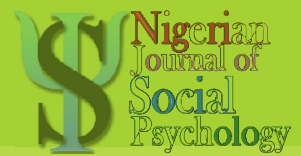


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Interrogating the Role of Gender in Aggression, Anxiety, and Depression among Tertiary Students in South-Eastern Nigeria

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Abstract

This study examines the influence of gender on aggression, anxiety, and depression among 700 undergraduates (350 males, 350 females; mean age = 19.85 years) drawn via stratified random sampling from five universities in South-Eastern Nigeria. Aggression was measured using the Buss Perry Aggression Questionnaire (BPAQ) (Buss & Perry, 1992), anxiety with the State-Trait Anxiety Inventory Y-1 (STAI Y-1) (Spielberger, 1983), and depression with the Self-rating Depression Scale (SDS) (Zung, 1965). The results indicate that female participants exhibited significantly higher levels of aggression ($F(1,700) = 45.72, p < .05$) and depression ($F(1,700) = 34.43, p < .05$), whereas gender differences for anxiety were non-significant ($F(1,700) = 1.84, p > .05$). These findings underscore the importance of gender as a determinant in psychosocial outcomes within tertiary student populations in Nigeria.

Keywords: Gender, Aggression, Anxiety, Depression, Students, South- Eastern Nigeria.

Introduction

Gender encompasses the biopsychosocial attributes associated with being male or female, including the spectrum of physical, biological, psychological, and behavioural characteristics that distinguish masculinity and femininity (Udry, 1994). Empirical evidence indicates that gender influences not only the incidence of mental disorders but also the form and expression of psychopathology (Farhane-Medina et al., 2022). Indeed, gender remains a pivotal determinant of mental health outcomes, as the manifestation of a disorder often varies according to one's gender identity. For example, a variety of mental disorders—including substance-related disorders, body dysmorphic disorder, borderline personality disorder, pathological gambling, pyromania and depression—exhibit substantial gender-based variation (Salk et al., 2017).

Mental disorders constitute one of the most burdensome global health challenges owing to their high prevalence, early onset, chronicity and associated disability (World Health Organization [WHO], 2001; WHO, 2002). In Africa, mental disorders contribute significantly to the total burden of disease: one meta-analytic investigation of African countries found that a substantial proportion of children and adolescents live with psychopathology, with adult rates notably elevated (Cortina, Sodha & Fazel, 2012). For instance, among Nigerian undergraduates, higher levels of psychological distress have been noted for female students than male students (Idowu et al., 2022).

Anxiety may be conceptualized as a maladaptive alarm reaction in which a non-threatening stimulus is perceived as dangerous (Street & Barlow, 1994). It is frequently described as a state of marked apprehension, tension and unease related to anticipation of a dreadful event (Halgin & Whitbourne, 2000). Individuals experiencing anxiety often interpret situations as

threatening, potentially triggering a “fight or flight” response; dysfunction of this system may lead to cyclical anxiety via fear of bodily or mental sensations (Barlow, 1988). From a global perspective, anxiety disorders have been estimated to occur at rates of about 10.6% (one-year) and 16% (lifetime), with considerable cross-national heterogeneity (Somers, Goldner, Waraich & Hsu, 2006).

Depression is characterized by an emotional state marked by profound sadness and apprehension, along with feelings of worthlessness, guilt, social withdrawal, disturbed sleep and appetite, and a loss of interest or pleasure in normally enjoyable activities (Davidson & Neale, 1998). The classification of depression has a long history: from early accounts of melancholia, through the psychological conceptualization of Aretaeus, to Kraepelin’s early 20th-century systematization (Millon & Simonsen, 2010). Globally, depression is ranked among the leading causes of disability and non-fatal disease burden (Murray & Lopez, 1996; Ustun, Ayuso-Mateos, Chatterji, Mathers & Murray, 2000). Recent student populations in Nigeria similarly show elevated depression scores among females relative to males (Okorafor, 2023).

Aggression refers to any observable behaviour intended to cause harm to another person or object, regardless of intention (Ramirez, 2000). It includes destructive or punitive actions directed at persons or things (Spielberger, Jacobs, Russell & Crane, 1983). More recent analyses distinguish between proximate goals (immediate intention to harm) and ultimate goals (long-term motive of aggression) (Anderson & Bushman, 2002). Research indicates gender differences in aggression: men are more likely to show overt physical aggression while women may more commonly display indirect or relational aggression (Abreu et al., 2021).

