and implementation of the project, analysis, manuscript writing and overall revision of the manuscript. 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.

Ethical Approval and Consent to Participate



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). Ethical principles of autonomy and confidentiality were adhered to as only respondents who gave consent were interviewed. In addition, the respondents were assured of freedom to withdraw from the study at any time without consequences. Confidentiality of information from the respondents was maintained as the questionnaire did not make provision for individual identity.

Declaration of Conflicting Interests

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

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