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SPORTS BETTING, GENDER AND RESILIENCE AS PREDICTORS OF ACADEMIC STRESS AMONG POSTGRADUATE STUDENT IN NIGERIA

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Abstract

In several low and middle income countries like Nigeria, academic stress has become a prevalent concern among postgraduate students emanating from the pressure to excel academically amid relatively unstable academic calendar in Nigeria University system. This research investigated the predictive relationship between sports betting, gender, resilience, and academic stress among postgraduate students in Nigeria. A cross-sectional survey design was used to collect data at a single point in time, allowing for the assessment of the variables and their influence on academic stress levels. The research employed a random sampling technique to select a 300 representative sample of postgraduate students from the University of Nigeria Nsukka, ensuring a diverse representation of genders. Three instruments were administered to the participants for data collection, namely: The South Oaks Gambling Screen, The Brief Resilience Scale and The Depression, Anxiety, and Stress Scale. Multiple Regression Analysis was used as statistics to provide insights into the unique contribution of each predictor on academic stress among postgraduate students. Results are interpreted and findings discussed. The findings of this study can inform educational institutions, policymakers, and mental health practitioners about the potential impact of these variables on postgraduate students' academic stress levels, and inform evidence-based strategies to promote student well-being and academic success, thus facilitating the development of targeted interventions and support mechanisms.

Keywords: ***academic stress, adiction, depression, education, gambling***

Introduction

In today's fast-growing and highly competitive world with the lasting post-pandemic economic crisis in several low and middle income countries like Nigeria, academic stress has become a prevalent concern among postgraduate students. The pressure to excel academically amid relatively unstable academic calendar in Nigeria University system characterized by incessant industrial action, struggle to meet deadlines for numerous academic assignments such as course assignments, conferences and seminars, research projects and the likes. The expedient task to manage personal responsibilities including financial responsibilities in such a dynamic economy to maintain a healthy work-life balance can often lead to elevated levels of stress and anxiety. Many such postgraduate students work to make ends meet and are often self-sponsored in school. While various factors contribute to academic stress, this study aims to investigate the potential predictors of academic stress among postgraduate students, focusing specifically on sports betting, gender, and resilience.

Stress commonly is a word derived from the Latin word *stringier*, meaning to draw tight, and was used in the seventeenth century to demonstrate hardship and trouble. One of the most

important issues in stress studies, is its definition. Stress is an ambiguous and wide concept which is attributed to varied phenomena and definitions. The variety of stress concept, is both its characteristic and its deficiency (Shahsavarani et al., 2015). Its characteristics are the multidimensionality and coverage of a wide range of every-day-life experiences. Stress in any situation that evokes negative thoughts and feelings in a person. The same situation is not stressful for each person and all people may not face the same negative thoughts and feelings. Stress is the body's effect to a variation that demands a physical, mental or emotional adjustment or reaction.

In context of this research, academic dimension of stress is in focus. According to Wilks (2008) academic stress is the product of a combination of academic related demands that exceed the adaptive resources available to an individual, if they are not well managed (Wuthrich, Jagiello & Azzi, 2020). Academic pressure is a significant cause of stress for many students (Hashim et al., 2003). Students experience psychological and physical effect to stressors when they perceive excessive or negative stress. Severe stress may produce physical compromises and it is not unusual to find students troubled with even loss of appetite, headaches, lack of energy, gastrointestinal problems (Sahu et al., 2020). Heightened academic stress in the final years of schooling is a common concern, yet little is known about how stress changes over time especially in the postgraduate level in the university and what individual, school and family factors are associated with academic stress (Wuthrich, Jagiello & Azzi, 2020).

Academic stress deals with a relationship between the student and the demands of the academic environment, which is perceived by the former as threatening and endangers their well-being (Trigueros et al., 2020). Perceived demanding demands (e.g., exams, a competitive context, proximity to deadlines.) can affect students' performance, as well as their physical and mental health, generating an imbalance that leads them to resort to different coping strategies to restore it (Ragusa et al., 2023). Some of such coping techniques could include recreational activities or other perceived rewarding engagements like sport betting. Academic stress reaches its peak during the university stage (Reddy et al., 2017), it is not exclusive to this period, and also manifests itself in the other stages of schooling and could even be higher in the postgraduate level (Trigueros et al., 2020).

