

Dimensions of Operational Stress in the Nigerian Navy: Selected Samples of Combatant, Artisan and Retired Naval Personnel in Nigeria

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Research Article

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Abstract

This study examined dimensions of stress among sample of selected Nigerian Navy personnel in Lagos, Calabar, Jaji, in Kaduna Nigeria. The sample size of this study was one hundred and fifty (150) naval personnel who were randomly selected into three (3) groups of Serving Combatant Personnel (SCP); Serving Artisan Personnel (SAP) and Retired Mixed Personnel (RMP). Each group comprised fifty (n=50) participants, serving under different units in the Naval Command. Multistage random sampling was used for the selection and convenient sampling technique was used to select study participants. Instruments used to gather data were, Military Stress Inventory (MSI); Symptom Distress Checklist (SCL-90); Post-Traumatic Stress Disorder Keane Scale (PKS); Organizational Frustration Scale (OFS), and the Death Anxiety Scale (DAS). The outcome of the One-Way Analysis of Variance and Scheffe tests indicate significant differences. In the dimensions of stress among naval personnel. It was recommended that policies the Nigerian Navy should invest more on psychological based coping techniques during training and deployment of naval personnel to as to integrate the requisite knowledge based on psychological principles into the core values of naval personnel in Nigeria.

Keywords: Stress Dimensions; Nigerian Navy; Post-Traumatic Stress

Introduction

The Nigerian Navy can be described as having a long past but short history, for the reason that the British administration in Nigeria at the time did not consider it necessary to establish a full-fledged navy, and this situation only changed after 1945. The Nigerian Navy emerged as the marine Department of the Royal Navy in 1887 as a para-military organization, with multiple functions within the Nigerian coastal lines (Nigerian Navy, 2020). However, when Nigeria became a republic in 1963, the name Royal Navy which was symbolic of the British Queen of England was renamed as the Nigerian Navy. Presently, Nigerian Navy obtained a legal status through the Act of Parliament number 21 of 1964. This Act of Parliament paved the way for the extension and the specialization of active duties of the Nigerian Navy within the country's territorial waters (Nigerian Navy, 2020). The Nigerian Navy and its personnel engage in activities that makes them prone to stressful situations and engagements. Their engagement in the Nigerian water ways in recent times is a pointer to this fact.

The Nigerian Navy is saddled with the primary responsibility of protecting Nigeria's territorial sea and maritime coastline, against attack from foreign invasion through the sea. The Nigerian Navy is also a member of Joint Task Force (JTF) and they carry out duty providing support to other military forces such as the Police Force, the Army, Civil Defense and Air Force (Duyile & Duyile,

2019). With the growing criminal activities and safety concerns in Nigerian waterways and coastlines which has been perpetuated by authorized persons have led to increase in cases of violent attack that have led to casualties, resulting in deployment to the troubled zones, as well as, unexpected deployments of reserve units, situations such as these have significant impact on high levels of stress experienced by naval personnel (Duyile & Duyile, 2019; Petersen, 2022). In recent times, the engagement of Navy personnel in humanitarian and disaster relief missions increase stressful experiences of these personnel. The nature of the Nigerian Navy professional engagement is fraught with stressful events (Nte, Enoke & Abubakar, 2022; Dami, James, Zubairu, Karick, & Dakwak, 2018).

Stress is a common feature of everyday life and in all professions. However, stressful situations have intense ramification for individuals within the military. Military personnel are exposed to plethora of stressful situations by virtue of their profession, training and schedule of duty. Studies have established significant link between perceived operational stress in military personnel (Aguwa, Udeh & Onwasigwe, 2022; Petersen, 2022). Perceived stress is a common feature of military service, it furnishes personnel with mental alertness and readiness which is required in emergency situations. Though, physical combat and warfare is a constant perception of stressor that comes to mind in terms

of military engagement, service members may experience many other conditions of stress, including trauma, high work demands and family separations due to deployment (Lammers, Marengo, Morte, Bingham, Martin & Eckert, 2020).