Prior studies indicate gender variance in emotional tendencies (e.g., hostility, anger and anhedonic depression) which may in turn predispose individuals to externalized violence (e.g., physical altercations) and self-directed violence (e.g., self-harm or suicide attempts). In one study of 372 adults (252 males, 120 females; age range = 18–55), anhedonic depression predicted self-directed violence in both sexes; trait anger correlated with other-directed violence in men, whereas trait hostility correlated with both self- and other-directed violence in women (Sadeh, Javdani, Finy & Verona, 2011). Previous investigations among undergraduates have also found that male participants attained higher hostility scores compared to females (Raskin, Novacek & Hogan, 1991), while subsequent work (Johnson, Burk & Kirkpatrick, 2007) observed gender differences in the relationship between hostility and mechanisms such as self-esteem, dominance and prestige. In an Indian sample of 240 parent–child dyads (Sharma & Sandhu, 2006), boys scored significantly higher than girls on aggression, conduct disorder and oppositional behaviour. Longitudinally, one study found that men later diagnosed with dysthymia were under-controlled, self-aggrandizing and aggressive, whereas women later diagnosed exhibited greater over-socialization, intrapunitivity and over-control but not elevated aggression (Block, Gjerde & Block, 1991). A meta-analytic review of personality characteristics over a 34-year interval (1958–1992) found that females scored higher than males in anxiety, but no gender differences emerged for social anxiety (Allen, 1994).

Given the high prevalence of anxiety, depression and aggression among young adults, especially in tertiary institutions, and the established influence of gender on mental health and behaviour, this study is aimed at interrogating the role of gender in shaping aggression, anxiety and depression among undergraduates in South-Eastern Nigeria. The specific objectives are:

1. To determine whether gender differences significantly influence levels of aggression.
2. To examine whether gender differences significantly influence anxiety levels.
3. To investigate whether gender differences significantly influence depression levels.

Method

Participants

The sample comprised 700 undergraduate students (350 males, 350 females; mean age = 19.85 years) drawn from five tertiary institutions in South-Eastern Nigeria: Caritas University (Emene, Enugu State), Federal University of Technology, Owerri (FUTO), Abia State University (ABSU, Uturu), Anambra State University (ANSU, Uli) and Ebonyi State University (EBSU, Ishieke). The combined undergraduate population across these institutions is approximately 61,440. Stratified random sampling was employed to ensure representativeness.

Instruments

Three instruments were used in this study and they comprise Self-Rating Depression Scale (SDS), Buss Perry Aggression Questionnaire (BPAQ) and the State- Trait Anxiety Inventory Y-1 (STAI Y-I). They are discussed below.

Buss Perry Aggression Questionnaire (BPAQ)

Aggression was measured using the Buss Perry Aggression Questionnaire (BPAQ) of Buss and Perry (1992). This scale is made up of 29 items with five response options ranging from 1- extremely uncharacteristic of me to 5- extremely characteristic of me. The BPAQ has a validity alpha of .90 and four subscales comprising verbal aggression (5 items, $\alpha = .76$) physical aggression (9 items, $\alpha = .83$), anger (7 items, $\alpha = .81$) and Hostility (8 items, $\alpha = .84$). The researcher administered the questionnaire to 200 students of Renaissance University Ugbawka (mean age = 20.7, male = 90, female = 110) alongside the Hostility subscale of Symptom Checklist-90 (SCL-90) of Derogatis, Lipman and Covi (1977) and it produced a coefficient of concurrent validity of .44 ($p < 0.01$). It also yielded a Guttman split-half coefficient of .65 and a Chronbach's Alpha of .49. On the bases of the mean scores the author established a norm of 67.60 for both male and female participants.

State Trait Anxiety Inventory Y-1 (STAI Y-I)

Anxiety was measured using the State Trait Anxiety Inventory Y-1 (STAI Y-I) of Spielberger (1983). This scale is made up of 20 items with four response options comprising Not at all (1), somewhat (2), moderately so (3) and very much so (4). The individual is advised to respond based on her present feelings. Some of the sample items read. "I feel calm" (item 1) and I feel frightened' (item 9). Spielberger validated the test using American samples and it produced a reliability Alpha of .91 for males ($n = 324$) and .93 for females ($n = 53$). Omoluabi (1987) adapted it to for use by Nigerian participants, deriving test-retest reliability of .61 for both male and female participants ($N = 100$) and a coefficient of concurrent validity of .69 when compared Multiple Affect Adjective Checklist (MAACL) by Zuckerman & Lubin (1965).