Stress has been positively associated with depression, poor academic performance (Karaman et al., 2017), school dropout (Pascoe et al., 2020) and even sleep quality (Wunsch et al., 2017). Conversely, it has been found that there are students who respond adaptively to academic stress tend toward self-care, emotional regulation and show more self-efficacy while there are others who may be maladaptive (Ragusa et al., 2023). On the other hand, it is also important to take into account the relationship of stress and sport betting situations, since the emotional reaction triggered in these contexts, characterized by uncertainty and tension, can provoke physiological and behavioral changes (Trigueros et al., 2020b). Thus, the pressure of winning or losing in betting activities could be considered as potentially threatening as it could interfere with their future academic goals and add pressure from family or social environment (Seijts et al., 2022).

Agolla and Ongori (2009) carried out research on academic stress and concluded that academic stress exists from the change in a student's thoughts and their daily life. It is caused by the various problems such as much homework, academic workload, inadequate resources, low motivation, continuous poor performance in academics, financial problems, poor relationship with friend and family, overcrowded lecture halls and uncertainty of getting employed in good jobs after completing schooling, lead to stress among students.

Sahu and Jha, (2020) found that high aspiration, poor study habit, more study problems, change in medium of instructions, problems in their surroundings and low socio-economic conditions were the factors of academic stress makes academic environment very stressful. This is likely to affect the social relations both within the institution and outside which affects the individual person's life in terms of commitment to achieving the goals. Bataineh, (2013) identified academic stress among students such as too many assignments, competitions with other students, failures and poor relationship with other students or lecturers as well as financial problems. Sometime these distressing situations could propel engagement in rewarding activities like betting for fun or for financial gains since betting centres are now all on increase with its availability and accessibility even via mobile phones apps. Though several studies have been done on array of antecedents of academic stress, the impact of sports betting on academic stress levels has received limited attention, particularly among postgraduate students. This study seeks to explore the relationship between sports betting habits and academic stress, providing insights into whether participation in sports betting affects the overall well-being and academic success of postgraduate students.

With many betting centers such as bet9ja, Nairabet, Betkings among others which is generally perceived by many to be a reward for passion, many sports fans have been rather dragged to the anxiety of excessive debt, financial ruin, theft, job losses, depression and even suicide. Sport betting is increasingly recognized as a public health issue, contributing to ongoing health challenges, the experience of physical and mental health problems and poor wellbeing (Patel et al.,, 2018); yet it has gained significant popularity in recent years, attracting a diverse range of individuals who seek both entertainment and financial gains.

Kulanić (2020) opines that betting could become ppathological and it is considered by experts to be an instinct control disorder, i.e. the inability to refrain from an instinct that at the same time causes pleasure to a person, but is also dangerous for them and the people around them as it seriously disrupts not only the physical, emotional, mental and material state of the individual, but affects their families and friends also. Sports bettering could have a lingering impact, affecting the health and wellbeing of individuals, families and communities (Browne et al., 2016**).** Bettors when degenerated into addictive gambling are known to have abnormal neural responses associated with experiencing monetary wins and losses **(**van Holst et al., 2012**).** There are inequalities in youth gambling behaviour, with those from more socially deprived backgrounds being more likely to experience problems (Blinn-Pike,Worthy, & Jonkman, 2010). Sports bet gambling among the youth is a key predictor of future problems among adults (Blinn-Pike et al., 2010).

Moreover, gender has been recognized as a significant factor in understanding the experiences and stress levels of individuals across various domains. Research has indicated that gender differences exist in coping mechanisms, stress responses, and the prevalence of academic stress. Furthermore, in the existing literature, the diathesis stress model has been used to explain why some people are more likely to develop mental disorders such as anxiety, depression, or schizophrenia (Monroe & Simons, 1991). The model suggests that mental disorders are caused by the interaction of genetic or biological traits and stressors (Monroe & Simons, 1991). Recently, the diathesis stress model has also been used to explain the interaction of genetic or biological traits and stressors on other developmental outcomes (Shell, Gazelle, & Faldowski, 2014). According to this model, gender may moderate the effects of stress on developmental outcomes.

In empirical research, a number of studies found that girls responded with more negative outcomes to general stressors than boys (Ge, Lorenz, Conger, Elder, & Simons, 1994) It is

revealed that, gender can affect the process of adaptation and coping (Tudor and Spray, 2017). Nevertheless, until now, no empirical studies in Nigeria have examined whether gender may be a predictor for academic stress. Therefore, the second aim of the present study will be to investigate the predictive role of gender on postgraduate academic stress. This is essential given the possible disparity of gender in determining individuals' behaviors, and several studies have shown that people value gender as factor in the development of resilience capacity.

