

# Combat Exposure and Unit Cohesion as Predictors of Depressive Symptoms Among Nigerian Soldiers

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## ABSTRACT

The Boko Haram terrorist organisation has been terrorizing North Eastern Nigeria for decades. The Nigerian Army has been saddled with the responsibility of re-establishing peace in that area through its counterterrorism and counterinsurgency operations. Some of the soldiers who were injured at course of this operation were found to have some challenges with their wellbeing. This study was carried out among Nigerian Soldiers wounded in action and hospitalized from the fight against Insurgency in the North-eastern part of Nigeria. Purposive sampling technique was employed to select 225 participants under hospital admission in 44 Nigerian Army Reference Hospital Kaduna with combat experience. Data were collected using standardized questionnaires. Hierarchical multiple regression analysis was used to test the hypotheses in relation to Combat Exposure and Unit Cohesion as predictors of Depressive Symptoms. Findings of the study revealed that Combat Exposure significantly predicted Depressive symptoms among Nigerian Soldiers wounded in action ( $\beta = .583, P < .01$ ). Result further revealed that Unit Cohesion was a significant predictor of Depressive Symptoms among the soldiers wounded in action ( $\beta = -.177, P < .01$ ). Finally, the result revealed that combined Combat Exposure and Unit Cohesion significantly predicted Depressive Symptoms among Nigerian soldiers wounded in action ( $R = .647^a, R^2 = .418, \text{Adj. } R^2 = .411; P < .01$ ). The study recommended that the military authorities should effectively engage the services of mental health professionals such as the Psychologists to help in assessment and treating soldiers with combat trauma. Also, mood disorder alongside other factors such as life experience should be assessed as applied to the patients especially soldier patients being referred from combat areas irrespective of the nature of the health challenges as this study has shown that there is mental aspect of physical injury. Most of the soldiers are traumatized, overly depressed, feel guilty and have bad mood, poor appetites, insomnia, lack of motivation, rage, and abuse of drugs and alcohol.

**Keywords:** Combat exposure, Unit cohesion, Depressive Symptoms, Trauma, Mental health, Counter Terrorism

## INTRODUCTION

It was observed among soldiers rotated from combat operation in the North East of Nigeria against Boko Haram that many of them endure a lot of indignities. Among these can be endless months and years of exposure to desert heat, sand storms and torrential rains. Usually the soldiers live amidst swarming flies and mosquitoes. Different grades of pollution ranging from noises from the artillery guns, poor water conditions and constant uncertainty of war that eats away the combatants' sense of control over their lives and their environment. All these were part of the soldiers' sacrifice in protecting the nation and its territorial integrity

from the activities of terrorists like Boko Haram and Bandits that are ravaging the nation's economic and peaceful coexistence. Countless other veterans have experienced mental health problems that have developed as a result of experiences in the military according to the article by "Hero Smile" (n.d.). But sometimes after the soldier experience a trauma or any of these examples of combat exposure, they might not know how to cope with the emotional impact of the event. These experiences might lead to common mental health problems in veterans like depression, anxiety, and addiction to drugs or alcohol. As noted by Jayatunge (2011), combat can challenge a person's moral judgment. Killing is not that much easy for many soldiers. To put a bullet through another man's heart or head can cause psychological repercussions in later years. Overall view of the battle field might look depressive to most of the combatants. Scattered dead bodies, damaged houses and vehicles, destroyed vegetation always give a gloomy look. A substantial proportion of American soldiers who saw combat in Iraq developed posttraumatic stress disorder (PTSD) and exhibited the symptoms of depression upon returning home Smith, Margaret, Ryan, Wingard, Slymen, Sallis & Donna (2008).

Depression is a state of low mood and aversion to activity National Institute of Mental Health (n.d.). It can affect a person's thoughts, behaviour, motivation, feelings, and sense of well-being De Zwart, Jeronimus & De Jonge, (2019). Depression is defined as a mental illness that is characterized by persistent sadness and a loss of interest in activities that one normally enjoys, accompanied by an inability to carry out daily activities for at least two weeks WHO (2013). APA, (2013), in Diagnostic Statistical Manual (DSM-5) listed the following as symptoms of severe depression at least one of the symptoms is either (a) depressed mood or (b) loss of interest or pleasure (must last at least 2 weeks).

