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Health Behaviour and Psychological Distress among Police Personnel in Ondo State, Nigeria: The Mediating Role of Physical Activity Status

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ABSTRACT: Psychological distress is a growing occupational health concern among police personnel, particularly in contexts where officers are exposed to demanding work conditions, operational pressure, and limited wellness support. This study examined the relationship between health behaviour, physical activity status, and psychological distress among police personnel in Ondo State, Nigeria, with physical activity status tested as a mediating variable. A descriptive correlational research design was adopted. Data were collected from 359 police personnel using structured questionnaires. Psychological distress was measured using the Depression, Anxiety and Stress Scale-21, health behaviour was assessed using the Health Behaviour Questionnaire, and physical activity status was measured using the Rapid Assessment of Physical Activity. Data were analysed using descriptive statistics, Pearson correlation, multiple regression, and Hayes' PROCESS Macro for mediation analysis. Findings showed notable psychological distress among respondents, with anxiety being the most severe domain. Specifically, 40.4% reported extremely severe anxiety, 21.4% reported severe depression, and 17.3% reported severe stress. Health behaviour significantly predicted psychological distress, indicating that

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better health behaviour was associated with lower distress. However, physical activity status did not significantly predict psychological distress and did not mediate the relationship between health behaviour and psychological distress. The study concludes that health behaviour has a direct protective association with psychological distress among police personnel, while physical activity status alone does not explain this relationship. Police wellness interventions should therefore adopt a broader health behaviour approach that includes stress management, adequate rest, healthy diet, and mental health support alongside physical activity promotion.

Keywords: *Psychological Distress, Health Behaviour, Physical Activity Status, Police Personnel, Ondo State, Nigeria.*

Introduction

Psychological distress is a major concern among police personnel because it affects emotional stability, decision-making, work performance, and overall quality of life. In this study, psychological distress refers to symptoms of depression, anxiety, and stress experienced by police personnel, commonly assessed using the Depression, Anxiety and Stress Scale-21 (DASS-21) (Lovibond & Lovibond, 1995). Due to the demanding nature of policing, officers may experience mental and emotional pressure that can affect their health, coping capacity, and professional effectiveness (Violanti et al., 2017; Syed et al., 2020).

Health behaviour is an important factor in understanding psychological distress among police personnel. Health behaviour refers to daily lifestyle practices that can either improve or harm health, such as regular physical activity, healthy diet, adequate rest, stress management, and avoidance of unhealthy habits (Glanz et al., 2015; DiPietro et al., 2020). Positive health behaviour may help reduce psychological distress by improving coping ability, physical readiness, and emotional control. Poor health behaviour, on the other hand, may increase vulnerability to stress, anxiety, and depression (Guthold et al., 2018; Mahindru et al., 2023). In the Ondo State policing context, Fadero et al. (2025) also highlighted the importance of health behaviour in relation to physical activity and fitness-related outcomes among police personnel, suggesting that lifestyle practices are important in understanding officers' health and performance.

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Physical activity status is introduced in this study as a mediating variable. Physical activity status refers to the level, frequency, and regularity of physical activity performed by police personnel, including aerobic activity, strength-related activity, and flexibility-related activity. Regular physical activity has been linked with reduced symptoms of depression, anxiety, and stress, as well as improved mood and psychological functioning (Piercy et al., 2018; Singh et al., 2023). Among police personnel, active physical activity status may help officers manage occupational stress and maintain better psychological stability. Therefore, physical activity status may explain how health behaviour influences psychological distress.

This study therefore examines the relationship between health behaviour, physical activity status, and psychological distress among police personnel in Ondo State, Nigeria. It specifically investigates whether physical activity status mediates the relationship between health behaviour and psychological distress.

1.2 Background of the Study

Psychological distress among police personnel is a serious issue because it can affect mental health, job performance, and the ability to carry out duties effectively. Depression, anxiety, and stress are common indicators of psychological distress and are especially relevant in high-pressure occupations such as policing (Lovibond & Lovibond, 1995; Syed et al., 2020).