Additionally, resilience, which refers to an individual's ability to adapt, cope, and bounce back from challenges and setbacks, has emerged as a crucial factor in navigating academic stress. Resilience has been extensively used as a fundamental concept across many fields to explore responses and preparation to variations and challenges (Naderpajouh et al., 2020). It is the ability to perform under variety of conditions including disruptions and shocks (Chapman, 2020). In this sense, the disruptions can be chronic (stressors) or abrupt (shocks) (Sagara, 2018). Postgraduate students often face numerous obstacles during their academic journey, such as rigorous coursework, demanding research projects, and high expectations. Understanding the relationship between resilience and academic stress can provide valuable insights into how students can effectively manage and overcome the pressures associated with postgraduate studies. Resilience is related to the ideal of stress as it refers to how people adapt to and adopt the ability to cope with challenges and stressful circumstances.

In recent years, there has been a growing interest in the study of academic resilience, especially in terms of how to enhance it given its clear advantages in terms of social, academic and personal skills in the face of adverse situations (Allen et al., 2019). In general terms, a resilient student is one who, despite having disadvantageous social or personal conditions, obtains a clearly higher performance than expected, that is, one who is able to adjust adaptively to the demands of the environment (Trigueros et al., 2020c). However, resilience is not a linear construct in which an event causes a personal maladjustment in the individual, without considering other pathways.

Studies related to resilience have shown that this construct is related to academic performance, as a protective factor against negative emotions, motivation and internal well-being. Despite these studies, academic resilience is a recent construct and there are important gaps on how it can be affected by students' cognitive characteristics and decisions (Cassidy, 2016).

By exploring the complex interplay between sports betting, gender, resilience, and academic stress among postgraduate students, this study contributes to the existing literature on stress management and student well-being. The findings have the potential to inform educational institutions, policymakers, and student support services in developing targeted interventions and support systems that address the unique needs and challenges faced by postgraduate students, ultimately promoting their mental health and academic success.

Statement of the Problem

As the popularity of sports betting continues to grow, concerns arise regarding its impact on various aspects of individuals' lives, including academic performance and mental well-being (Moore et al., 2013). Additionally, factors such as gender and resilience might influence the extent to which sports betting contributes to academic stress among postgraduate students. Academic stress among postgraduate students is a growing concern, affecting their overall well-being and academic performance (Mahdzar et al., 2022). While numerous factors contribute to this stress, several researchers have explored some constructs that lay significant role in impacting academic stress. However, limited research has explored the combined effects

of these variables that will be investigated in this current study on academic stress specifically within the postgraduate student population in the Nigerian setting. Thus, this study investigated the interplay of these specific variables as potential predictors of academic stress among postgraduate students. It addresses this gap by investigating the role of sports betting, gender, and resilience as predictors of academic stress among postgraduate students.

Sport betting and academic stress

Today, sports betting is causing depression, poor general coping skills, anxiety criminal, decreased academic performance, increased disruption of familial relationships, delinquent and anti-social behaviour such as youth resorting to stealing and loan advancement. If not managed properly, online sports betting can lead to suicide ideation and actual suicide attempts

Wang et al., (2020) investigated the moderating factors of gambling to cope and individual impulsivity factors (e.g., perseverance, premeditation, and negative urgency) on the relationship between stressful life events over the past year and gambling problems among a sample of college students. Participants included 653 total students (48.57% female; $M = 26.31$ years old; $SD = 8.35$ years) enrolled in universities across the United States who scored three or higher on the South Oaks Gambling Screen, an indicator of risk for problematic gambling. They found a positive relationship between stressful life events and gambling problems. Gambling to cope moderated the link between stressful life events and gambling problems such that for those higher in gambling to cope, stressful life events had little impact on gambling problems while those at lower to moderate levels of gambling to cope saw a positive relationship between stressful life events and gambling problems. Moreover, they found two significant three-way interactions between stressful life events, gambling to cope, and impulsivity factors of perseverance and premeditation in predicting problems. These findings suggest that prevention and/or treatment strategies should consider how gambling to cope and impulsivity factors in conjunction with an individual's report of stressful life events relate to problematic gambling and associated consequences.

Botwe, (2020) in a study did a critical assessment of the consequences of online sports betting on the Ghanaian youth. The study adopted a quantitative research approach for achieving the research objectives. Two theories were used to support the study. The collection of data was based on a self-administered questionnaire from the one hundred and forty-eight soccer gambling youth of Greater Accra Region who participated in the study (males 79, females 69) and the convenience sampling method was utilized in this study. The results from the study showed that there was a significant difference between males and females who experience adverse consequences after soccer gambling, however, there was no significant difference between the soccer gambling youth of Greater Accra Region who endorse cognitive distortions and those who did not. Also, there was also no significant difference between soccer gambling youths who experienced financial problems and youths who do not experience financial problems.