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (example: feels sad, empty, or hopeless) or observation made by others (example: appears tearful).
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).
3. Significant weight loss when not dieting or weight gain or decrease or increase in appetite nearly every day.
4. Insomnia or hypersomnia nearly every day.
5. Psychomotor agitation or retardation nearly every day (observable by others; not merely subjective feelings of restlessness or being slowed down).
6. Fatigue or loss of energy nearly every day.
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day.
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, a suicide attempt, or a specific plan for committing suicide.

Combat Exposure are those experience people went through in a war zone, individuals in a war zone can be exposed to a range of traumatic events, among these can be endless months and years of exposure to desert heat, sand storms and torrential rains, they may have been attacked, seen others die, lost friends and comrades, been physically or sexually assaulted, been exposed to mass death or suffering, or attacking or killing of the enemy NC PTSD (2011).

Several Studies have shown that Combat Exposure predicted positively Depressive Symptoms (Lee, et al, 2011; Smith et al, 2008; Wells et al, 2010) in their studies, they found that combat exposure may influence depression and other psychological disorder. Moreover, other researchers are of the opinion that soldiers who had witnessed the consequences of battle, such as dead or injured civilians, were more likely to have difficulties with sleep and to develop PTSD and depression Castro, Rober, Huffman & Adler, (1999) and

negative perceptions of the world. Stein, Mary, Kimberly, Crystal, Adam, Patricia, Brett, et al, (2012) in other studies that focused on deployment experiences related to combat, specifically those that involve exposure to the consequences of war to other humans can affect military members' psychological well-being. In line with this finding, studies of members who had deployed, only those who had been exposed to combat were at increased risk of developing depression Wells et al, (2010). Also studies by (Smith et al 2008; Wells et al 2010) supported this finding that combat exposure may influence depression and other psychological disorder. On the contrary Lee H, Aldwin CM, Choun S, Spiro A, (2019) found that depressive and anxiety symptoms, respectively, were due to individual differences.

Unit cohesion is a military concept, which is the bonding together of soldiers in such a way as to sustain their will and commitment to each other, the unit, and mission accomplishment, despite combat or mission stress Manning (1982). Unit cohesion is the strength of bonds between individuals that unite military personnel. It improves operational performance and effectiveness, and includes constructs such as effective military leadership, camaraderie (friendship and mutual trust) between unit members and effective communication between unit members and unit leaders Ahronson & Cameron (2007). Some of the characteristics of unit cohesion involve group members often describe feelings of pride and identification with their group as an entity Swann, Gómez, Seyle, Morales, & Huici (2009). Morale and Esprit de Corps, Collective Efficacy or Group Potency Jordan, Hubert & Achilles (2002) and trust with three components: benevolence, ability, and integrity Lee et al (2010). In the military, unit cohesion is recognized to be beneficial and is considered integral to morale and mission success Maguen & Litz (2006). Studies have reported that Unit cohesion reduces vulnerability to mental health problems such as post-traumatic stress disorder (PTSD), common mental disorders, depression and physical ill health (Du Preez, Sundin, Wessely & Fear, 2012; Mulligan, Jones, Woodhead, Davies, Wessely, Greenberg & 2010; Armistead-Jehle, Johnston, Wade & Ecklund, 2011). A study by Pietrzak et al (2010), found negative associations between unit cohesion and PTSD symptoms, depressive symptoms, and a positive association with resilience. Their findings support the protective effect of unit cohesion against mental health problems. Also, lack of social support and cohesion during deployment has been shown to be related to an increased risk of depression (Fikretoglu, Brunet, Poundja, Guay & Pedlar, 2006). Unit cohesion and PTSD symptoms were positively associated in high stress combat conditions and that unit cohesion. Furthermore, while unit cohesion acted protectively at low levels of exposure, when members of one's unit are killed or wounded, perhaps the sense of loss and survivor guilt is heightened Fontana, Rosenheck, and Horvath (1997). As speculated by Brailey et al (2007), the protective effects of cohesion are largely attributable to an instilled sense of group efficacy (i.e., trust and confidence in the unit). During low to moderate levels of stress exposure, they are of the view that service members are able to meet the demands of the situation, thereby reinforcing their sense of group efficacy. However, at high levels of stress exposure, situational demands become insurmountable and problem-solving abilities are compromised. The sharp diminution of group efficacy may leave service members with a strong sense of disillusionment, increasing their risk for PTSD.