Health behaviour plays a major role in the psychological condition of police personnel. Positive health behaviours can help reduce psychological distress by improving general health, emotional balance, and stress management. In contrast, poor health behaviours, such as physical inactivity, poor dietary habits, inadequate rest, and unhealthy coping practices, may worsen psychological distress (Guthold et al., 2018; DiPietro et al., 2020). Fadero et al. (2025) provided Nigerian police-based evidence by showing that health behaviour is relevant to physical activity and fitness-related outcomes among police personnel in Ondo State, reinforcing the need to examine health behaviour within this occupational group.

Physical activity status may serve as an important pathway through which health behaviour affects psychological distress. Officers who maintain positive health behaviours are more

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likely to engage in regular physical activity. Better physical activity status can improve energy level, reduce fatigue, support emotional regulation, and strengthen resilience against stress. In policing, physical activity is important not only for physical readiness but also for mental health, since active officers may be better prepared to cope with demanding duties (Gerber et al., 2014; Piercy et al., 2018).

However, many police personnel may struggle to maintain adequate physical activity status due to irregular work schedules, fatigue, and limited opportunities for structured physical activity. These work-related barriers may weaken the protective effect of health behaviour on psychological distress (Vancini et al., 2018). Therefore, examining physical activity status as a mediator provides a clearer understanding of how health behaviour may reduce psychological distress among police personnel.

Although existing studies have examined psychological distress among police personnel, limited attention has been given to the mediating role of physical activity status in the relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria. Existing work by Fadero et al. (2025) supports the relevance of health behaviour and physical activity-related outcomes among police personnel in Ondo State, but further investigation is needed to clarify how physical activity status may explain the relationship between health behaviour and psychological distress. This study addresses this gap by focusing specifically on health behaviour, physical activity status, and psychological distress.

1.3 Problem Statement

Psychological distress among police personnel is a major concern because it can reduce emotional stability, professional effectiveness, and overall work performance. Police personnel may experience depression, anxiety, and stress due to the demanding nature of their duties (Violanti et al., 2017; Syed et al., 2020). However, psychological distress may also be influenced by their health behaviour and level of physical activity.

Poor health behaviour may increase psychological distress among police personnel. Officers who do not maintain healthy routines, engage in regular physical activity, eat properly, rest adequately, or manage stress effectively may become more vulnerable to psychological distress. On the other hand, positive health behaviour may improve physical

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activity status, which can help reduce stress, anxiety, and depression (Mahindru et al., 2023; Singh et al., 2023). In a related study among police personnel in Ondo State, Fadero et al. (2025) showed that health behaviour is an important factor in physical activity and fitness-related outcomes, thereby supporting the need to examine health behaviour as a key predictor in the present study.

Physical activity status is important because it may explain the link between health behaviour and psychological distress. Health behaviour may not only affect psychological distress directly but may also influence it indirectly through physical activity status. Police personnel who maintain better health behaviour may be more physically active, and this may reduce their level of psychological distress.

Despite the importance of this relationship, there is limited research on how physical activity status mediates the relationship between health behaviour and psychological distress among police personnel in Ondo State. Most available studies focus broadly on police stress or mental health without clearly examining the pathway through which health behaviour may reduce psychological distress. This study therefore investigates how health behaviour predicts psychological distress among police personnel in Ondo State, Nigeria, with physical activity status serving as a mediating variable.

1.4 General Objective of the Study

The general objective of this study is to examine the mediating role of physical activity status in the relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria.

1.4.1 Specific Objectives of the Study

The specific objectives of this study are to:

1. Assess the levels of psychological distress, health behaviour, and physical activity status among police personnel in Ondo State, Nigeria.
2. Examine the relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria.
3. Examine the relationship between health behaviour and physical activity status among police personnel in Ondo State, Nigeria.

 DOI: *10.5281/zenodo.22721626*

4. Examine the relationship between physical activity status and psychological distress among police personnel in Ondo State, Nigeria.
5. Determine whether physical activity status mediates the relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria.

