

## MODERATORS BETWEEN HEALTH BEHAVIOUR AND PHYSICAL FITNESS AMONG POLICE PERSONNEL IN ONDO STATE NIGERIA

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**Abstract.** This study was carried out to investigate the age, gender and years of service as moderators on the relationship between health behaviour and physical fitness among police personnel in Ondo State, Nigeria. The study used a correlational research design. There were four instruments used for the study which were Physical Fitness Assessment Questionnaire (PFAQ), Health Behaviour Questionnaire and self-developed questionnaire was used for the demographic variables which content validity were checked by a panel of experts. Proportionate stratified sampling technique was used with a sample size of 400 police personnel (PP) from 20 divisions across Ondo State, Nigeria. For data analysis, descriptive statistics (SPSS 22) and Structural Equation Modelling (SMART PLS4) were used. The structural model of the study with 5 direct paths was tested and found fitting as per set criteria. The moderating role of gender ( $\beta=0.117$ ,  $t=0.890$ ,  $p>0.05$ ) was not significant in the relationship between health behaviour and physical fitness. Years of service moderate the relationship between health behaviour and physical fitness. The study established a new paths towards investigating physical fitness especially in the police population. This study revealed that, to attain overall quality of life, health behaviour should be incorporated. Health behaviour positively predicted physical fitness. The study also revealed that older officers exhibit more positive health behaviours in predicting physical fitness than the younger officers. More research are needed aiming at institutionalizing physical fitness evaluations among police population. Possible incorporation of physical fitness test as part of promotion criteria may help us have a fit and stable police personnel. The study also recommends experimental studies for future research to validate the findings of this study.

**Keywords:** *health behaviour, physical fitness, age, gender, years of service, Nigeria police force*

### Introduction

A country's need for well-trained and well-informed police personnel (PP) is a clear indicator of a well-ordered society. Being physically fit refers to the efficiency with which our bodies' systems work together so that we can stay healthy and carry out our everyday routines with ease. Also, being physically fit is being able to safely and successfully deal with everyday life's normal and unexpected demands without being unduly exhausted and still having the energy to engage in recreational activities. Before being hired, potential police officers had to demonstrate that they had reasonable physical fitness. Most studies showed that PP in Nigeria is dying from sedentary-related diseases like obesity, heart attack, hypertension, and diabetes (Nnate et al., 2022). This could be as a result of their health behaviours. The emotionally and physically taxing

nature of police work makes it a high-risk profession to engage in any kind of police work at all (Marins et al., 2018). Riots, physical violence, accidents, robberies, and armed confrontations are just some of the dangers officers face daily (Rodrigues dos Santos and Fernandes Filho, 2013). On the other hand, Experts need a wide range of physical capabilities to carry out their work reliably and accurately (such as muscle strength and endurance, cardiorespiratory fitness, power, speed, and agility). The current insecurity facing Nigeria is a problem that should be tackled headlong by all sectors and strata. Security personnel's productivity may be boosted or hampered depending on their degree of fitness status. For a nation to be safe and secure, its security forces must be effective and accurate. It's alarming that many security personnel are still affected by health issues like obesity, hypertension, and depression, even though numerous training programs and interventions are available to help them get fit. Because of job pressures and poor fitness, 91% of Nigeria's police force suffers from some form of mental illness or injury (Adekanmbi et al., 2022).

The potential consequences of an unhealthy lifestyle include decreased productivity at work, increased stress, difficulty resting, and other health issues. In a study by Caetano et al. (2021) on the Brazilian military police, it was recommended that passing the physical fitness exam, a criterion for advancement can help to enhance the officers' physical performance. Officers' health and fitness may be enhanced by establishing occupational and general fitness standards and applying appropriate health and conditioning measures (Myers et al., 2019). Being physically fit is commonly recognized as an essential indication of health (García-Hermoso et al., 2019). Physical fitness measures both aerobic and anaerobic capacities, which are important for health and performance (body composition, flexibility, muscular strength and endurance, aerobic capacity, power, speed, agility, balance coordination, and reaction time). As part of a comprehensive health and wellness program, physical conditioning is important as well as psychological well-being. Police personnel frequently get sick due to their rigorous schedules and inadequate healthcare management. Regular inspections and active promotion of a healthy lifestyle among a police force's personnel are required to ensure its well-being (Meena et al., 2018). Police officers are frequently dispatched to dangerous areas and must work long hours.