Self-Rating Depression Scale (SDS)

Depression was assessed using the Self-rating Depression Scale (SDS) of Zung (1965). This instrument is composed of 20 items measuring feelings of hopelessness, sadness, suicidal

ideation, sleeplessness, loss of weight and other somatic, cognitive and psychomotor aspects of depression. Zung (1965) correlated the scores from the test with scores of another measure of depression – Hamilton Rating Scale (HRS) of Hamilton (1960) and it produced a coefficient of concurrent validity of .79. Psychometric properties of the test using Nigerian participants comprise a test-retest reliability of .93 and norms of 48.77 for males and 47.87 for female participants (Obiora 1995). Also Onwukwe (2006) derived a normative score of 37.7 for males (n= 100) and 40.2 for females (n= 100) with a one week test retest reliability coefficient of 0.91. SDS has four response options ranging from some or little of the time (1) to most or all of the time (4). A sample item in the test reads “I feel down-hearted, blue and sad.”

Procedure

Seven hundred and thirty questionnaires were initially distributed across the five universities (146 per institution). Each institution contributed two faculties, and one department within each faculty was selected; 73 students per department were randomly selected via paper-slip draw. After accounting for 16 incomplete responses and 14 non-returns, 700 valid questionnaires (140 per institution; 70 per department) were retained for analysis. Participants provided informed consent, were assured of confidentiality, and could seek follow-up assistance if needed, though none reported adverse effects.

Design and Analysis

This research adopted a cross-sectional design comparing two gender groups (male versus female). Data were analyzed via one-way Analysis of Variance (ANOVA) using SPSS version 25.0, to test the influence of gender on each of the three dependent variables (aggression, anxiety, and depression).

Results

Table 1: Mean and standard deviation scores of aggression, anxiety and depression.

Variables		Mean	of	Std	Mean	of	Std	Mean	of	Std	N
		Aggression		Dev.	Anxiety		Dev.	Depression		Dev.	
Gender	Male	92.07		23.13	42.39		7.75	44.31		5.99	350
	Female	103.84		27.02	42.83		8.91	45.91		5.17	350
	Total	97.96		25.82	42.62		8.34	45.11		5.65	700

The above table shows that female participants indicated higher mean score (M = 103.84) in aggression than their male counterparts (M = 92.07). Also, females have fairly higher mean score (M = 42.83) than males (M = 42.39) in terms of anxiety. In depression, female students showed considerably higher mean score (M = 45.91) than male students (M = 44.31).

Table 2: Analysis of Variance (ANOVA) on the influence of gender on the dependent variables: aggression, anxiety and depression.

Effect		Value	Hypothesis	Error df	F	sig	Noncent. Parameter
Gender	Wilk's Lambda	.93	3.00	690.00	18.21*	.000	54.632

Key: * = $P < .05$

Table 2 is a presentation of the summary of the Analysis of Variance (ANOVA) indicating the influence of gender on aggression, anxiety and depression. It showed a statistically significant influence of gender on aggression, anxiety and depression ($F(1, 700) = 18.21$, $P = .000$; Wilks' $\lambda = .93$). From the above a high effect size of 54.632 is recorded.

To examine the discrete effect of the independent variable: gender on aggression, anxiety and depression, an ANOVA test of between subject effects was carried out and is shown in table 3 below:

Table 3: Summary of Analysis of Variance (ANOVA): Tests of between subject effects

Source	Dependent variable	Sum of squares	Df	Mean square	F	Sig	Noncent. Parameter
Gender	Aggression	27519.84	1	27519.84	45.72*	.000	45.713
	Anxiety	125.68	1	125.68	1.84#	.175	1.843
	Depression	1010.04	1	1010.04	34.43*	.000	34.426
Error	Aggression	416594.88	692	602.02			
	Anxiety	47189.26	692	68.19			
	Depression	20302.55	692	29.34			
Total	Aggression	7182839.00	700				
	Anxiety	1319727.00	700				
	Depression	1446468.00	700				

$P < .05$

From the table above there was a statistically significant difference between males and females in relation to aggression ($F(700, 1) = 45.72$, $p < .05$). Female students have higher mean score ($M = 103.84$) in aggression than their male counterparts ($M = 92.07$). No statistically significant gender differences were found in terms of anxiety. In contrast, there was a statistically significant difference between male and female undergraduates in depression ($F(700, 1) = 34.43$, $p < .05$). Female participants got higher mean score ($M = 45.91$) than their male counterparts ($M = 44.31$) in depression.