### **Statement of the problem**

There is no known published empirical study (s) involving unit cohesion and Military combat in Nigeria, and Depression is rarely considered as a major case of study among Nigerian Soldiers, instead it has been mostly reported as a comorbid. However, in 2016, a report from (BMTTCC, 2016) in an unpublished data; Clinical presentation on management of combat trauma it was noted among 114 troops of Nigerian Army referred from Counter Terrorism and Counter Insurgency operation in North Eastern Nigeria field hospitals on account of mental health issues, Post-Traumatic Stress Disorder were 23.7%, Depression 11.4%, Complex Partial seizures and other seizures (25.4%), and organic brain disorders (22.8%), (16.7%) had associated mental disorders due to the use of substances. While in September 2016 a total of 170 soldiers who were rotated from Counter Terrorism and Counter Insurgency operation in North Eastern Nigeria and screened, PTSD was 11.18%, Depression 23.5%, Substance Abuse 16.5%. The factor that might be

responsible for above findings showed that Depression is not easily detected in warfront like PTSD that has more overt manifestations of symptoms. Though studies have shown that PTSD and major Depression Symptoms are sometimes similar (Gros, Price, Magruder & Frueh, 2012 & Hoge & Castro, 2012).

In a community where such a health problem may be perceived as weakness or have negative career implications, many will opt to deal with the issue silently Grant (2015). In Nigeria, not only among the Military personnel, there exist some misconception and strong stigma against people with Mental Health challenges, which usually cause some of the mental health challenge persons to deal with it silently or with wrong approach. Some of the implications of covert manifestation of depressive symptoms can be noted in substance use disorder, suicide, fragging and fratricides incidence reported among soldiers in Counter Terrorism and Counter Insurgency operation in North Eastern Nigeria. (olaleye & Tunde 2020; Ogundipe 2018). All these might be as a result of poor knowledge of Mental Health case like depression which may hamper colleagues from early detection of the symptoms among sufferers. There has been research gap in relation to combat induced depression which might be attributed to covert manifestation of depressive symptoms, in order to explore depressive symptoms among soldiers the study came up with three objectives: (1) to examine whether combat exposure will independently predict Depressive Symptoms among Nigerian Soldiers. (2) to determine whether unit Cohesion will independently predict Depressive Symptoms. (3) to verify whether combat exposure and unit cohesion will jointly predict Depressive Symptoms among Nigerian Soldiers exposed to combat.

## Hypothesis

1. Combat exposure will not significantly predict depressive symptoms among Nigerian Soldiers.
2. Unit cohesion will not significantly predict depressive symptoms among Nigerian Soldiers.
3. Combat exposure and Unit cohesion will not significantly and jointly predict depressive symptoms among Nigerian Soldiers.

## METHOD

A total of 225 Nigerian Army personnel comprising male only were used for the study. The participants were sampled from wounded soldiers medically evacuated from field hospitals of Counter Terrorist and Counter Insurgency operation in the North Eastern Nigeria to the Base Hospital of the Operation 44 Nigerian Army Reference Hospital Kaduna. Demographical information revealed that the participants are within the ages of 20 – 49 years. 36(16.0%) are single while 189(84.0%) are married. In participants' deployment duration 19(8.4%) were deployed for < 1 year, 28(12.4%) 1 – 2 years 178(79.2%) 3 years and above. 180(80.0%) are physically injured while 45(20.0%) are psychologically injured. Participants ranks revealed that 202(89.8%) are other ranks while 23(10.2%) are Commissioned officers.

## Instrument

Three sets of instruments were used for the study:

### Combat Exposure Scale (CES)

Combat Exposure Scale (CES), is a 7-item self-report measure that assesses wartime stressors experienced by combatants. Items are rated on a 5-point frequency (1= “no” or “never” to 5 = “more than 50 times”), 5-point duration (1= “never” to 5 = “more than 6 months”) 4-point frequency (1 = “no” to 4 = “more than 12 times or degree of loss (1= “no one” to 4 = “more than 50%”) scale. Respondents were asked to respond based on their exposure to various combat situations, such as firing rounds at the enemy and being on dangerous duty. The total CES score (ranging from 0 to 41) is calculated by using a sum of weighted scores, which can be classified into 1 of 5 categories of combat exposure ranging from “light” to “heavy.” The CES

was developed to be easily administered and scored and is useful in both research and clinical settings. The total exposure to combat score can be categorized according to the following scale: 0-8 light, 9-16 light – moderate, 17-24 moderate, 25-32 moderate – heavy and 33-41 heavy. The test-retest reliability of the CES was .97 with Cronbach's alpha .85, Keane, Fairbank, Caddell, Zimeling, Taylor & Mora (1989). However, the scale was revalidated with a Cronbach's alpha of 0.73 among outpatient soldiers of Counter Terrorist and Counter Insurgency operation from the North Eastern Nigeria in 44 Nigerian Army Reference Hospital Kaduna by M.O. Aroh and O. Adole in 2021.