A study examined illegal gambling in sports using a mediational model of General Strain Theory. The study featured a survey of three-hundred and ninety-two (n = 392) gamblers in Rasht, Iran. Results indicate that participants who experience subjective financial strain also experience stress and negative emotions, which leads to a greater likelihood of illegal gambling. The concepts of financial strain (low SES) and control deficit emerged as significant in the development of gambling behaviors. The results suggests that gambling on sports behavior is learned in a similarly to pro-social behaviors, and that desistance requires a consideration of the learning process (Kabiri et al., 2020).

Resilience and academic stress

De la Fuente et al., (2021) in a cross-sectional study investigated the predictive relationships of the Big Five personality factors (according to their self-regulatory level), together with resilience (proactive and reactive factors), for factors and symptoms of academic stress related to teaching and learning in the University context. A total of 405 female undergraduate students were selected, and completed questionnaires that had been previously validated in Spanish University students (Big Five personality factors, resilience, and academic stress symptoms and factors). A linear, ex-post facto design was used, including linear regression, Structural Equation Modeling (SEM), and mediational analyses. Specific linear regression showed the expected gradation: that self-regulatory personality factors (conscientiousness, extraversion) were positive linear predictors of proactive resilience, as well as significant negative predictors of stress factors and symptoms of academic stress; while the non-regulatory personality factors (openness to experience, agreeableness) showed little relationship. By contrast, the dysregulatory personality factor (neuroticism) was a negative predictor of proactive resilience, a positive predictor of reactive resilience, and positively predicted academic stress factors in the teaching and learning process, as well as stress symptoms. SEM general analysis showed that personality factors positively predicted resilience, and resilience negatively predicted factors and symptoms of academic stress. Specific mediational model analysis, with each personality factor, confirmed the different mediating relationships that appeared in the linear regression analyses.

Okoro, (2020) in a study investigated the roles of academic resilience, achievement motivation and self-efficacy in academic engagement. Three hundred and fifty-five (355) undergraduate students in a Nigerian university participated in the study. Four instruments and a socio-demographic questionnaire were used for data collection in the study: Utrecht Work Engagement Scale-Students version (UWES- S), Academic Resilience Scale (ARS-30), Nigerian adaptation of Herman's (1970) Questionnaire Measure of Achievement Motivation, and New General Self-efficacy Scale. Data was analyzed using hierarchical multiple regression. Findings revealed that achievement motivation positively predicted academic engagement, indicating that greater achievement motivation was associated with increased academic engagement. Academic resilience and self-efficacy did not significantly predict academic engagement.

Okechukwu *et al.,* (2022) examined the moderating roles of coping and resilience in the relationship between academic stress and suicidal ideation. They used a cross-sectional design to sample 505 participants (329 males and 176 females) from three southern Nigerian universities. Participants who willingly indicated their participatory consent were administered a paper self-report questionnaire containing the Lakaev Academic Stress Response Scale (LASRS), Scale for Suicidal Ideation (SSI), Brief COPE (B-COPE), and Resilience Scale (RS-14). Hierarchical regression analysis was used to test the hypotheses of the study. Academic stress ($r = 0.17$; p.001) was found to be positively associated with suicidal ideation, whereas resilience ($r = -.22$; p.001) was found to be negatively associated with suicidal ideation. Suicidal ideation had no significant correlation with adaptive coping style, but it did have a significant correlation with maladaptive coping ($r = .15$; p.001). The regression-based PROCESS macro showed that academic stress was a significant predictor of coping [$\Delta R^2 = .03$, F (1, 502) = 16.18, $p = .01$]. Academic stress was positively associated with suicidal ideation at low or moderate levels of adaptive coping styles. At high levels of adaptive coping styles, the association between academic stress and suicidal ideation was not significant. However, resilience negatively predicted suicidal ideation [R = .29, ($R^2 = .08$), F(1, 499) = 19.94, $p = .00$]

with academic stress showing a positive association with suicidal ideation at low and moderate levels of resilience, but for those with high resilience, academic stress was not associated with suicidal ideation.

Van Hoek, et al., (2018) did a study to explore in undergraduate nursing students the influence of socio-demographic factors, resilience and stress reducing activities on the academic outcomes: intention to leave, academic success and dropout. A cross-sectional design was used. 554 participants form 6 nursing colleges in the Antwerp region in Belgium were included. Data were collected using Survey Monkey. In a second phase, these data were linked to the academic outcomes from the school administration. Results showed that resilience, more destructive and less positive stress reducing activities, having committed a suicide attempt in the past, studying in a densely populated area and starting as a regular student was significantly influenced with higher intentions to leave. Higher resilience significantly predicted academic success. Finally, students that dropped out showed a significantly lower resilience.

