

## DIMENSIONS OF STRESS LEVELS AMONG SOME CATEGORIES OF NIGERIAN AIR FORCE PERSONNEL: A SELF-REPORT-BASED SURVEY

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### ABSTRACT

Exposure to trauma, uncertainty in deployment, being away from home and family for extended periods coupled with the difficulty of adjusting to civilian life have devastating effects on mental health of military personnel. Contending with stress is a major challenge to organization that are stress prone. The Nigerian Air Force is one of such organizations. In this paper, stress is examined to determine its effect on some categories of the Nigerian Air force personnel. Using Death Anxiety Scale (DAS), Military Stress Inventory (MSI), Organizational Frustration Scale (OFS), Post-Traumatic Stress Keane Scale (PKS), Symptoms Distress Checklist (SCL-90R), on 150 Air Force personnel comprising of 50 Serving Combat Personnel (SCP), 50 Serving Artisan Personnel (SAP), and 50 Retired Mixed Personnel (RMP). Analysis of variance was used to analyze the difference among these three groups. The finding indicates that the Serving Artisan Personnel (SAP) showed significantly highly levels of stress than the SCP and RMP. The findings were discussed in terms of the differences in these groups.

**Keywords:** Stress, Nigerian Air Force, work-related stress, PTSD.

### 1.0 INTRODUCTION

Stress is a common factor in all human engagements. Regardless, of the type of stress, in every human activity, situations necessitate that individuals experience relative levels of stress. However, this study focuses on stress dimensions within military population. The term stress has existed since the 12th century (Cox, 1976; Cox, Griffiths, & Gonzalez, 2013) and, according to Selye (1984), had been used so loosely that the concept needed to be defined carefully. Addressing the topic of stress in the field of law enforcement, researchers in both psychology and criminal justice disciplines began to investigate the role of stressors and strain in relation to policing (Grawitch et al., 2010). Operationally, stress is a concept rather than a medical term. This ideology was devised by the Canadian forces to describe the range of negative health effects caused by military service. It is the same as the term combat stress and it encompasses a range of health problems. Many experiences can cause operational stress (Acquadro et al., 2015). Military stress is a non-clinical term referring to a persistent psychological difficulty caused by traumatic experiences or prolonged high stress or fatigue during service as first responder (Acquadro et al., 2015). The term military stress does not replace any individual diagnosis but rather describes a category of mental health concerns linked to the particular challenges that these group of people encounter in their service (Acquadro et al., 2015).

Considering stress in the context of military-specific agents, this study takes into consideration, stressors that result from experiences and exposure to chaotic and traumatizing events such as experiencing threats to life, human suffering or death, and harm to others, deployment, severe living conditions, and work-family balance. Given this consideration, military personnel are susceptible to prolonged stressful situation (Vinokar, et al., 2011; Chapple et al., 2014). NAF personnel by nature of their job can experience higher levels of PTSD or other trauma-related disorders, as well as depression, anxiety, panic, and grief. Family members may also have trauma responses when loved ones are deployed, or when loved one readjusts to post-deployment life or experiences mental health challenges. Studies have reported that military personnel who are involved in direct combat operations are at risk for experiencing increased levels of post-traumatic combat stress-related reactions (Vinokar et al., 2011).

The Nigerian Air Force (NAF) is one of the arms of Nigerian military. The Nigerian Air Force was formally established on 18 April 1964 with the passage of the Air Force Act 1964 by the National Assembly (Nigerian Airforce, 2023). The NAF is considered as one of the largest in Africa, consisting of over 18,000 personnel as at 2021(International Institute for Strategic Studies, 2023). Since, its inception, the NAF has engaged in military operations within and outside Nigeria as part of combined operations with the Nigerian Army and Air Force. These operations have marked consequences for personnel which include but not limited to, stress, PTSD, and other related outcomes. The Nigerian military collectively operate as a close-system that bars personnel from divulging military related information. Given this code of conduct, there are limited number of research studies that has provided ecological validity, and these has limited the number of empirical literature within this context. Until recently, some degree of restrictions has been relaxed and researchers have access to data that would provide information regarding the psychosocial perspectives of military personnel. For this reason, this study is timely, and valuable as it focuses on dimensions of stress within military populations, specifically the NAF, and its operations with a view to understanding aspects of how military-specific operations implicate stress levels among categories of NAF personnel. Against this background, this study provides evidenced research using self-report inventory to collect data regarding perception of dimensions of stress within NAF Personnel. This study is aimed at evaluating three categories in the Nigerian Air Force to determine which of the selected categories manifest more stress when compared to others in pursuit of their military careers within NAF. The selected categories are; Serving Combat Personnel (SCP), Serving Artisan Personnel (SAP), and the Retired Mixed Personnel (RMP).

