

# Psychopathic Deviant Attributes and Psychophysiological Symptoms among Undergraduate Students of Rivers State University, Port Harcourt

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**BACKGROUND:** The study aimed to examine psychopathic deviant attributes and psychophysiological symptoms among undergraduate students of Rivers State University, Port Harcourt. **METHODS:** This cross-sectional study sampled 43 undergraduate students (400 level psychology students) from Rivers State University (11.6% males,  $n = 5$ , 88.3% females,  $n = 38$ ) between the ages of 19 and 33 years (mean age = 22.8 years,  $SD = 2.23$ ). The psychopathic deviate scale by Hathaway and Mckinley (1967) and the psychophysiological symptoms checklist by Omoluabi (1987) were used to gather participants' data. Three hypotheses were tested. **RESULTS:** Findings showed that females did not present a significantly ( $p > .05$ ) higher score than males in psychopathic deviate attributes (females  $\chi^2 = 21.1316$ , males  $\chi^2 = 22.4000$ ,  $t = 454$ ,  $df = 41$ ) and in psychophysiological symptoms (females  $\chi^2 = 77.0000$ , males  $\chi^2 = 83.9211$   $t = -.386$ ,  $df = 41$ ). Psychopathic deviant attributes also showed a significant positive correlation with psychophysiological symptoms ( $r = .591$ ,  $p < .01$ ) among the studied

undergraduate students. The study affirmed that both genders are similar in their manifestation of psychopathic deviant traits and psychophysiological symptoms. **CONCLUSION:** The study confirmed results from previous studies on the prevalence of psychopathic deviant traits and psychophysiological symptom variables among young people.

**Keywords** | Psychophysiological Symptoms – Psychopathic Deviance – University Undergraduates – Gender – Psychopathic Behaviors

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## 1 INTRODUCTION

University undergraduate students make up a significant portion of the Nigerian population. They also experience distinct psychological distresses that may be predominant in their age group. Academic stress, examination anxiety, peer pressure, lower self-efficacy, certain personality traits, student rivalry, and the emotional complexities accompanying significant life transitioning, separation, and individualization have often been reported to trigger symptoms of psychopathology among university undergraduate students. The importance of this population of individuals is salient because they represent a nation's investment for the future, and the age bracket of most undergraduate populations has been reported to be a period where most personality and mental disorders manifest (Pedrelli et al., 2015).

University campuses in Nigeria are riddled with criminal activities, such as cultism, sexual assaults, stealing, substance abuse, and examination malpractice (Kabir & Garba, 2023). Deviant behaviors such as homicide, rape, burglary, kidnapping, and internet fraud are rampant and have become significant problems, especially among young people in Nigeria. Further studies have also linked psychopathology to poor academic performance outcomes among schoolchildren and adolescents (Pagerols et al., 2022).

Psychopathic deviance has been associated with aggression, violence, a lack of regard for authority, impulsivity, and interpersonal difficulties, which are traits mostly found among adolescents, undergraduate students, and young adults (Durand & Lobbstaël, 2023).

Anderson and Kiehl (2014) linked psychopathic deviant traits to neuropsychiatric disorder and antisocial personality traits, categorized by a lack of concern for others and a disregard for social norms and values.

Reports have shown that undergraduates comprise a massive chunk of the Nigerian population. Youths have been termed to represent a nation's investment in their future, and the age group of most undergraduate students falls within a period where most personality and mental disorders start to manifest.

DeAngelis (2022) defined *psychopathy* as a display of "disconcerting tendencies," which are associated with interpersonal, affective, and behavioral maladaptive traits, including grandiosity, aggressive/violent behaviors, a lack of remorse, impulsivity, and lack of empathy, which can manifest in different degrees. Owoh (2022) also added that a lack of conscience, manipulative behaviors, and social deviance are some of the behavioral characteristics of individuals with psychopathic deviate tendencies. Furthermore, psychopathy has been reported to be a modified version of antisocial personality classified by affective deregulation, interpersonal deceitfulness, egocentrism, abnormal behaviors, and impulsivity (Anderson & Kiehl, 2014).