In a cross-sectional study and mediation analysis Berdida, (2023) investigated the mediating role of resilience and academic motivation between academic stress and self-directed learning. 718 nursing students were recruited from five nursing schools via convenience sampling. Four self-report scales (Perception of Academic Stress Scale, Connor and Davidson Resilience Scale, Short Academic Motivation Scale and Self-directed Learning Instrument) were used to collect data from August to December 2022. Pearson's r, bivariate analysis and multistage regression analyses were employed to analyze the data.

Results revealed that academic stress negatively influences nursing students' resilience, academic motivation and self-directed learning. Resilience and academic motivation have a positive impact on self-directed learning. Resilience and academic motivation mediate the relationship between academic stress and self-directed learning, as evidenced by a reduction in the negative impacts of academic stress on nursing students.

Gender and academic stress

Calaguas, (2011) in a study examined the perception of academic stress among college students in a state college in the Philippines highlighting gender differences. In order to achieve the purpose of the study, an indigenous survey instrument was developed. A total of 1,210 college students chosen through systematic random sampling responded to the survey instrument. To determine gender differences among the respondents, independent samples t-test was used via SPSS version 15.0. Statistical analyses showed that male and female respondents differed significantly in their perceptions of subject, teacher, schedule, classroom, and expectation-related stressors but did not significantly differ in their perceptions of enrolment and admission, classmate, and financial- related stressors. Generally, no significant difference was found between male and female respondents in their perception of academic stressors, however using the mean scores as basis, female respondents scored higher compared to male respondents.

In another study, Jones, (1993) investigated to establish the existence of any gender-specific differences in the perceived antecedents of academic stress. The Academic Pressure Scale for Adolescents was administered to 112 girls and 160 boys attending high school. Significant gender-based differences were obtained on eight of the 35 questions of the scale. In each case girls reported greater stress than boys. This study provides strong evidence that girls and boys of high school age differentially experience the antecedents of academic stress and that adolescent girls experience greater academic stress than boys.

Ye, Posada et al., (2018) in a study sought to examine the relationship between academic stress and academic self-efficacy and to test the moderating effects of gender on this relationship. In a sample of 695 Chinese high school students (54% female), the researchers measured their academic stress and academic self-efficacy over 2 academic years. The results indicated that students' academic stress was negatively related to their academic self-efficacy. Furthermore, gender moderated the effects of academic stress on academic self-efficacy in that it was stronger for female students than for male students. Our findings support the negative link between academic stress and academic self-efficacy and the diathesis–stress model.

Misra et al., (2004) in a study compared academic stressors and reactions to stressors between American and international students using Gadzella's Life Stress Inventory (B. M. Gadzella, 1991). Five categories of academic stressors (i.e., frustrations, conflicts, pressures, changes, and self-imposed) and four categories describing reactions to these stressors (i.e., physiological, emotional, behavioral, and cognitive) were examined. The sample consisted of 392 international and American students from 2 Midwestern universities. American students reported higher self-imposed stressors and greater behavioral reactions to stressors than international students. Respondent's status (American or international) and interaction of status and stressors emerged as the 2 strongest predictors of their behavioral, emotional, physiological, and cognitive reaction to stressors. Five stressors attained statistical significance in the regression model. Their study however did not put into consideration critical factors like gender, resilience and sport betting which are key factors of consideration in the current study.

In a sample of 368 Chinese high school students, a study by Liu and Lu, (2012) examined the different effects of Chinese high school students' academic stress on their depressive symptoms and the moderating effects of gender and students' perceptions of school climate on the relationships between their academic stress and depressive symptoms. Regression mixture model identified two different kinds of subgroups in the effects of students' academic stress on their depressive symptoms. One subgroup contained 90% of the students. In this subgroup, the students' perceptions of academic stress from lack of achievement positively predicted their depressive symptoms. For the other 10% of the students, academic stress did not significantly predict their depressive symptoms. Next, multinomial regression analysis revealed that girls or students who had high levels of achievement orientation were more likely to be in the first subgroup. The findings suggested that gender and students' perceptions of school climate could moderate the relationships between Chinese high school students' academic stress and their depressive symptoms.