The benefits of exercise and enhanced performance in some facets of police profession need the conduct of intervention studies to promote and include programs linked to the promotion or maintenance of physical fitness in police personnel (Marins et al., 2019). In order to effectively carry out their tasks and inspire trust in the general public, PP to be more physically fit than the average person (Marins et al., 2019; Maupin et al., 2018). With the modernization of policing, police officers have generally become more unfit. Thus, PF is selected as part of the dependent variable in this study. The PP's health is at an all-time low and continues to decrease as obesity, diabetes, and cardiovascular disease rates rise (Marins et al., 2019; Esteves et al., 2014). Due to unhealthy behaviour, a police officer's social image and public impression of their capacity to deliver a vital service may suffer (Mantilla-Rodríguez et al., 2021; Lentz et al., 2019; Kukic et al., 2018). Cardiovascular disease is now the leading cause of death in adults, followed by a number of preventable and reversible health conditions that can be linked to poor health behaviours (Bradley et al., 2023; Meyer and Waldmann, 2015). Following the sharp rise in health behavior-related disease rates, poor health has become a global issue due to several contextual factors. While changing food systems, sedentary lifestyles, transportation development, and increased urbanization are well-

studied factors in the rise in obesity, cardiovascular disease, and diabetes, many other factors are not. Occupation-related bad health behaviours are understudied yet have major consequences (Adekanmbi et al., 2022). It is on this ground that the study want to investigate the relationship between health behaviour and physical fitness and to test the moderating role of age, gender and years of service among police personnel in Ondo State, Nigeria.

The main objective of this study is investigate the role of age, gender, and years of service as moderators between health behaviour and physical fitness among PP in Ondo State, Nigeria. The following research hypotheses were tested in this study:

H1: Gender moderates the relationship between health behaviour and physical fitness of PP in Ondo State, Nigeria.

H2: Age moderates the relationship between health behaviour and physical fitness of PP in Ondo State, Nigeria.

H3: Years of service moderate the relationship between health behaviour and physical fitness of PP in Ondo State, Nigeria.

## Materials and Methods

In this study, correlational research design was adopted. The correlational study is an empirical research method that investigates the relationships between two or more variables. Research that relies on correlation is commonly classified as non-experimental, denoting that the researcher refrains from actively manipulating or controlling any of the variables under investigate. Simple random sampling technique of fish bowl without replacement was used to select 20 of 54 Police Divisions in Ondo State. After determining the total sample needed for each Divisions from stratified proportionate sampling, the researcher used cluster sampling technique to select the respondents. This technique required the researcher to select respondents from the groups or clusters that has already been formed. Only 20 out of 54 Divisions were involved in the study. In the course of this investigation, the probability sampling approach known as "cluster sampling" was used to select 400 officers and men of NPF as respondents in this study.

## Results and Discussion

*Table 1* indicates the frequency and percentage of respondents based on gender. This study targeted an equal number of male and female respondents during sampling. Therefore, male respondents were n=219 (61%), while female respondents were n=140 (39%). The highest group in the population is 31-40 years old, with n=127 (35.4%), followed by under 30 years old, n=116 (32.3%), 41-50 years old, n=71 (19.8%), and 51 years old and above, n=45 (12.5%) (*Table 1*). *Table 1* shows 1-10 years is the highest group in the population which is n=174 (48.5%), followed by 21-30, n=108 (30.1%), and n=77 (21.4%). The levels were categorised into three groups, and the minimum score of the scale was subtracted from the maximum score of the scale and divided by three. All construct authors have denoted that the higher the score, the better the skills tested, which depicts higher physical activity status, psychological status, exercise self efficacy and health behaviour.