This phenomenon has been hypothesized to be hereditary and may become noticeable during childhood. Psychopathy has been classified into two categories: primary psychop-

athy and secondary psychopathy. A significant attribute of the primary psychopath is an "inherited affective deficit" and emotional detachment, whereas the secondary psychopath exhibits an "acquired affective disturbance," impulsivity, aggression, and nonconventional behaviors (Onyedibe et al., 2018). The two categories of psychopathy (primary and secondary) are alike in their behavioral manifestations, such as in "exhibiting irresponsible, conning, aggressive, and generally antisocial behavior, but differ in terms of etiology and motivation." (Onyedibe et al., 2018, p. 23).

Though psychopaths are less than 1% of the general population, they have been asserted to be responsible for most criminal and nefarious activities. Some individuals with psychopathic attributes are "hidden psychopaths" and can be found in colleges or in white-collar jobs, living seemingly "normal" lives. Individuals with a high index score of psychopathy are more likely to be involved in criminal activities, such as shop-liftings (Lyons, 2019).

Onyedibe et al. (2018), studied the moderating role of substance abuse in the relationship between psychopathy and aggression among 267 male prison inmates who had been convicted for crimes such as armed robbery, rape, murder, theft, and burglary. The duration of their incarceration ranged between 1 and 12 years, with a mean of 3.38 years. The mean age of the respondents was 28.3 years. The study, among other observations, suggested that primary psychopathy considerably predicted aggressive behavior's physical and verbal dimensions, whereas secondary psychopathy positively predicted physical aggression. Some studies have noted interesting connections between psychopathic deviance and psychophysiological response.

Psychophysiological symptoms refer to the influence of emotional responses on physical and psychological health. It is the relationship between the "psyche" (the mind) and physiological responses. In psychophysiology, the emotional well-being of an individual is connected to their central nervous system's response. These emotional responses often manifest through altered sleep patterns, gastrointestinal malfunctioning, headaches, tightened muscles, increased heart rate, pulse, and immune response. Psychophysiological disorders arise when a psychological condition prompts or aggravates physical symptoms (Bialowas, 2022).

Ezenwaji et al. (2021) surmised that anxiety is a cognitive affective reaction and a physiological apprehension to stimuli that is perceived as imminent by an individual. Psychophysiological disorders may manifest as anxiety, which has been described to include feelings of "worry, social and performance fears, panic attacks, and avoidance behaviors." Physical symptoms, such as palpitations, shortness of breath, and dizziness, have also been associated with anxiety (Szuhany & Simon, 2022), have been found to occur significantly among university students, and may go untreated for a long period of time (Tan et al., 2023).

Studies have suggested that undergraduate students are particularly more vulnerable to mental illness, and psycho-

physiological symptoms, such as anxiety and stress. The critical and transitory academic phase predisposes students to stressors that may be associated with increased academic responsibilities and their transition from adolescence to adulthood (Asif et al., 2020).

In a study by Adeleke et al. (2023), they noted that about 27.2% of the studied Nigerian undergraduates had varying levels of anxiety disorders, and there was a notable significant correlation between gender and anxiety. Anosike et al. (2022) also identified an anxiety prevalence rate of 61.7% among the Nigerian undergraduate students that were studied.

Research has shown that certain traits predispose individuals to anxiety disorders, such as genetic dispositions, gender, and age (Burani & Nelson, 2020; Sani et al., 2022).

Most psychopaths may not be easily identified using physical symptoms observed in some mental illnesses; they possess unique personality characteristics that differentiate them from other personality types. Some individuals may exhibit some psychopathic traits, without fitting the actual profile of psychopaths. Exhibiting antisocial behaviour is one of the bases for the identification of this personality disorder (Morin, 2022).