Stress can be described as a feeling characterized by emotional or physical strain, that result from event or thought patterns that makes an individual vulnerable to frustration, anger, and/or nervousness (Sumathi, Ashokkumar & Rohini, 2021). Stress is usually experienced as an outcome of an individual's reaction to a situation that places a huge demand or burden (Bhargava & Trivedi, 2018). It is imperative to note that, stress can be constructive and helpful if it is short-lived a condition known as eustress. This type of stress is beneficial when an individual is trying to avert threat or meet a deadline for an event or task (Bhargava & Trivedi, 2018). Stress has several dimensions in psychology, which include; cognitive (mental), affective (emotional), behavioural (responses to stimuli), and physical (somatic). These dimension can act independently or simultaneously in individuals who experience them (Ahuja, 2021).

In general, there is predominantly acute stress which are short-term which is helpful in dangerous or exciting situations. As such most people have acute stress at one time or another (Tomar, Polygalov & McHugh, 2021). Also, chronic stress, are stress that lasts for an extended period of time, such as those experienced by naval personnel in fighting or operations (Tomar et al. 2021). These stressful situations can last for several months at sea and chronic stress often lead to more critical conditions such as Post-Traumatic Stress Disorder (PTSD) burnout and exhaustion that can be comorbid of other diseases and disorders (PRNigeria, 2019).

Statement of problem

Stress is a common problem that is pervading the world right now, especially for military officers. The war in Ukraine and peacekeeping in parts of Africa coupled with the threat of militia and insurgents in West Africa and beyond is coming at a time when nations of the world are struggling to deal with the prolonged effects of the pandemic on our daily lives. With close to two-thirds of adults (63%) saying their life will no longer be the same due to the impact of Covid-19 pandemic, majority of (51%) reported this change as neither positive nor negative, who simply stated it was going to be different; One thing is certain, the long-lasting implications of the pandemic are in the offing (American Psychological Association, 2022). Reports are rife about the continued hardships for vulnerable populations, the constant engagement of the military and increase in crimes and conflicts places a huge burden on the military (Aguwa *et al.*, 2022; Petersen, 2022; American Psychological Association, 2022).

Military personnel especially those of the Nigerian Navy who are constantly exposed to combative and emergency situations are at increased risk of stress, poor mental health outcomes and PTSD. So far, there is little evidence in research about the risk of such outcomes in the Nigerian military especially the Navy. Research studies (Petersen, 2022; Aguwa, 2022; Sumathi *et al.*, 2021) have highlighted the significant link between stressful situations and the psychological outcomes, nevertheless, only a handful of studies have been conducted to address and establish the consistency of this claim in Nigeria. Against this background, this study is undertaken to understand the stressful situations within Nigerian Navy as a result of its engagement

being paramount responsibilities as a military arm in the Nigerian armed Forces and the far-reaching implications for policy makers and other stakeholders arising from the result of this study.

Prior literature has suggested that stress within military profession and practice may be hinged on several variables, such as, schedule-of-duty, personality, demographic and contingency factors (Dick, 2000; Nahrgang, Morgeson & Hofmann, 2011; Hatzfeld, Nelson, Waters & Jennings, 2016). As plausible as these suggestions portend, only a few literatures have been carried out to examine these possibilities. Therefore, the study attempts to examine the role that dimensions of stress have on naval personnel. Naval personnel serving in different capacities is the focal point of this study, because these group have been rarely investigated. In addition, law enforcement agencies will benefit from research in that, during recruitment and placement of employees, this study can provide fulcrum for the enterprise growth, development, training, management and treatment within the naval service.

Objective of the study

This study examined the roles of dimensions of stress among a selected sample of Serving Combatant, Serving Artisan, and the Retired Mixed naval personnel in Lagos, Calabar, Jaji, in Kaduna Nigeria.