1.5 Research Hypotheses

The following hypotheses will guide the study:

H1: There is a significant relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria.

H2: There is a significant relationship between health behaviour and physical activity status among police personnel in Ondo State, Nigeria.

H3: There is a significant relationship between physical activity status and psychological distress among police personnel in Ondo State, Nigeria.

H4: Health behaviour significantly predicts psychological distress among police personnel in Ondo State, Nigeria.

H5: Physical activity status significantly predicts psychological distress among police personnel in Ondo State, Nigeria.

H6: Physical activity status significantly mediates the relationship between health behaviour and psychological distress among police personnel in Ondo State, Nigeria.

Methods

This study adopted a descriptive correlational research design to examine the relationship between health behaviour, physical activity status, and psychological distress among police personnel in Ondo State, Nigeria. The design was considered appropriate because it allows researchers to determine the strength and direction of relationships among variables without manipulating the research setting (Creswell & Creswell, 2018; Levin, 2006). This approach was suitable for the present study because it examined naturally occurring associations among health behaviour, physical activity status, and psychological distress among police personnel.

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The population comprised all Nigerian Police Force personnel stationed in Ondo State, Nigeria. The total population was 4,217 police personnel. The minimum sample size was determined using Cochran's formula with finite population correction, which is appropriate when estimating sample size from a known finite population (Cochran, 1977). A final sample size of 400 respondents was used to improve statistical power and account for possible non-response. Participants were selected through probability sampling. First, simple random sampling was used to select 20 police divisions from the 54 police divisions in Ondo State. Thereafter, proportionate stratified sampling was used to determine the number of respondents selected from each division based on the size of its police personnel population. This sampling approach helped improve representativeness and reduce sampling bias (Kish, 1965; Creswell & Creswell, 2018).

Data was collected using a structured questionnaire consisting of three major measures. Psychological distress was measured using the Depression, Anxiety and Stress Scale-21 (DASS-21), developed by Lovibond and Lovibond (1995). The DASS-21 assesses depression, anxiety, and stress, which are the key indicators of psychological distress in this study. Health behaviour was measured using the Health Behaviour Questionnaire (HBQ), adapted to assess lifestyle practices such as physical activity, nutrition, stress management, safety behaviour, and avoidance of harmful health practices (Roxana et al., 2018). Physical activity status was measured using the Rapid Assessment of Physical Activity (RAPA), developed by Topolski et al. (2006). The RAPA assesses aerobic activity, strength-related activity, and flexibility-related activity. Higher HBQ scores indicated better engagement in health-promoting behaviour, higher RAPA scores indicated better physical activity status, and higher DASS-21 scores indicated greater psychological distress.

The instruments were subjected to validity, and reliability checks before the main study. Face and content validity were confirmed through expert review to ensure clarity, relevance, and suitability for police personnel. A pilot study involving 45 police personnel was conducted before the main data collection. Pilot testing is useful for assessing the clarity, reliability, and practical suitability of research instruments before full-scale administration (Van Teijlingen & Hundley, 2001; Hertzog, 2008). Reliability results showed acceptable internal consistency for the major scales. The Health Behaviour Questionnaire recorded a Cronbach's alpha of 0.87 in the pilot study and 0.91 in the main

 DOI: *10.5281/zenodo.22721626*

study. The DASS-21 subscales also showed acceptable reliability, with alpha values ranging from 0.82 to 0.89 in the pilot study and from 0.84 to 0.85 in the main study. Since the RAPA uses dichotomous response options, its reliability was assessed using the Kuder-Richardson Formula 20. The RAPA recorded KR-20 values of 0.70 in the pilot study and 0.77 in the main study, indicating acceptable internal consistency (Fraenkel et al., 2012).

Data collection was carried out after obtaining ethical clearance and administrative approval from the Ondo State Police Command. Seven trained research assistants supported the administration of the questionnaire across the selected police divisions. Participation was voluntary, and informed consent was obtained from all respondents. The questionnaire was self-administered, and each participant spent approximately 15 to 20 minutes completing it. Confidentiality and anonymity were maintained throughout the data collection process in line with ethical standards for human participant research.