Studies on anxiety and its manifestations among undergraduate students have shown considerable potential. Tan et al. (2023) examined the prevalence of anxiety among college and university students in an umbrella-style review that appraised various databases and online sources. Results showed that females had higher anxiety prevalence than their male counterparts. The study also observed that there was a high incidence of anxiety among the reviewed studies, ranging between 7.4% to 55.0%, with a median prevalence of 32%.

In another study by Lee et al. (2021), they examined the stress, anxiety, and depression symptoms among university students in Kentucky, during the advent of the coronavirus pandemic in 2019. Results indicate that there were elevated stress response (88%), severe anxiety (44%), and elevated levels of depression (36%). Individuals who are female, are from rural areas, have low-income status, and are academically below-average students are at more risk of developing psychophysiological responses like stress and anxiety.

Individuals with psychopathic features have been noted to present psychophysiological responses that are associated with abnormal functioning in the limbic system, which affects emotion regulation (Houston & Stanford, 2020). Undergraduate students have distinct psychological and physiological malaise that may be predominant in their age group due to transitional and academic stress, examination anxiety, student rivalry, or peer pressure. Gender and certain personality traits have also been associated with psychopathic deviance and physiological distress. Hence, it is against this backdrop that this research studied the attributes of psychopathic deviance and psychophysiological symptoms among undergraduate students of Rivers State University, Port Harcourt.

## 1.1 Theoretical framework

*Neurobiological theory.* This theory posits that the development of human behaviors, such as psychopathy, is a result of the neurological and cerebral differences in the brains of individuals with certain psychopathic attributes, which may not be present in persons without psychopathic deviance traits. Studies by proponents of this theory among persons with localized brain lesions showed that amygdala dysfunction may complicate the causal development of psychopathic deviant tendencies. This theory is centered on the physiology and mechanism of the nervous system (Getz, 2014).

*Social learning theory.* A striking stance of this theory is that psychopathic tendencies can be learned through socialization. This theory further enforces that factors like race, environment, gender, family relationships, and income may be associated with the learning of psychopathic behaviors. Proponents of this theory posit that psychopaths have poor avoidance learning (Cilliers, 2020). This theory, as propounded by Bandura (1977), posits that learning is primarily a “cognitive process” that occurs through observation, imitation, or modeling within a social environment. This theory is a fusion of the behavioral and cognitive theories of learning, in that the learner observes a behavior, deduces meaning from it, makes decisions about the learned behavior, and imitates the said behavior.

## 1.2 Objectives

This research studied the effect of gender on psychopathic deviant attributes and psychophysiological symptoms among Rivers State University, Port Harcourt undergraduates, and the following hypotheses were tested:

## 1.3 Hypotheses

1. There will be a positive relationship between psychopathic deviant attributes and psychophysiological symptoms among Rivers State University, Port Harcourt undergraduate students.
2. Female undergraduates will manifest significantly higher psychopathic deviant attributes than male undergraduate students at Rivers State University, Port Harcourt.
3. Female undergraduates will manifest significantly higher psychophysiological symptoms than male undergraduate students at Rivers State University, Port Harcourt.

## 2 METHODS

### 2.1 Participants

Participants for this study were undergraduate students of psychology from the Faculty of Social Sciences, Rivers State University, Port Harcourt. Their ages ranged from 19 to 33 years (mean age = 22.8 years, SD = 2.23). There were 43 undergraduates (5 males = 11.6 %, and 38 females = 88.3%), and 400-level

psychology students were chosen as a population because they are assumed to have basic knowledge of the proposed study construct (psychopathic deviant attributes and psychophysiological symptoms). Also, it was expected that any physiological distress that the students may have had during the study would not be due to transitional stress, often associated with newly admitted undergraduates.

The inclusion criteria were as follows:

- 400-level psychology undergraduate students.
- Between the ages of 18 and 35 years.
- Individuals must be willing to participate in the study and have completed the consent form.

The exclusion criteria were as follows:

- Students who are outside the 400-level psychology department
- Students below the age of 18 years or over 35 years.