Aihie et al., (2019) investigated the level of perceived academic stress among undergraduate students in a University in Nigeria. Purposive sampling was used to select three Faculties from the fourteen Faculties in the University. Simple random sampling was used to select 427 undergraduate students from the three Faculties to participate in the study. Data on perceived academic stress were collected with the aid of the Perceived Academic Stress Scale (PASS) which was adapted from Bedewy and Gabriel (2015) and re-validated for the study. Data collected for the study were analysed with descriptive and inferential statistics. The perceived academic stress levels of the respondents were compared on the basis of sex, age, level/year of study and Faculty/course of study. The finding reveal that male undergraduate students reported higher academic stress level than female undergraduate students in the Faculty of Physical Sciences reported significantly higher academic stress levels than students in the Faculties of Education and Social Sciences. Final year students also reported higher academic stress than students in the first and middle year of study. There was no difference in perceived academic stress levels based on the age of the students. It was concluded that sex of student,

level of study and course of study influence perception of academic stress among undergraduate students.

Wuthrich et al., (2020) conducted a systematic review to examine the nature of distress in students in their final two years of secondary school. Sixty studies were eligible for inclusion. The main findings indicated severity of distress differed across the 17 countries sampled and measures used. There was some consistencies suggesting about 1 in 6 students experienced excessive distress. Female gender and anxiety proneness were consistently associated with increased distress, and freedom from negative cognitions with reduced distress. There was some evidence that individual characteristics (perfectionism, avoidance, coping, self-efficacy, resilience), lifestyle (sleep, homework), school, family and peer connectedness were associated with distress.

Hypothesis

1. Sports betting will significantly predict academic stress of postgraduate students in Nigeria.

2. Gender will significantly predict academic stress of postgraduate students in Nigeria

3. Resilience will significantly predict academic stress of postgraduate students in Nigeria.

METHOD

Participants

Participants in this study comprise of three hundred (300) postgraduate students of University of Nigeria Nsukka from different faculties Three scales were administered to the participants, namely: The South Oaks Gambling Screen (SOGS), The Brief Resilience Scale **(BRS)** and The Depression, Anxiety, and Stress Scale (DASS) this will include questions on demographic information of the participants as will be contained in the Section A of the questionnaire.

Instruments

The South Oaks Gambling Screen (SOGS)

The South Oaks Gambling Screen (SOGS) was developed by Henry R. Lesieur and Sheila B. Blume. They introduced the SOGS in their 1987 research article titled "The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers" published in the American Journal of Psychiatry.

The SOGS is a self-report questionnaire that assesses gambling behavior and the presence of pathological gambling or gambling-related problems. It consists of 20 items that cover various aspects of gambling behavior, such as frequency, consequences, and control. The scale has been widely used in research and clinical settings to identify individuals with problematic gambling behaviors. In Nigeria, the reliability was reported to be between 0.75 and 0.78 (Oyetunji-Alemede et al, 2019). Further, the SOGS has been reported to have good psychometric properties with DSM-5 criteria (Granelo et al, 2020).

The brief resilience scale (BRS).

The six (6) – item brief resilience scale (brs) was developed by Smith, Dalen, Wiggins, Tooley, Christopher, and Benard (2008) to assess an individual's ability to bounce back or recover from

stress or to adapt to stressful circumstances and cope with adversity or competitive events. The six items of the brief resilience scale as presented by the developers shows that items 1, 3 and 5 are positively worded and directly scored, while items 2, 4 and 6 are negatively worded and reversely scored. The BRS is scored by reverse coding items 2, 4 and 6 and finding the mean of the six items.

The scales were administered with the following instructions: please indicated the extent to which you agree with each of the following statements. Using the following scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 =strongly disagree. Sample items of the Brief Resilient Scale includes: “I tend to bounce back quickly after hard times”, “I have hard times making it through stressful event”, “It is hard for me to snap back when something bad happens” etc. According to the developers, the BRS has total item coefficient raging from .68 to .91, while its Cronbach’s alpha reliability coefficient ranges from .84 to .91.

The Depression, Anxiety, and Stress Scale (DASS).

The Depression, Anxiety, and Stress Scale (DASS) was developed by researchers Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. The scale was first introduced in their research article titled "Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales (DASS) in clinical groups and a community sample" published in the journal Behaviour Research and Therapy in 1998.

The DASS is a self-report questionnaire that assesses the three emotional states of depression, anxiety, and stress. It consists of 42 items in the long version and 21 items in the short version. The scale is widely used and has been translated into multiple languages for research and clinical purposes.

Design/Statistic

The research adopted a Cross-sectional survey design. This design allowed for the collection of data at a single point in time, for assessing the relationship between sports betting, gender, resilience, and academic stress among postgraduate students in Nigeria. A random sampling technique was used to select a representative sample of postgraduate students from three different universities in South-Eastern Nigeria and ensuring a diverse representation of genders. Multiple Regression Analysis was used to assess the predictive power of sports betting, gender, and resilience on academic stress. This analysis determine the extent to which these variables individually and collectively predict academic stress.