**Table 1.** The demographic profile of respondents.

Category	Frequency (N=359)	Percentage (%=100)
<b>Gender</b>		
Male	219	61.0
Female	140	39.0
<b>Age</b>		
<30	116	32.3
31-40	127	35.4
41-50	71	19.8
>51	45	12.5
<b>Years of services</b>		
1-10	174	48.5
11-20	77	21.4
21-30	108	30.1

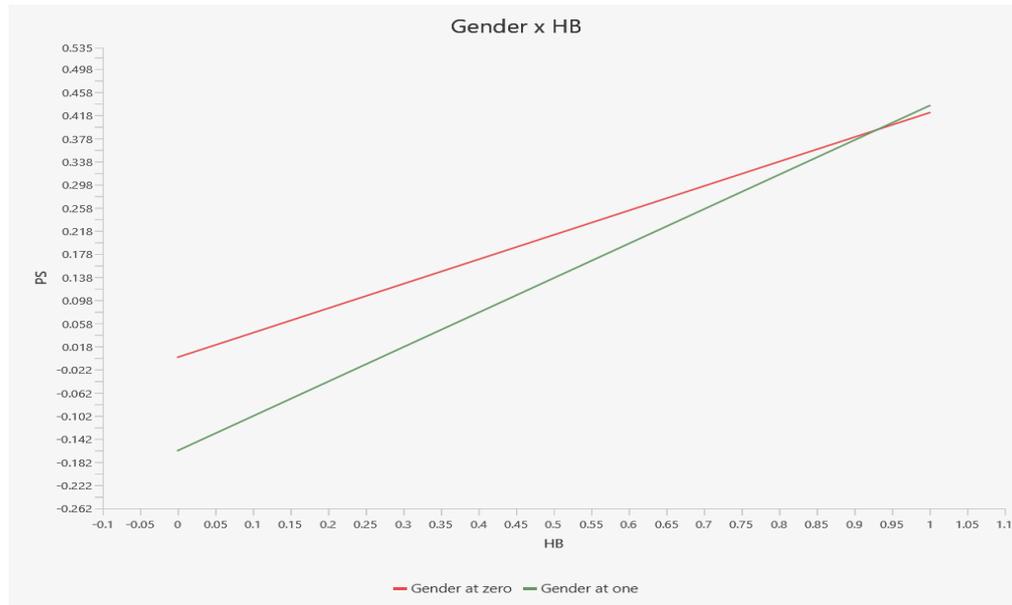
**Gender as a mediator**

The first hypothesis examined if gender moderates the relationship between health behaviour and physical fitness. However, based on *Table 2*, the alternate hypothesis is rejected since gender does not significantly moderate the relationship between health behaviour and physical fitness ( $\beta=0.117$ ,  $t=0.890$ ,  $p>0.05$ ). It can be concluded that a non-significant moderating role of gender on the relationship between health behaviour and physical fitness among PP in Ondo State, Nigeria. The alternate hypothesis is rejected.

**Table 2.** Assessment of the moderating role of gender.

Category	B	Std. Dev.	t-statistics	p-value
Gender x HB -> PF	0.117	0.132	0.890	0.374

The findings of this study negates the submission of some which stated that gender moderated the association between past-year moderate PA and alcohol use. Ogungbamila and Olaseni (2019), submitted that gender significantly moderated the relationship between job demand and quality of work-life, in such a way that female police personnel had better quality of work-life than their male counterparts. Lee et al. (2015) also reported gender has no significant moderation on job related variables. Based on the finding here, gender does no moderate relationship between health behavior and physical fitness among PP in Ondo State Nigeria. This means both positive and negative health behavior of PP may not be influenced by their gender. Furthermore, the slope analysis in *Figure 1* indicated a steeper and positive gradient for male police personnel as compared to female police personnel. This is coherent with the study by Craft et al. (2014) who submitted that the best predictor of quality of life for men is exercise and may not be beneficial to women based on the findings of his study.