## 2.2 Instruments

To study the relationship between psychopathic deviate attributes and psychophysiological symptoms among the participants, participants filled out a battery of questionnaires that included the following self-report instruments: the Psychopathic Deviate Scale (PDS; S. R. Hathaway & J. C. Mckinley, 1967) consists of a 72-item inventory rated on a 5-point Likert scale extracted from the Minnesota Multiphasic Personality Inventory (MMPI). The items are self-statements that measure criminal behavior, fraudulent behavior, delinquency, and psychopathic personality. An example of scale items is, "At times, I feel like smashing things." The scale can be administered individually or in groups. Hathaway and Mckinley (1967) obtained a one-week test-retest reliability coefficient of .80. Kukoyi (1997) and Ivor (1984) obtained a validity coefficient of .57 with Nigerian samples.

The Psychophysiological Symptoms Checklist (PSC; Omoluabi, 1987) is a 50-item instrument rated on a 5-point Likert scale to measure stress reactions. The scale can be administered individually or in groups. Omoluabi (1996) provided the psychometric properties for this instrument. He obtained an alpha coefficient of .784 and a Spearman-Brown split-half coefficient of .879, whereas Ebiai (1986) obtained a concurrent validity coefficient of  $M = .47$  and  $F = .41$ .

## 2.3 Design and Statistics

The study is a cross-sectional survey that employed the between-subject design and, consequently, the independent t-test statistics to analyze data for the first and second hypotheses, while the correlational design/correlation statistics were used to analyze data for the third hypothesis.

## 2.4 Pretesting

The study instruments were pretested at the University of Port Harcourt (which is a university close to the one used for the actual study), using 10 undergraduate students of psychology (400-level) to help identify problems that may arise during the present study. Issues such as errors in data entry were identified and addressed.

## 2.5 Data collection and procedure

The study was conducted among 400-level psychology undergraduate students at the Rivers State University, Port Harcourt. Before the study commenced, a letter of introduction and request for study approval were submitted to the school, after which approval for the study was granted. The study was conducted in a group setting after adequate rapport was established with the participants. The participants were given a consent form and a battery of questionnaires. After they had read and signed the consent form, further information on the questionnaires was provided when necessary, and strict confidentiality of the participants and their data privacy was ensured. The study employed a purposive sampling technique. The questionnaires took about 30 minutes to complete, and there were no known risks to the participants. Fifty copies of questionnaires were distributed to the students, but only 43 (86%) correctly filled questionnaires were used for the study.

## 2.6 Data analysis

The collected data was analyzed with SPSS version 22, using independent t-test and Pearson correlation statistics. SPSS was chosen for the data analysis because of the ease of extracting and extrapolating descriptive, inferential, and multiple variant data.

## 2.7 Ethics

An ethical approval letter provided by the appropriate body was granted before the commencement of the research.

# 3 RESULTS

Hypothesis one stated that there would be a positive relationship between psychopathic deviant attributes and psychophysiological symptoms among undergraduate students. The hypothesis was tested using Pearson correlation and presented in *Table 1*.

**Table 1 |** Correlation between psychopathic deviate attributes and psychophysiological symptoms

	PD	PSC
PD		
PSC	.591**	

Note: \*\*Correlation is significant at the 0.01 level (2-tailed).

**Table 2** | Summary of t-test showing influence of gender on psychopathic deviate attributes

	Gender	N	Mean	SD	df	t	P
ARTIC	Male	5	22.4	3.782	41	0.454	> .05
	Female	38	21.132	6.050			

**Table 3** | Summary of t-test showing influence of gender on psychophysiological symptoms

	Gender	N	Mean	SD	df	t	P
ARTIC	Male	5	77	17.805	41	-0.386	> .05
	Female	38	83.921	39.220			

Results in Table 1 show a positive relationship between psychopathic deviant attributes and psychophysiological symptoms ( $r = .591, p > .01$ ) among the studied undergraduate students. The result implies that an increase in psychopathic deviance may be attributed to an increase in psychophysiological symptoms (not due to chance) in the studied population; hence, the hypothesis was accepted.