Research hypothesis

H¹: There will be significant differences in the mean scores of SCP, SAP, and RMP groups of naval personnel on the stress dimensions accessed.

H²: There will be significant difference in measures of somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, MSI, PKS, OFS, DAS among the three groups of Serving Combat Personnel (SCP), Serving Artisan Personnel (SAP), and the Retired Mixed Personnel (RMP) in the Nigerian Navy.

H³: Stress dimensions will have a significant effect on Serving Combat Personnel (SCP), Serving Artisan Personnel (SAP,) and the Retired Mixed Personnel (RMP) in naval personnel.

Method

Participants

The participants comprise of 150 naval personnel who are currently serving and those who had retired. The population of naval officers within the naval units situated in Lagos, Calabar, Jaji, and Kaduna, Nigeria. One hundred and fifty (150) participants which was divided into 3 groups that comprised of fifty (50) Serving Combat Personnel (SCP), fifty (50) Serving Artisan Personnel (SAP) and fifty (50) Retired Mixed Personnel (RMP).

Inclusion Criteria

1. Naval personnel who had been fully recruited into the Navy were allowed to participate in this study.
2. Naval personnel who serve in different capacities and units were allowed to participant in the study.

Exclusion Criteria

1. Naval offers who were either serving probation or interns were not allowed to participant in the study.
2. Naval personnel who had difficulty in reading and writing in English for vocational or health reasons were not allowed to participate in the study.

Sampling and Sampling Technique

The sample size of this study was one hundred and fifty (150) Naval personnel who were randomly selected from three (3) divisions serving under different units in Lagos, Calabar, Jaji, and Kaduna in Nigeria. They accommodate the highest number of naval personnel. Data for the study was collected in the various units across departments within the naval command. Multi-stage random sampling and convenient sampling technique was used for the selection of the participants. In conducting the multi-stage sampling technique, the researcher chose a sampling frame by selecting 4 naval command with Nigeria at random. Random selection was conducted using the balloting system where each of the five existing naval commands were numbered from 1 to 5 and only 4 that fell on odd numbers selected. The step next involves the researcher choosing the selected departmental unit from each participant were selected. Following this, the next step, was to select each of the participating personnel through convenient sampling technique. The reason for using convenient sampling was to provide equal opportunity for all personnel to be chosen and taking into consideration to shift-duty schedule of naval personnel, this non-probabilistic method made it more flexible to conduct the research in good time.

Instruments

Relevant data was gathered through the use of validated instruments which comprised of A: Military Stress Inventory (MSI), Symptom Distress Checklist (SCL-90): Post-Traumatic Stress Disorder Keane Scale (PKS), Section D, Organizational Frustration Scale (OFS), Section E, Death Anxiety Scale (DAS). The testing was stapled together in this order. The reason is to present the shorter test early to avoid loss of interest, if the longer tests were presented earlier.

Military Stress Inventory (MSI). The MSI was a 36-item Likert type inventory developed by Osa-Afiana (2001) to measure psychosocial factors of stress in the military. The MSI reported a Cronbach alpha reliability of .81 and .82 for split-half and alpha reliability with a construct coefficient validity of .60.

Symptom Distress Checklist (SCL-90): The SCL-90 was developed by Derogates, Lipman and Covi (1977) SCL-90 is a multi-dimensional scale that consist 10 dimensions in Likert format that measured different clinical dimensions of distress. The SCL-90 reported an alpha Cronbach reliability of .77 and a test-retest reliability coefficient of .78.

Post-Traumatic Stress Disorder Keane Scale (PKS): The PKS was developed by Keane, Malloy and Fairbank, (1984), it is a 46-item test extracted from the MMPI-2, and developed into an independent scale of measurement to assess post-traumatic stress disorder. The reliability coefficient of the PKS was .50 and .87, and the test re-test .86 and .89 respectively.