## 2.0 STATEMENT OF PROBLEM

In military training and task-oriented activities pose significant predisposition to a wide range of stressor events (Bijur et al. 1997; Norwood et al.1997). These stressors accompany a plethora of stress inducing effects to both male and female military personnel even though military life is a male dominated work environment (Bray et al. 1999). Several studies have established the link between perceived work-related stress and poor performance, signifying the extent of relationship between stress and performance. That is, employees who experience reasonable degree of job stress perform their jobs most efficiently, while those who experience high work-related stress show reduced work efficiency (Srivastava & Krishna, 1991; Bowers et al. 1996). Work-related stress all by themselves are a function of various physiological, psychological, and social factors on work related stress conditions which play in a number of contributing

ways in reducing coping abilities that individuals can muster in other to cope with presenting stressors (Norwood et al.1997).

Although regarded as one of the most stressful career paths, military day-to-day operation involves high proclivity towards stress-induced situations. Some studies have reported that this job stressor and their overall job performance deserves extensive research attention. Even though theoretical models have been developed, empirical research findings are not consistent, plausible reason for this is the one-size-fit-all use of job-stress models. Several studies have often over-extended the application of this theory. Against this background, this paper attempts to provide research-based evidence regarding to reliably broaden scholarly understanding of the connection between dimensions of stress level among categories of Nigerian Air Force personnel as this represents an important, yet neglected, research gap. In this research study, the researcher sought to fill this gap by using the empirical data that lend support to the stress-buffering hypothesis to examine dimensions of stress levels in military settings.

The evaluation of stress among NAF Personnel offers extensive insight to the understanding and management of stress disorders within military population. It deepens the research on stress by advocating the application of psychological tests primarily to reduce causalities and attrition rates as well as, optimize personnel capabilities in the Air force. Furthermore, it enhances awareness of the effect the military operations on the stress levels of personnel within the NAF, that can inform policy development and implementation (Hugh, Duchterlonie & Milliken, 2006; Simms, Watson, & Drebbeling, 2002; Prince et al., 2015).

## 3.0 METHOD

### 3.1 Participants

The study population included 150 Air force personnel drawn from Air force units in Kaduna, Lagos and Jaji. These comprised 50 Serving Combat Personnel (SCP), 50 Serving Artisan Personnel (SAP) and 50 Retired Mixed Personnel (RMP).

### 3.2 Instruments

The following instrument were used in this study:

1. Posttraumatic Stress Disorder Keane Scale (PKS) designed specifically to assess Post-Traumatic Stress Disorder (PTSD). The PKS was developed by Keane et al. (1984). The reliability coefficients of PKS for men and women showed an internal consistency of .50 and .87 and test-retest of .86 and .89 respectively.
2. Organization Frustration Scale (OFS). This is a 29-item inventory developed by Spector (1975) to access personal frustration in an organization and thereby generate stress in personnel. Spector reported a reliability coefficient of .88 and also obtained a construct validity of .59. Dieke (1977) obtained a concurrent validity coefficient of .98 by correlating with Frustration Anxiety Inventory.
3. Military Stress Inventory (MSI). The MSI was developed by Osa-Afiana (2001) to access psychosocial factors of stress in the military. MSI has reliability coefficients of .81 and .82 for split-half and alpha reliabilities.

4. Symptom Distress Checklist (SCL-90R). The SCL-90R is a 90-item instrument designed to access 10 primary but different clinical dimensions of distress. The SCL-90R was developed by Derogatis, Lipman and Covi (1971) and it has an alpha reliability coefficient of .78.
5. Death Anxiety Scale (DAS). DAS was developed by Templar (1970) and measures death anxiety as a clinical condition. it specifically measures concerns, fears, apprehensions and forebodings people have about dying. The DAS has a reliability coefficient of .76 a test-retest reliability of .83.