Hypothesis two stated that female undergraduates would manifest significantly higher psychopathic deviant attributes than male undergraduates. The hypothesis was tested using a t-test for independent samples and presented in Table 2. Results in Table 2 show that female undergraduates ( $X = 21.1316$ ) were not significantly different in psychopathic deviate attributes than male undergraduates ( $X = 22.4000$ ),  $t = 454, df = 41, p > .05$ . The result implies that there is no significant gender difference in psychopathic deviate attributes in the sample population tested. Furthermore, the dependent variable—psychopathic deviance—was regressed on the predicting variable of gender (male and female). The independent variable (gender) did not significantly predict psychopathic deviant attributes on the studied population,  $F(1, 41) = 0.206, p > .05$ . This indicates that female undergraduates were not significantly different in psychopathic deviate attributes than male undergraduates; hence the hypothesis was rejected.

Hypothesis three stated that female undergraduates would manifest significantly higher psychophysiological symptoms than male undergraduates. The hypothesis was tested using a t-test for independent samples and presented in Table 3. Results in Table 3 show that female undergraduates ( $X = 77.0000$ ) were not significantly different in psychophysiological symptoms than male undergraduates ( $X = 83.9211$ ),  $t = -.386, df = 41, p > .05$ . The result implies that there is no significant gender difference in psychophysiological symptoms in the sample population tested. Also, the dependent variable—psychophysiological symptoms—was regressed on the predicting variable of gender (male and female). The independent variable (gender) did not significantly predict psychophysiological symptoms on the studied population,  $F(1, 41) = 0.149, p > .05$ . This indicates that female undergraduates were not significantly different in psychophysiological symptoms than male undergraduates; hence, the hypothesis was also rejected.

## 4 DISCUSSION

Findings from the first hypothesis, which states that there would be a positive relationship between psychopathic deviant attributes and psychophysiological symptoms among undergraduate students, have shown a positive relationship between psychopathic deviant attributes and psychophysiological symptoms among the studied participants ( $r = .591, p > .01$ ). This finding is in tandem with the study by Houston and Stanford (2020), who observed that individuals with psychopathic features present psychophysiological responses associated with an abnormal functioning in the limbic system, which affects emotion regulation.

Even though studies have shown that people with psychopathic deviant characteristics make up less than 1% of the general population, they have also been reported to be responsible for most criminal and nefarious activities, which are mostly carried out by young people of the university age group. A significant number of these individuals with psychopathic attributes are “hidden psychopaths” and can be found in colleges or in white-collar jobs, living seemingly “normal lives” (Lyons, 2019). The result explains that deviant behaviors such as homicide, rape, burglary, kidnapping, and internet fraud are rampant and have become a significant problem, especially among young people in Nigeria. Studies have shown that undergraduates comprise a massive chunk of the Nigerian population. These youths have been termed to represent a nation’s investment in their future, and the age bracket of most undergraduate students has been termed to

Hypothesis two, which states that female undergraduates would manifest significantly higher psychopathic deviate attributes than male undergraduate students, was not accepted. This suggests that female undergraduates did not differ substantially in their psychopathic deviate attributes compared to their male counterparts ( $t = -.386, df = 41, p > .05$ ). This finding agrees with Owoh (2022) and Anderson and Kiehl (2014), who asserted that psychopathy is a clinical concept that is associated with interpersonal, affective, and behavioral maladaptive traits, which include features of grandiosity, impulsivity, lack of empathy, lack of conscience, manipulative behaviors, and social deviance (but not gender).



Furthermore, hypothesis three, which states that female undergraduates would manifest significantly higher psychophysiological symptoms than male undergraduate students, was also observed not to be tenable. Female undergraduates were not considerably different in psychophysiological symptoms than their male counterparts ( $t = -.386$ ,  $df = 41$ ,  $p > .05$ ).