Data were analysed using the Statistical Package for the Social Sciences (SPSS), version 27. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarise the respondents' characteristics and the main study variables. Normality and multicollinearity checks were conducted before inferential analysis. Pearson correlation analysis was used to examine the relationships among health behaviour, physical activity status, and psychological distress. Multiple regression analysis was used to determine the predictive influence of health behaviour and physical activity status on psychological distress. Mediation analysis was conducted using Hayes' PROCESS Macro, Model 4, to determine whether physical activity status mediated the relationship between health behaviour and psychological distress (Hayes, 2018). Mediation was considered significant when the 95% confidence interval for the indirect effect did not include zero. Statistical significance was set at $p < 0.05$.

Results

A total of 359 valid responses were analysed. Table 1 presents the descriptive profile of the main study variables. Psychological distress was evident among the respondents, with anxiety showing the highest severity. Specifically, 40.4% of the respondents reported extremely severe anxiety, while 21.4% reported severe depression and 17.3% reported severe stress. Health behaviour was generally low to moderate, with 36.8% of respondents reporting low health behaviour. For physical activity status, 35.4% of respondents were

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classified as active, while 36.8% were underactive but regular. Strength and flexibility-related activity was relatively high, with 78.0% reporting high engagement.

Table 1. Descriptive profile of psychological distress, health behaviour, and physical activity status among police personnel

Variable	Category	n	%	Mean	SD
Depression	Normal	151	42.1	13.16	10.00
	Mild	14	3.9		
	Moderate	93	25.9		
	Severe	77	21.4		
	Extremely severe	24	6.7		
Stress	Normal	201	56.0	14.30	9.96
	Mild	17	4.7		
	Moderate	72	20.1		
	Severe	62	17.3		
	Extremely severe	7	1.9		
Anxiety	Normal	122	34.0	12.28	9.37
	Mild	24	6.7		
	Moderate	51	14.2		
	Severe	17	4.7		
	Extremely severe	145	40.4		
Health behaviour	Low	132	36.8	1.97	0.84
	Moderate	106	29.5		
	High	121	33.7		
Physical activity status: Aerobic activity	Sedentary	52	14.5	2.04	1.28
	Underactive	14	3.9		
	Underactive with light activity	34	9.5		
	Underactive but regular	132	36.8		
	Active	127	35.4		
Physical activity status: Strength/flexibility	Low	79	22.0	1.97	0.84
	High	280	78.0		

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Regression analysis was conducted to determine whether health behaviour and physical activity status predicted psychological distress. As shown in Table 2, health behaviour significantly predicted psychological distress (B = -0.182, β = -0.209, p < 0.001). The negative coefficient indicates that better health behaviour was associated with lower psychological distress. However, physical activity status did not significantly predict psychological distress (B = -0.199, β = -0.037, p = 0.544).

Table 2. Regression coefficients predicting psychological distress

Predictor	B	SE	β	t	p
Constant	49.730	5.961		8.343	<0.001
Health behaviour	-0.182	0.049	-0.209	-3.712	<0.001
Physical activity status	-0.199	0.328	-0.037	-0.607	0.544

Mediation analysis was conducted to examine whether physical activity status mediated the relationship between health behaviour and psychological distress. As shown in Table 3, health behaviour significantly predicted physical activity status (B = -0.105, p = 0.021). However, physical activity status did not significantly predict psychological distress in the mediation model (B = -0.001, p = 0.903). The indirect effect was not significant (B = 0.001, 95% CI [-0.017, 0.019]), as the confidence interval included zero. Therefore, physical activity status did not mediate the relationship between health behaviour and psychological distress.