Organizational Frustration Scale (OFS): The OFS was developed by Spector (1975), it was developed to assess personnel frustration in an organization as well as screen out saboteurs. The OFS reported an alpha reliability coefficient of .83. **Death Anxiety Scale (DAS):** DAS is a 15-item inventory developed by Templar (1970) to measure death anxiety as a clinical condition. Templar reported an alpha Cronbach reliability coefficient of .76 and a test retest reliability of .83.

Procedure

Permission was obtained from the appropriate authority of

each of the Naval command in Lagos, Calabar, Jaji and Kaduna. There was introduction of the researcher by the Officer in-Charge. The naval personnel were briefed about the purpose of the research which was to evaluate dimensions of stress among serving and retired naval personnel. Participants in this study were asked to give a verbal informed consent and they were also assured that their information and responses were kept in utmost confidentiality, that none of their answers could be linked to their names as they would not need to write their names on the tests. The tests were self-report pencil and paper assessment tests which was administered by hand. To ensure that this is critically followed through, the researcher informed participants in the study that there were in no danger of physical and psychological harm as a result of participating in this study and the results will be published in a suitable and reputable research journal.

Data Analysis

Based on hypothesis 1 formulated for the study, mean and standard deviation were used to evaluate the scores of the three groups. For hypothesis 2, in other find out the significant overserved differences in the scores of each of the research group a One-Way Analysis of Variance (ANOVA) was conducted. In hypothesis 3, to determine which pair of group had significant difference a Scheffe post-hoc analysis was conducted.

Results

The results of the findings are presented below. Table 1

The result in Table 1 showed that SCP group has the highest mean scores on the measure of MSI, Somatization, Obsessive Compulsive, Interpersonal sensitivity, Depression, Anxiety, Paranoid Ideation, PKS, OFS, psychoticism and neuroticism. The RMP group showed the highest mean scores in Hostility, Phobic anxiety, and on the measure of DAS. The SAP group means score are not the highest for any of the dimensions. The result of Table 1 confirmed hypothesis 1, as a result, the hypothesis was accepted.

In other to find out the whether the observed differences in the above stated outcome would demonstrate statistically significance, a One-Way ANOVA was conducted to ascertain comparison on the scores in the each of the 3 groups (SAP, SCP and RMP). The results are presented in Table 2.

Table 2, showed that there were significant differences in the 12 measures of Somatization, Obsessive compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Paranoid ideation, Phobic Anxiety, PKS, MSI, OFS and DAS. The outcome of the result in Table 2, confirmed hypothesis 2 therefore, the hypothesis was accepted. To determine the pairs of groups between which significant difference occurred, Scheffe post-hoc analysis was used to determine the extent to which the three paired groups of participants differ in the score of the dimensions of stress. The result is present in Table 3.

The outcome of the Scheffe test in Table 3 indicated that significant difference in the measure of somatization, interpersonal sensitivity, depression, anxiety, and DAS between the categories of SCP/SAP, SCP/RMP, in MSI and Obsessive Compulsive between SCP/RMP. In the measure of Hostility significant differences were observed between SCP/SAP and SAP/RMP. In the measures of paranoid ideation, PKS and OFS significant difference were observed between SCP/SAP.

The outcomes of result in Table 3, affirms the hypothesis 3, therefore, it was accepted.

Table 1: Summary Showing the Mean and Standard Deviation of the 3 Groups in the Navy.