### **Unit Cohesion Scale (UCS)**

Unit Cohesion Scale (UCS), is a 5 item self- report measure that assesses levels of cohesion among military units. Values were assigned to each of the five response options (5: strongly agree, 4: agree, 3: neither agree nor disagree, 2: disagree, 1: strongly disagree). There was good evidence that the unit cohesion items measured a single construct (Cronbach's  $\alpha = 0.84$ ). Hence the response scores to each item were added to form a total unit cohesion score. Total scores range from 5 to 25, lower scores indicating poorer unit cohesion. The distribution of scores was skewed and 15% of participants had the maximum score of 25. Participants were categorized into one of three-unit cohesion levels, high (total score 23–25), medium (total scores 18–22) and low (total scores 5–17) Kanesarajah, Waller, Zheng & Dobson (2016). The scale was revalidated among outpatient soldiers of Counter Terrorist and Counter Insurgency operation from the North Eastern Nigeria in 44 Nigerian Army Reference Hospital Kaduna with a Cronbach's alpha of 0.76 by M.O. Aroh and O. Adole in 2021.

### **Patient Health Questionnaire (PHQ 9)**

Patient Health Questionnaire (PHQ 9), is a 9-question depression self-administered scale, values were assigned to each of the responses (not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3). There was good evidence that Patient Health Questionnaire (PHQ 9) items measured a single construct (Cronbach's  $\alpha = 0.89$ ). The test-retest reliability was 0.84. the total score was categorized into 1-4 Minimal depression, 5-9 Mild depression, 10-14 Moderate depression, 15-19 Moderately severe depression, 20-27 Severe depression Kroenke Robert, & Janet (2001). The scale was revalidated among outpatient soldiers of Counter Terrorist and Counter Insurgency operation from the North Eastern Nigeria in 44 Nigerian Army Reference Hospital Kaduna with a Cronbach's alpha of .85 by M.O. Aroh and O. Adole in 2021.

### **Procedure**

Ethical clearance and permission to conduct the study was sought and gotten from Ethical and Research Committee of 44 Nigerian Army Reference Hospital Kaduna by the researcher. Participants were given full information on the nature and purpose of the psychological screening during their hospital admission and outpatient visit respectively. Purposive sampling techniques was adopted in selecting both the site (location) and participants. 44 Nigeria Army Reference Hospital Kaduna was selected for this research because it is the base hospital for Counter terrorist and counter insurgency operation that manage severe health cases from the operation. Research instruments were administered to officers and men of the Nigerian Army medically evacuated from Counter terrorist and counter insurgency operation making use of purposive sampling based on informed consent.

### **Design and Statistics**

The study employed cross sectional study design to cover officer and men based on their ranks and other personal variables; while Hierarchical multiple regression with Statistical Package for Social Sciences 20 (SPSS) was adopted as the statistics for data analysis.

## RESULTS

**Table 1: Summary table of Hierarchical Regression Coefficients on Combat Exposure and Unit Cohesion as Predictors of Depressive Symptoms among Nigerian Soldiers.**

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.268	2.005		2.129	.035
Combat exposure	.524	.054	.583	9.654	.000
Unit cohesion	-.155	.053	-.177	-2.922	.004
2 (Constant)	17.553	2.712		6.473	.000
Combat exposure	.290	.055	.323	5.262	.000
Unit cohesion	-.159	.047	-.181	-3.356	.001
Age	.197	.343	.038	.575	.566
Marital status	.015	.241	.004	.064	.949
Religion	-.909	.599	-.086	-1.519	.131
Educational status	-.495	.436	-.066	-1.136	.258
Deployment duration	.328	.348	.049	.943	.347
Rank	.066	.382	.010	.172	.863
Physical injury	-6.235	.707	-.525	-8.819	.000
a. Dependent Variable: Depression					

Table I above shows that the independent variable of Combat Exposure was a predictor of Depressive Symptoms among Soldiers from frontline with sign. =.0000 is less than the threshold at  $p < .05$ . Hence hypothesis One tested which stated that ‘Combat Exposure will not significantly predict Depression Symptoms’ is hereby rejected.