The finding of the present study is in dissonance with Tan et al. (2023), whose study on anxiety among undergraduate students posits that female students significantly exhibited more psychophysiological symptoms, like anxiety, than their male counterparts. The study also contradicts the observation of Burani and Nelson (2020), who observed that gender predisposes certain psychophysiological traits like anxiety.

Psychophysiology is the relationship between the “psyche” (the mind) and physiological responses. It can be established from the result that psychophysiology—the emotional well-being of an individual—is connected to their central nervous system’s response, and not the individual’s gender. These emotional responses often manifest through altered sleep patterns, gastrointestinal malfunctioning, headaches, tightened muscles, increased heart rate, pulse, and immune response. Therefore, psychophysiological disorders arise when a psychological condition prompts or aggravates physical symptoms (Bialowas, 2022).

Several studies have reported a prevalence of psychopathic deviant attributes, such as aggression, violence, lack of regard for authority, impulsivity, and interpersonal difficulties, and psychophysiological symptoms, like anxiety, among undergraduate students. Results from the study deduced that young people (male and female undergraduates) are generally prone to psychopathic deviant attributes and psychophysiological symptoms. Some studies have associated the connection between psychopathic deviance and psychophysiological symptoms among young adults to a process in the limbic structure of the brain.

Furthermore, the present study did not predispose a particular gender to psychopathic deviance or to psychophysiological malaise. It is also worthy to note that young adults or undergraduate students may generally exhibit psychophysiological symptoms or certain psychopathic attributes that may be ascribed to a transitional phase from adolescence to adulthood, academic stress, pandemic-induced anxiety, examination anxiety, student rivalry, or peer pressure, which may not necessarily or categorically identify them as psychopathically deviant.

## 4.1 Limitations

The sample sizes in this study were relatively small and thus may not represent the general population of undergraduate students in Nigeria. The study also was limited by the small number of male participants that were seen in the field. A more robust sample will be needed in further studies. Another significant limitation of the present study is that it did not explore the influence of age on psychopathic deviant traits and psychophysiological symptoms of the studied population, which may have yielded great insight into the variables. More so, possible psychotherapeutic interventions were not explored, which may have been helpful in tackling psychopathy and psychophysiological conflicts among undergraduates. Further studies may need to conduct a comparison study across socioeconomic groups and different cultural backgrounds, to ascertain peculiarities or similarities in their manifestation of psychophysiological symptoms and psychopathic deviance.

## 5 CONCLUSION

Summarily, the present study explored psychopathic deviant attributes and psychophysiological symptoms among undergraduate students of Rivers State University, Port Harcourt; findings from the study suggests a significant positive predictive relationship between both variables. However, gender did not show any significant positive predictive effect on psychopathic deviance and psychophysiological symptoms. These findings confirm results from previous studies: that the prevalence of psychopathic deviant traits and psychophysiological symptoms among young people is an existential threat to this population. The present study’s findings also contributed innovative results that male and female undergraduates or youths, in general, are prone to psychopathic deviant attributes and psychophysiological symptoms, which may be results of their transitory age bracket, school-related anxiety, and so on. There is therefore a need to understand psychopathic deviant attributes, psychophysiological symptoms, and the risks associated with this phenomenon. Thus, there is need for clinicians and school management to provide access to resources for assessment, early diagnosis, psychoeducation, prevention, and treatment to this important group of the general population. It is also recommended that a more extensive study be carried out in more Nigerian universities, exploring more variables like age and demography. The findings of the study may be fundamental in the formulation of policies for the welfare of young people/undergraduate students.

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**Authors’ contributions:** OIO drafted the manuscript and participated in preparing the methods, results, discussions of the results, and partly the abstract. CNC participated in framing the methods, results, and discussion of the results. INI provided critical feedback and editing, prepared the conclusion, introduction, and references, and revised the paper. All authors agreed on the final version of the manuscript.

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