Measures	SCP (n=50)		SAP (n=50)		RMP (n=50)	
	Mean	SD	Mean	SD	Mean	SD
SCL-90						
A-Somatization	16.42	11.80	10.50	10.74	6.96	4.03
B-Obsessive Compulsive	15.16	8.36	12.82	8.14	7.46	3.11
C-Interpersonal Sensitivity	12.20	7.78	8.54	6.37	8.62	3.00
D-Depression	14.78	9.29	9.64	7.93	7.96	3.41
E-Anxiety	11.66	9.40	5.92	6.73	7.58	3.65
F-Hostility	7.24	6.83	3.74	5.75	7.66	3.80
G-Phobic Anxiety	4.30	5.70	2.64	4.45	4.78	2.73
H-Paranoid Ideation	8.48	6.07	5.98	4.86	6.14	3.60
PKS	13.60	8.15	10.44	6.62	8.10	3.29
MSI	96.30	23.45	87.66	23.55	77.22	12.75
OFS	73.76	19.42	63.42	19.99	65.40	15.70
DAS	6.06	1.53	6.74	1.88	7.79	1.94

Note: SCP = Serving Combat Personnel; SAP= Serving Artisan Personnel; RMP=Retired Mixed Personnel.

Table 2: Summary of ANOVA for the Navy Within the 3 Selected Groups

Measures	Sum of Squares (SS)	Mean Square (MS)	F Value
SCL-90			
A-Somatization	2284.49	1142.24	12.64*
B-Obsessive Compulsive	1558.25	779.12	16.00*
C-Interpersonal Sensitivity	436.97	218.48	5.89*
D-Depression	1262.57	631.28	11.76*
E-Anxiety	872.49	436.24	8.89*
F-Hostility	463.21	231.60	7.38*
G-Phobic Anxiety	126.09	63.04	3.15*
H-Paranoid Ideation	195.85	97.92	3.99*
PKS	761.85	380.02	9.42*
MSI	9128.16	4564.08	10.80*
OFS	3138.09	1569.04	4.59*
DAS	91.89	45.94	14.34*

Note* Significant $p < .05$; df: 5/294, critical $F = 2.26$.

Table 3: Scheffe Summary for the Significant Ratios Table 2

Measures	SCP/SAP	SAP/RMP	SCP/RMP
SCL-90			
A-Somatization	5.92	3.54	9.46*
B-Obsessive Compulsive	2.34	5.36	7.70*
C-Interpersonal Sensitivity	3.66	5.36*	3.58*
D-Depression	5.14	.08	6.82*
E-Anxiety	5.74*	1.66	64.08
F-Hostility	3.50*	3.92*	.42
H-Paranoid Ideation	2.50	.16	2.34
PKS	3.16	2.34	5.50
MSI	8.64	10.44	19.08*
OFS	10.54	1.98	8.56
DAS	1.68*	.04	

Note* Significant PL .05; df 5/294, critical $F = 2.26$.

Discussion

This study examined dimensions of stress among sample of selected Nigerian Navy personnel in Lagos, Calabar, Jaji, and Kaduna Nigeria. Result of the study confirmed hypothesis 1 in that, stress dimensions had significant effect on Serving Combat Personnel-SCP, Serving Artisan Personnel-SAP, and the Retired Mixed Personnel-RMP naval personnel. There are several reasons for the outcome of this result. One is that stress can be felt from different human dimensions such as emotion, behaviour and thinking process coupled with the extended period to which these feelings. They give rise to medical and behavioural problems that often present devastating implications for military personnel. This impinges on psychological development of active personnel or those who may have experienced stressful situation at some point in their military career. Stressful experience takes their toll in the lives of military personnel, the suddenness and urgency of military operations makes for manifestation and re-occurrence and reoccurrence of stressful situations that may signify adverse consequences in interpersonal relation between superiors and other ranks, marital and family life may suffer as a result of this situation. Several studies corroborate the result of this study. Studies have found work related stress to be a significant source of distress for military personnel despite routine peacetime assignments (Lamars, et al 2020; Nte et al., 2022). Other studies (McCarrol, Orman & Lundy, 1993; Bohner, McEwen, Blanco & Feeks, 1992) have suggested that military personnel often ascertain work-related problems as the 'prime suspect' to their emotional problems. These workers complained of problems with strain, anxiety as it affects relations with supervisors and co-workers.