Results

Table 1 Socio-Demographic Statistics

Variable	Frequency	Percentage	Mean±STD
Gender			

Female	133	44.3	
Male	167	55.7	
Age			25.59±3.96
Religion			
Christianity	241	80.3	
Islam	32	10.7	
Traditional	14	4.7	
Others	13	4.3	
Ethnicity			
Igbo	216	72.0	
Hausa	37	12.3	
Yoruba	37	12.3	
Other	10	3.3	
Locality			
Urban	134	44.7	
Semi-Urban	82	27.3	
Rural	84	28.0	

Table 1 presents socio-demographic statistics for a sample population of 300 individuals. The gender distribution shows 44.3% female and 55.7% male participants. The mean age is 25.59 years with a standard deviation of 3.96. In terms of religion, the majority identify as Christians (80.3%), followed by Islam (10.7%), Traditional (4.7%), and Masters/PhD (4.3%). Ethnic composition reveals a predominant Igbo representation (72.0%), followed by Hausa (12.3%), Yoruba (12.3%), and Other (3.3%). Locality-wise, the participants are distributed across Urban (44.7%), Semi-Urban (27.3%), and Rural (28.0%) areas.

Table 2: Correlation of Gender, Sports Betting, Resilience and Academic Stress

Variables		**1**	**2**	**3**	**4**
1	Gender	-			
2	Sports Betting	-.01	-		

3	Resilience	-.06	.22**	-	
4	Academic Stress	-.01	.08**	-.21**	-

Note** p<.01; Gender (0 = Male, 1 = Female)

Table 2 displays the correlation matrix among Gender, Sports Betting, Resilience, and Academic Stress. Gender exhibits no significant correlations with the other variables. Sports Betting demonstrates a weak positive correlation with Resilience (r = 0.22; p<0.01) and Academic Stress (r = 0.08; p<0.01). Resilience, in turn, displays a weak negative correlation with Academic Stress(r = -0.21; p<0.01).

Table 3: Hierarchical multiple regression of Sports Betting, Gender and Resilience on Academic Stress

Predictors	**Step 1**			**Step 2**			**Step 3**		
	B	***β***	**T**	**B**	***β***	**T**	**B**	***β***	**T**
Sports Betting	.182	.177	2.331*	.182	.177	2.332*	.135	.133	1.569*
Gender				-.160	-.009	-.156	-.345	-.019	-.342
Resilience							-.349	-.199	-3.409*
R^2	.026			.026			.016		
F	6.77(1, 298) *			2.90(2, 297) *			12.49(3, 296) *		

* $p < .05$

Table 3 shows the outcomes of a hierarchical multiple regression analysis exploring the influence of Sports Betting, Gender, and Resilience on Academic Stress. In the first step, the introduction of Sports Betting as a predictor is associated with a positive effect on Academic Stress (B = 0.182, β = 0.177, t = 2.331) with Sports Betting explains 2.6% of the variance in Academic Stress (R^2 = 0.026). In the second step, the inclusion of Gender shows non-significance impact on Academic Stress (B = -0.160, β = -0.009, t = -0.156). The final step introduces Resilience, revealing a significant negative association with Academic Stress (B = -0.349, β = -0.199, t = -3.409) with R^2 = 0.016indicating that the three predictors combined explain 1.6% of the variance in Academic Stress. The F-values confirm the overall significance of the model at each step (Step 1: F = 6.77, p < 0.05; Step 2: F = 2.90, p < 0.05; Step 3: F = 12.49, p < 0.05).

Step 1:

Sports Betting as a predictor: It shows a positive effect on Academic Stress. The coefficients (B = 0.182, β = 0.177, t = 2.331) indicate that as engagement in sports betting increases, so does academic stress.

Step 2:

Gender as an additional predictor: It shows a non-significant impact on Academic Stress (B = -0.160, β = -0.009, t = -0.156). This means gender, in this particular analysis, doesn't significantly contribute to explaining academic stress beyond what was already explained by sports betting.

Step 3:

Resilience as an added predictor: It reveals a significant negative association with Academic Stress (B = -0.349, β = -0.199, t = -3.409). This implies that higher levels of resilience are associated with lower academic stress. When included, these three predictors combined (Sports Betting, Gender, Resilience) explain 1.6% of the variance in Academic Stress ($R^2 = 0.016$).

In summary, the overall model suggests that:

Step 1 with Sports Betting alone contributes the most (2.6%) to explaining Academic Stress.

Step 2 with Gender added doesn't significantly contribute to explaining Academic Stress beyond what was explained by Sports Betting.