**3.3 Procedure**

Stress was assessed with the aid of the instruments listed in the instrument section in the Air force units in the locations already mentioned. Permission for this research was sought and obtained. The tests were administered in the various offices while their response was supervised.

**4.0 RESULTS**

The results of the findings are presented below.

**Table 1: Mean and Standard Deviation of the Scores of the 3 Groups**

Measure	SCP(n=50)		SAP (n=50)		RMP (n=50)	
	Mean	SD	Mean	SD	Mean	
SCI-90						
A-Somatization	14.34	11.36	12.18	12.00	9.58	7.54
B-Obsessive-Compulsive	14.18	9.65	12.84	9.54	10.86	5.78
C-Interpersonal Sensitivity	10.14	7.05	10.32	5.78	9.12	4.74
D-Depression	13.02	10.53	13.02	5.78	9.12	4.74
E-Anxiety	8.69	8.69	7.22	8.62	5.46	6.56
F- Hostility	6.49	6.83	5.28	5.96	2.84	3.56
G-Phobic Anxiety	3.62	5.62	3.62	5.08	2.42	4.15
H-Paranoid Ideation	6.24	5.04	6.84	3.96	5.24	3.37
I-Psychoticism	7.64	9.03	6.70	7.17	5.10	5.46
J-Neuroticism	6.20	5.60	6.60	5.14	5.10	3.84
PKS-PTSD	8.52	6.39	10.72	6.33	10.22	4.15
MSI-Military Stress I.	85.78	24.23	92.80	23.72	82.62	18.28
OFS-Org. Frustration	70.76	21.71	70.84	20.70	63.38	17.43
DAS-Death Anxiety	6.97	2.13	7.17	.1.94	7.37	1.86

Table 1 showed that the SCP has the highest scores in 6 of the measures; obsessive-compulsive, anxiety, hostility, psychoticism and neuroticism, while the SAP has the highest mean scores in

7 of the measures (Interpersonal sensitivity, depression, phobia anxiety, paranoid ideation, PKS, MSI and OFS). The RMP has the highest mean score in only 1 of the measure (death anxiety). To find out if the observed differences in Table 1, statistically significant, one-way ANOVA was used to compare the scores of the three groups. The result is presented in Table 2.

**Table 2: Summary of One-Way ANOVA for the Air Force as Applied to the Three Groups.**

Measure	Sum of Squares	Mean Square	F
SCI-90			
A-Somatization	1066.94	213.38	2.15
B-Obsessive-Comp.	474.50	94.90	1.46
C-Interp. Sensitivity	158.97	31.79	.84
D-Depression	576.86	115.37	1.42
E-Anxiety	323.97	66.59	1.25
F- Hostility	458.34	91.66	3.62*
G-Phobic Anxiety	70.92	14.18	.63
H-Paranoid Ideation	292.07	58.41	2.74*
I-Psychoticism	325.17	65.03	1.27
J-Neuroticism	176.60	35.32	1.35
PKS-PTSD	828.02	165.60	4.62*
MSI-Military Stress I.	33558.23	6711.64	10.46*
OFS-Org. Frustration	5876.58	1175.31	2.34*
DAS-Death Anxiety	41.64	13.88	3.64*

**Note:** Significant  $p < .05$ .,  $df_{5/294}$ ; Critical  $F = 2.26$ .

Table 2 showed that there are significant differences between the three groups in hostility, paranoid ideation, PKS, MSI, OFS and DAS. To determine the pairs of groups between which significant differences occurred, Scheffe post-hoc analysis was computed. The result presented in Table 3.

**Table 3: Scheffe Summary for the Significant Ratios in Table 2**

Measure	SCP/SAP	SAP/RMP	SCP/RMP
SCI-90			
F- Hostility	1.20	3.64*	2.44
H-Paranoid Ideation	.60	1.60	1.00
Post-Traumatic Stress	2.20	.50	1.70
MSI-Military Stress	7.20*	10.18*	3.16
OFS-Org. Frustration	.28	7.10*	7.38*
DAS-Death Anxiety	.32	.12	.20

Note \* Mean difference is significant at  $p < .05$ .

The Table above showed that significant difference occurs in hostility between SAP and RMP, in MSI between SCP and Sap, and SAP and RMP, in OFS between the SAP, RMP and SCP and RMP.