Discussion

The influence gender on aggression, anxiety and depression were investigated. The research hypothesis that males will differ significantly from females in terms of aggression was accepted ($F(1, 700) = 45.72$, $P < .05$). The mean score indicates that female participants

(103.84) exhibit a greater degree of aggression than males ($M = 92.07$). This finding is at variance with a number of studies (Sharma & Sandhu, 2006; Verona, Reed, Curtin & Pole, 2007; Cuéllar, Zamora, Pérez-Olivas, 2023). This research outcome is however supported by Chan (2012) and ; Calvarese, (2015) Chan (2012) found gender symmetry in Intimate Partner Violence (IPV). Also, Archer (2000) in a meta-analytic study found that even though men inflict more injuries, women were more likely to use more acts of physical aggression on their heterosexual partners than men. Li, Fang, & Cheng, (2024) found that it is not gender that drives aggression among males but gender role orientation and that males show increased physical aggression only within their own group. Women are mostly more hostile (this results to self and other directed violence) and more verbally aggressive than men but men appear to possess a higher degree of trait anger which is linked to other directed violence (Sadeh, Javdani, Finy & Verona, 2011). Bettencourt and Miller (1996) found (based on a meta-analytic study) that when provoked men are not more aggressive than women. In a more recent study, Fahlgren, Cheung, Ciesinski, McCloskey, Cocco (2022) found similarities among men and women in aggression but found men higher in trait anger.

Presumably, the reason for the accumulation of data confirming that men are more aggressive than women could arise from a value orientation that encourages men to report aggressive behaviour more than women who are perceived in most cultures to be more docile and peaceful than men. No man will be proud to report that he was beaten by another man not to talk of a woman!

The result of this study also showed that gender differences did not influence anxiety ($F(1,700) = 1.84, p > .05$). This finding is in consonance with the report of Moser, Dracup and Mckinley (2003) that findings of previous studies in this area are conflicting. However, many studies are at variance with this finding (Doron-Lamarca, Vogt, King, King & Saxe, 2010; Furr, Comer, Edmunds & Kendall, 2010; Tolin & Foa, 2008 ; Ahmed, Gao, & Zare, 2023) and they indicate that females live with higher degrees of anxiety than males. Ahmed *et al.*, (2023) in meta-analytic study found that more than half of the cohort of studies showed that female university students showed higher anxiety than their male counterparts and this is also similar with a study done in Nigeria using university students (Dike-Israel & Akinboye, 2021). Even though it is insignificant, females indicated higher mean score (42.83) than males (42.39) in the present study.

In contrast, this study found gender variability in depression ($F(1,700) = 34.43, P < .05$); with females ($M = 45.91$) living with higher levels of depression than males (44.31). This finding is in concordance with a host of studies (Patel, Abas, Broadhead, Todd and Reeler, 2001; Pohl, Olmstead, Wynne-Edwards, Harkness, & Menard, 2007; Richards, Ospina-Duque, Barrera-Valencia, et al., 2011 Eaton, Keyes, Krueger, *et al.*, 2011; Calvarese 2015; and more recently the same outcome have been found among college students in Nigeria and elsewhere (Dike-Israel & Akinboye, 2021 Aydin, & Öztürk, 2023). Patel *et al.*, (2001) pointed out that depression is prevalent among females in developing countries of Sub-Saharan Africa. They attributed this high incidence to the experience of severe life events such as crises in marriage or relationships, deaths, events directly associated with infertility and unwanted pregnancy. Also, Patel, Araya, Ludermir, and Todd, (1999) observed that the adverse effects of poverty in the developing countries are felt more by women than men. Eaton, Keyes, Krueger, Balsis, Skodol, Markon, Grant and Hasin (2011) explained the higher prevalence of depression and other mood disorders among females in terms of women's latent tendency to possess internalizing dimensions; that is they found that while women have higher latent internalizing liability, men are higher in the externalizing dimension. This confirms the findings of earlier studies that women show considerably higher prevalence

rates of internalizing disorders (anxiety and mood disorders) and men indicate significantly higher rates of externalizing disorders (antisocial and substance use disorders) (Grant & Weissman, 2007; Kessler *et al.*, 1994). However, Xu, Li, Bai and Liu (2024) found no gender differences in depression but only identified it as moderating phone addiction.

Conclusion and Recommendation

Findings of the present study indicate that the gender of an individual could influence the manifestation of aggression and depression but not anxiety. It should therefore be put into consideration in the assessment of psychological problems and in the diagnostic chain of psychological distress. Government policies targeting the reduction of psychological distress should pay close attention to females especially with regard to aggression and depression. Finally, this study has provided the needed knowledge, filling the chasm created by the inadequacy of studies in these areas under investigation especially in Nigeria.

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