Step 3 with Resilience added shows a significant negative association, but the overall model only explains 1.6% of the variance in Academic Stress.

The F-values at each step (Step 1: F = 6.77, Step 2: F = 2.90, Step 3: F = 12.49) confirm the overall significance of the model, suggesting that at each step, the set of predictors significantly contributes to explaining Academic Stress, even though the overall explained variance is relatively low.

Discussion

This study examined whether sports betting, gender and resilience predict academic stress among postgraduate student. The results from the analysis shed light on the significance of different factors and their varying impacts on academic stress. The initial inclusion of sports betting as a predictor revealed a positive association with academic stress. Based on this finding, the hypothesis which stated that sports betting will significantly predict academic stress of postgraduate students was confirmed. This finding suggests that engagement in sports betting may contribute to heightened stress levels among students. This relationship can be attributed to the potential financial strain, time management challenges, or psychological pressures associated with sports betting activities. This finding mirrors the findings of Kabiri et al., (2020) that young persons who engage in sport betting experience subjective financial strain also experience stress and negative emotions. However, it's crucial to acknowledge that while statistically significant, sports betting explained only a modest 2.6% of the variance in academic stress.

On the contrary, the hypothesis which stated that gender will significantly predict academic stress of postgraduate students was not supported as gender did not show a significant impact on academic stress when introduced as an additional predictor. This finding challenges common assumptions regarding gender-based differences in stress levels among students. It indicates that within this specific study context, factors other than gender seem to exert more substantial influences on academic stress. The finding is contrary to the findings of some previous researches such as Jones, (1993) that found girls and boys of high school age differentially experience the antecedents of academic stress and that girls experience greater academic stress than boys. Similarly Ye, Posada et al., (2018) findings show that gender

moderated the effects of academic stress on academic self-efficacy in that it was stronger for female students than for male students. However the findings though contradicted so many previous researches finding, it is consistent with the findings of Calaguas, (2011) which found no significant difference between male and female respondents in their perception of academic stressors.

A very notable finding of the study aligns with the findings of De la Fuente et al., (2021) where resilience negatively predicted academic stress. Such a significant negative association between resilience and academic stress underscores the importance of resilience as a protective factor against academic stress. This confirms the third hypothesis in the current study that resilience will statistically significantly predict academic stress among postgraduate students. Higher levels of resilience were linked to lower levels of academic stress, emphasizing the potential benefits of resilience-building interventions or programs in educational settings. This is as well consistent with other previous research findings including Okechukwu *et al.,* (2022) findings which revealed that individuals with high resilience were able to cope adaptively with academic stress and were not associated with suicidal ideation; with greater resilience ameliorating the tendency of academic stress (Van Hoek, et al., 2018). Also in another study, resilience mediated between academic stress and self-directed learning among students. Individuals with high resilience tend to manage stress adaptively without resorting to maladaptive coping behaviours such as gambling,

Implications of the findings of the study

The study contributes to existing literature, builds upon t and takes a meaningful step towards rectifying an apparent dearth in the literature on academic stress among students in the sub-saharan African setting, especially in Nigeria. This work is an important step towards understanding the underlying factors that would predict academic stress especially as it concern to external factors and activities such as sports betting and also internal personality factors like resilience and gender as a demographic component among university graduate students. These findings have significant implications for academia. Firstly, they highlight the need for educators and institutions to acknowledge and address external factors, such as sports betting, that can impact students' stress levels. Secondly, emphasizing the cultivation of resilience skills among students could serve as a valuable strategy in mitigating academic stress. Interventions focusing on enhancing coping mechanisms, problem-solving skills, and emotional regulation could be instrumental in supporting students' mental well-being.

Limitations and Future Directions

Despite the valuable insights gained and the important contributions of the study to knowledge on academic stress, this study is not void of weaknesses. One, it is a cross-sectional research and it has all weaknesses inherent to this style of research design, such as the ability to establish causal relationship among the variables. Also the explained variance in academic stress by the combined predictors remains relatively low (1.6%). This suggests the existence of other unexplored variables or interactions that might significantly contribute to academic stress levels among postgraduate students.

Suggestions for further study

Future research should continue to do these investigations using other methods like experimental methods where direct causal statements can be made. Moreso subsequent

researches in this area should encompass a broader range of factors and consider diverse student populations to obtain a more robust and comprehensive understanding of academic stress.

Summary and Conclusion

In conclusion, this study highlights the multifaceted nature of academic stress, emphasizing the influence of external factors like sports betting and the protective role of resilience. Addressing these findings could inform the development of targeted interventions aimed at reducing stress and promoting overall well-being among students.

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