In relation to hypothesis 2, the findings revealed that there was significant difference in measures of dimensions of stress (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, psychoticism, PKS, MSI and OFS) among the three groups of naval officers (Serving Combat Personnel-SCP, Serving Artisan Personnel-SAP, and the Retired Mixed Personnel-RMP). A plausible explanation for this outcome would be that military personnel tend to evaluate harm and dangers as ingrained behavioural disposition as it relates to stressors that have conditioned the individual's well-being, as threat or danger evaluation relate to the anticipation of harm. This ingrained disposition because of the survival instinct that personnel in military have undergone during military trainings and service. In relation to Lazarus and Folkman (1984) theoretical standpoint, this sort of thinking process emanates from appraisal results from a person-environment interaction that has the potential to promote behavioural and anxiety related problems that hamper personal growth after an extended period of exposure to work-related difficulty or challenge such as those in war-time conditions. Caddick, Cooper, Godier-McBard and Fosse (2021) agree with this assumption, as they revealed that military personnel with physical combat injury during military deployments had greater chances of reporting psychotic ideations, loss of appetite, PTSD signs and symptoms, depression, anxiety, as well as mental health comorbidity as compared with uninjured group who engaged in military action. These authors further added that, intensification in deprived mental health outcomes was found among military personnel with amputation injuries and non-amputation-related injuries and it was also evident among military officers who did not engage in field activities.

The study also confirmed hypothesis 3, which revealed that there were significant differences in the scores of SCP, SAP, and RMP paired groups of naval personnel on the measures of stress dimensions. One explanation for this is that military personnel in the Nigerian Navy are exposed attacks regardless of the whether they are in combative engagement or not. Owing to increase in bunkering and terrorist activities within Nigerian waterways, the Nigerian Navy are taking on a herculean task, in fighting the dangers of Nigerian maritime by criminal elements in Creeks of the Nigerian delta and other international waterways portend grave danger for law enforcement agents and security operatives along coastal lines. The nature of operations within the Navy portends a significant source of stressors, owing to the pervading high levels of stress in in naval work engagement.

Limitations and Suggestion for Future Studies

Similar to previous studies involving survey designs, this study has embedded limitations as well, the representative sample used for the study are just 150 which was meagre compared to the number of naval personnel within the Nigerian Navy and this may affect the generalization of the study. Future studies should try to study larger sample. This study could not indicate the causal factors of the variable; future study can also quasi-experimental study to address the causal factors of stress within military rank and file. Also, this study used convenient sampling which may not proffer rigorous scientific explanations; this may have some research implications for generalizability. In addition, data collected might be open to response bias because data were collected using self-report tests which is a major limitation with studies that make use of this research design. Research participants were drawn from only the Nigerian Navy in Lagos, Calabar and Jaji Kaduna, this may not be a representative sample in a general context. This study considered only stress dimensions (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, and psychoticism) among naval personnel, the influence of other variables such as organizational citizenship behaviour, social support, communication, interpersonal relationship and emotional intelligence within military and civilian institutions should be considered in future research. Owing to the increase in stress related psychological problems within the military in Nigeria, government agencies and parastatals. This calls for research in this direction to shed more light into the understanding the behaviours that may predispose an individual or which type of personality in individual could likely help them cope effectively under stressful situations.

Conclusion

This study examined dimensions of stress among sample of selected Nigerian Navy personnel in Lagos, Calabar, Jaji Kaduna, Nigeria. Result of the study confirmed that, stress dimensions had significant effect on Serving Combat Personnel-SCP, Serving Artisan Personnel-SAP, and the Retired Mixed Personnel-RMP naval personnel. These findings demonstrate that stress dimensions have significant impact within the ranks of combatant, artisans and retirees within the Nigerian Navy. However, coping with stressful situations portends several implications for the military as well as the academia, in that, research studies can be harnessed to help in policy formation and implementation. Also, this study can serve as a platform for other research studies to broaden the scope of stress dimensions within the Nigerian military.

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