## 5.0 DISCUSSION

The result revealed that the SCP has the highest scores in measures of; obsessive-compulsive, anxiety, hostility, psychoticism and neuroticism. This outcome is conceivable because military personnel exposed to a number of different stress-laden warfare situations and this wartime exposure is associated with changes in significant psychological and physical trauma (Bramsen et al., 2002; Mann et al., 2017). Evidence also shows that combat exposure in active duty military is associated with increases in aggression and violence (MacManus et al., 2015). Trauma associated with combat produce various forms of psychological problems and scientific literature has demonstrated this assertion.

The results of the study also revealed that military personnel categorized as SAP showed the highest mean scores on the measures of interpersonal sensitivity, depression, phobia anxiety, paranoid ideation, PKS, MSI and OFS. In the Air Force, operational missions are executed mainly by the pilots who go on bombing missions. The Artisans are hardly involved. But when artisans are drafted for military operations, the result is heightened combat stress. This may be the reason for the high levels of stress found in these group of Air Force personnel as manifest in Interpersonal Sensitivity, MSI, PKS, OFS, Phobic Anxiety and Depression (Osa-Afiana, 2006).

Military training is designed to prepare personnel engage in crisis management and self-defense skills that may place them in vulnerable situations and also play an active role in military operations as a result they engage and perform physically and mentally demanding tasks that makes them susceptible to a host psychological problems. the outcome of this study is similar to the findings of Gabriel and Metz (1992) who found that artisan military personnel often than not engage in life and death situations. In addition, outcome of the study revealed that RMP has the highest mean score on the measure of death anxiety. In an earlier study by the researcher, results of that study corroborates with the result of this study, fulfilling consistency in result which revealed that RMP group showed the highest mean scores in Hostility, Phobic anxiety, and on the measure of DAS (McGlohn, et al. 1997; Zhao et al.2019; Elafandy et al. 2021; Osa-Afiana, 2022).

## 6.0 RECOMMENDATION

Based on the findings of this study, the following recommendations were made:

1. Diagnosing mental health disorders in military and veteran populations requires detailed history-taking and close supervision. Military personnel are to be subjected to routine mental and cognitive testing, and these evaluations necessary to differentiate, identify, monitor and treat various medical and psychiatric problem.
2. It is important that appropriate diagnosis and intervention are necessary to forestall and manage military personnel before and after traumatic experiences and exposure to

hostility or torture. Depending on the degree of exposure to traumatic experiences, cognitive and behavioral interventions and therapy are to the focal point of healthcare management within the military.

3. The military should establish outpatient healthcare services for military returning from combat or any situation that must have exposed them to life-threatening issues. Drug therapy should be encouraged as utilizing pharmacotherapy can help in reducing problems associated with comorbid conditions as well as psychiatric conditions.
4. Clinical psychologists, trauma specialists and psychiatrists play an important role as they provide essential services in identifying, managing, guiding or providing care and post-treatment follow-up, especially for military personnel who are victims of traumatic experiences.
5. In the case of active-duty personnel, in-patient treatment should be intensified to accommodate emergency situations so that both patients and providers will stand a chance to remedy the situation.

These suggestions can become implementable with the allocation of funds for healthcare management within the military to ensure confidentiality of medical records and information. This ethical control is critical for establishing patient-provider trust and ensuring the safety and well-being of the military patient.

## 6.1 Limitations and Suggestion for Future Studies

Similar to other studies, this study has some limitations as well. The representative sample used for the study are just 150 which was small compared to the number of Air Force personnel within the Nigerian Air Force and this may affect the generalization of the study. Future studies should try to study larger sample. This study is not experimental therefore, it could not establish causal factors of the variable; future study can also experimental study to address the causal factors of stress within military rank and file. Also, this study made use of accidental sampling which may not typify the reports from other studies, as this may have generalizability implications. In addition, data collected might be open to responder 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 Air Force in Lagos, Makurdi and Jaji Kaduna, this may not be a representative sample in a general context. Longitudinal studies should be considered in future studies.

## 7.0 CONCLUSION

This study examined dimensions of stress among sample of selected Nigerian Air Force personnel in Lagos, Makurdi, 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 Air Force personnel. These findings demonstrate that stress dimensions have significant impact within the ranks of combatant, artisans and retirees within the Nigerian Air Force. 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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