Table 3. Mediation analysis of physical activity status in the relationship between health behaviour and psychological distress

Path	B	SE	t	p	95% CI
Health behaviour → Physical activity status	-0.105	0.045	-2.323	0.021	[-0.191, -0.016]
Physical activity status → Psychological distress	-0.001	0.009	-0.122	0.903	[-0.018, 0.016]
Direct effect: Health behaviour → Psychological distress	-0.105	0.045	-2.323	0.021	[-0.193, -0.016]
Indirect effect: Health behaviour → Physical activity status → Psychological distress	0.001	0.009			[-0.017, 0.019]

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The results indicate that health behaviour had a significant direct association with psychological distress among police personnel in Ondo State. In contrast, physical activity status neither significantly predicted psychological distress nor mediated the relationship between health behaviour and psychological distress.

Discussion

This study examined the relationship between health behaviour, physical activity status, and psychological distress among police personnel in Ondo State, Nigeria. The descriptive findings showed a considerable level of psychological distress among the respondents, with anxiety emerging as the most severe domain. Specifically, 40.4% of the respondents reported extremely severe anxiety, while 21.4% reported severe depression and 17.3% reported severe stress. These findings suggest that psychological distress is a major occupational health issue among police personnel in the study area. This aligns with recent evidence showing that police officers are highly vulnerable to mental health difficulties because of repeated exposure to occupational stress, traumatic incidents, organisational pressure, and demanding work schedules (Teles et al., 2024; Anders et al., 2024). Similar police mental health studies have also reported elevated levels of depression, anxiety, stress, burnout, and trauma-related symptoms among law enforcement personnel, confirming that psychological distress remains a persistent concern in policing contexts (Beckley, 2025; Wu et al., 2025).

The finding that health behaviour significantly predicted psychological distress is important. The negative coefficient indicates that better health behaviour was associated with lower psychological distress among police personnel. This suggests that officers who engage more in health-promoting behaviours, such as healthy eating, stress management, adequate rest, safety practices, and avoidance of harmful lifestyle habits, may experience lower symptoms of depression, anxiety, and stress. This finding is consistent with recent evidence that lifestyle behaviours are strongly linked to mental health outcomes. For example, Bourke et al. (2025) found that healthier lifestyle behaviour clusters were associated with fewer symptoms of depression, anxiety, and psychological distress, while White et al. (2024) highlighted the role of lifestyle factors such as physical activity, diet, sleep, and smoking behaviour in the prevention and management of mental health problems. The present finding also supports the Ondo State police-related work of Fadero

 DOI: *10.5281/zenodo.22721626*

et al. (2025), which showed that health behaviour is relevant to physical and wellness-related outcomes among police personnel in the same state context.

The significant role of health behaviour may be explained by its broad nature. Unlike physical activity status, health behaviour covers several lifestyle dimensions, including nutrition, rest, stress management, substance avoidance, and safety behaviour. This means that health behaviour may influence psychological distress through multiple protective pathways. For police personnel, healthy routines may improve emotional regulation, reduce fatigue, support coping capacity, and lower vulnerability to anxiety and depressive symptoms. In high-pressure occupations such as policing, these combined behaviours may be more powerful than any single lifestyle factor alone. This may explain why health behaviour remained a significant predictor of psychological distress in this study.

In contrast, physical activity status did not significantly predict psychological distress. Although the coefficient was negative, the effect was weak and statistically non-significant. This suggests that higher physical activity status was associated with slightly lower distress, but the relationship was not strong enough to be meaningful in this sample. This finding differs from general population evidence, where physical activity is often associated with reduced symptoms of depression, anxiety, and psychological distress. For example, Singh et al. (2023), in an umbrella review, reported that physical activity improves symptoms of depression, anxiety, and psychological distress in adults, while Noetel et al. (2024) found that exercise is effective in reducing depressive symptoms. However, the non-significant result in the present study may reflect the unique occupational realities of police personnel, where job stressors, trauma exposure, shift work, and institutional pressures may weaken the mental health benefits of physical activity.