**Figure 1.** Slope analysis of gender as a moderator.

**Age as moderator (multigroup analysis)**

Age does not moderate the relationship between health behaviour and physical fitness. The findings according to *Table 3* revealed that all the differences were found to be insignificant in the HB-PF relationships. However, age does not significantly moderate the relationship between health behaviour and physical fitness among PP in Ondo State, Nigeria. Therefore, H2 is rejected. The findings of this study does not agreed with the findings of Lisha et al. (2011) that age moderated the relationship between physical fitness and alcohol use. In a study conducted by Teixeira et al. (2019) revealed that police officers begin their careers with above average strength but demonstrate greater declines with age than the general population. The research concurred with Lee et al. (2022). Simultaneously, distinct disparities among age groups underscore the necessity for tailored care provisions. Reports indicate that police officers exhibit a higher prevalence of unhealthy behaviours, including alcohol consumption and smoking, in comparison to the overall population (Smith et al., 2005). Lee et al. (2022) discovered that police officers recognised the significance of physical fitness according to the demands of their profession. This led many to emphasise the necessity for improved access to exercise facilities during breaks or before and after shifts. The path coefficient data reveal that the HB-PS connection is more pronounced among older officers compared to their younger counterparts.

**Table 3.** Assessment of the moderating role of age.

Category	HB -> PF	P-value
Difference (31-40 to 41-50)	-0.167	0.125
Difference (31-40 to 51 and above)	-0.089	0.277
Difference (31-40 to u30)	-0.092	0.251
Difference (41-50 to 51above)	-0.078	0.340
Difference (41-50 to u30)	0.075	0.274
Difference (51 and above to u30)	-0.003	0.468

**Year of service as a moderator (multigroup analysis)**

Utilizing the multigroup analysis, this study assessed the variations between the 3 years of service groups- 1-10 years of service, 11-20 years of service and 20-29 years of service in terms of the effect of health behaviour on physical fitness. According to *Table 4*, the difference in the path coefficient showed that HB-PF association is stronger in the years of service range 11-20 years in comparison to 1-10 years. Similarly, the difference in the path coefficient indicated that the effect of HB on PF is stronger in the years of service 21-29 compared to the years of service 11-20. That is, HB impacted a stronger influence on PF in the PP whose years of service are 21-29 in comparison to the PP whose years of service are 11-20, albeit this relationship is not significant. Hence, H3 is supported. It can be assumed that police officers may experience a relatively greater negative impact on their health than the general population owing to frequent shift work and the need to use their bodies a lot due to years of experience (Gibbs Jr et al., 2014). It was emphasized that if police officers cannot avoid work-related stress, strategies to help them build resilience are needed to alleviate it.

**Table 4.** Assessment of the moderating role of years of service.

Category	HB -> PF	P-value
Difference (1-10 years of service to 11-20 years of service)	-0.327	0.022
Difference (1-10 years of service to 21-29 years of service)	-0.213	0.036
Difference (11-20 years of service to 21-29 years of service)	-0.149	-0.139

## Conclusion

The study also revealed that gender does not moderate HB-PF and HB-PS, there's need for development of health behaviour scales that will be targeted at the police population. This and other scales can be used to assess PP annually or bi-annually. Also, exercise self efficacy can help improve the quality of life of the police personnel if included in the training regimes of the training department. The study revealed a concerning issue on the fact that, younger police officers may not exhibit high physical fitness compared to the older PP. This is a serious issue that NPF should look into by its leadership. Most of older PP will soon retire, and there is need to put in place programmes that will help improve the health behaviour of the PP towards attaining optimum health. The study also establish no significant moderation in gender, this could be tested in other studies to establish the veracity of the findings of this study. Another suggestion for future studies is to investigate is to investigate the age group difference among the police population in respect to HB-PF. Other demographic variables can also be investigated in relation to the variables examined in this study.

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## Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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