Another possible explanation is that physical activity status was measured as self-reported activity participation rather than as an objective fitness or physiological measure. Some officers may report activity participation because of duty-related movement, drills, or occasional exercise, but such activity may not be frequent, structured, or intense enough to produce measurable psychological benefits. In addition, physical activity may reduce distress only when supported by consistency, enjoyment, recovery, and a supportive work environment. Recent police occupational health literature suggests that organisational constraints, perceived resources, workload, trauma exposure, and sense of agency may

 DOI: *10.5281/zenodo.22721626*

strongly shape officers' psychological health, sometimes beyond individual lifestyle behaviours alone (Anders et al., 2024; Teles et al., 2024).

The mediation analysis further showed that physical activity status did not mediate the relationship between health behaviour and psychological distress. Although health behaviour significantly predicted physical activity status, physical activity status did not significantly predict psychological distress in the mediation model, and the indirect effect was not significant. This means that health behaviour reduced psychological distress directly, but not through physical activity status. In practical terms, the result suggests that improving police personnel's health behaviour may be beneficial for reducing psychological distress, but simply increasing physical activity status may not be sufficient unless other behavioural and occupational factors are also addressed.

This finding is important because it challenges the assumption that physical activity automatically explains the health behaviour-mental health pathway among police personnel. While physical activity remains valuable, the present result suggests that broader health behaviour interventions may be more relevant for psychological distress reduction in this population. Police wellness programmes should therefore not focus only on exercise participation. They should also include stress management, sleep hygiene, nutrition education, alcohol and substance use prevention, psychological screening, and workplace support. This broader approach is consistent with recent lifestyle psychiatry evidence showing that mental health outcomes are influenced by clusters of behaviours rather than by single behaviours in isolation (White et al., 2024; Bourke et al., 2025).

Overall, the findings indicate that psychological distress is a significant concern among police personnel in Ondo State, with anxiety being particularly prominent. Health behaviour was a significant protective factor against psychological distress, whereas physical activity status did not independently predict psychological distress and did not mediate the relationship between health behaviour and psychological distress. These results suggest that interventions aimed at improving police mental health should adopt a comprehensive health behaviour approach rather than relying solely on physical activity promotion. Future studies should examine additional mediators, such as sleep quality, perceived stress, social support, trauma exposure, organisational support, and exercise self-

 DOI: *10.5281/zenodo.22721626*

efficacy, to better explain how health behaviour influences psychological distress among police personnel.

Conclusion

This study examined the relationship between health behaviour, physical activity status, and psychological distress among police personnel in Ondo State, Nigeria. The findings showed that psychological distress was present among the respondents, with anxiety being the most severe distress domain. Health behaviour significantly predicted psychological distress, indicating that better health-promoting practices were associated with lower levels of depression, anxiety, and stress. However, physical activity status did not significantly predict psychological distress and did not mediate the relationship between health behaviour and psychological distress.

The findings suggest that while physical activity remains important, it may not independently explain psychological distress among police personnel. Instead, broader health behaviour practices, including stress management, adequate rest, healthy diet, and avoidance of harmful habits, appear to play a more direct role in reducing psychological distress. Therefore, improving the mental health of police personnel requires a comprehensive health promotion approach rather than relying only on physical activity interventions.

Recommendations

Based on the findings, the following recommendations are made:

1. The Nigerian Police Force should develop structured health promotion programmes that address general health behaviour, including stress management, healthy eating, adequate rest, and avoidance of harmful lifestyle habits.

2. Regular psychological screening should be introduced for police personnel to identify early symptoms of depression, anxiety, and stress before they become severe.

 DOI: *10.5281/zenodo.22721626*

3. Physical activity programmes should still be encouraged, but they should be integrated with broader wellness interventions rather than treated as a stand-alone solution.

4. Police divisions should create supportive work environments that allow officers to practise healthy behaviours despite demanding duty schedules.

5. Mental health education should be included in police training and workplace seminars to reduce stigma and improve officers' willingness to seek help.

6. Future studies should examine other factors that may explain psychological distress among police personnel, such as sleep quality, occupational stress, trauma exposure, social support, and organisational support.

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