Table I indicated that Unit Cohesion was a predictor of Depressive Symptoms among soldiers from frontline with sign. = .004, which also falls below the threshold of at  $p < .05$ . Therefore, hypothesis two tested which stated that ‘Unit Cohesion will not significantly predict Depressive Symptoms’ is hereby rejected.

Also, table I displayed that only physical injury predicted depressive symptom with sign= .000 which is

lesser than the bench mark of at  $p < .05$  among the demographic variable considered, while others didn't predict with age sig.= .566, marital status sig.= .949, religion sig.= .131, educational status sig.= .258, deployment duration sig.= .347 and rank sig.= .863 all above the threshold f value of at  $p < .05$ .

**Table 2: Summary table of Model Summary on Combat Exposure and Unit Cohesion as Predictors of Depressive Symptoms among Nigerian Soldiers.**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.647 <sup>a</sup>	.418	.411	3.33442	.418	60.342	2	168	.000
2	.784 <sup>b</sup>	.615	.593	2.77102	.197	11.751	7	161	.000

**a. Predictors: (Constant), Unit Cohesion, Combat Exposure**

**b. Predictors: (Constant), Unit Cohesion, Combat Exposure, Deployment Duration, Age, Religion, Rank, Physical Injury, Educational status, Marital Status.**

The table II above displayed that at R .65 indicated that both Independent Variable (combat Exposure and Unit Cohesion) are strong relationship with Dependent Variable (Depression). Both Independent Variables contributed 42% factor to Dependent Variable. Combat Exposure and Unit Cohesion jointly predicted Depressive Symptoms as shown on Sig. F Change = .000 which falls below the threshold of  $P < .05$ . Thus, the third hypothesis tested which stated that 'Combat Exposure and Unit Cohesion will not jointly and significantly predict Depressive Symptoms among soldiers from frontline' is hereby rejected.

## DISCUSSION

The study investigated the role of Combat Exposure and Unit Cohesion as predictors of depressive symptoms among soldiers medically evacuated to 44 Nigerian Army Reference Hospital Kaduna from field Hospitals of Operation Lafia Dole in Northeast Nigeria. The first hypothesis showed that Combat Exposure independently predicted Depressive Symptoms while controlling for demographic variables. Combat Exposure based on the findings predicted positively Depressive Symptoms among Nigerian soldiers wounded in action. The finding is consistent with (Lee, et al, 2011; Smith et al, 2008; Wells et al, 2010) in their studies, they found that combat exposure may influence depression and other psychological disorder. Moreover, other researchers are of the opinion that soldiers who had witnessed the consequences of battle, such as dead or injured civilians, were more likely to have difficulties with sleep and to develop PTSD and depression Castro et al., (1999) and negative perceptions of the world Stein et al., (2012). In line with this finding, studies of members who had been deployed, only those who had been exposed to combat were at increased risk of developing depression Wells et al., (2010). Also studies by (Smith et al 2018; Wells et al 2010) supported this finding that combat exposure may influence depression and other psychological disorder. On the contrary Lee et al., (2012) found that depressive and anxiety symptoms, respectively, were due to individual differences.

The second hypothesis showed that Unit Cohesion independently predicted depressive symptoms among Nigerian Soldiers wounded in action. This finding was supported by Fontana et al., (1997) they found that unit cohesion and high war zone stress was associated with high level of PTSD symptoms and other

psychopathology. Furthermore, while unit cohesion acted protectively at low levels of exposure, when members of one's unit are killed or wounded, perhaps the sense of loss and survivor guilt is heightened, this finding on this unit cohesion and PTSD was compared to the finding of this second hypothesis unit cohesion and depression because the symptoms are sometimes similar as put forward by (Gros et al, 2012; Hoge & Castro, 2012). The protective effects of cohesion are largely attributable to an instilled sense of group efficacy (i.e., trust and confidence in the unit) Brailey et al., (2007). During low to moderate levels of stress exposure, they are of the view that service members are able to meet the demands of the situation, thereby reinforcing their sense of group efficacy. However, at high levels of stress exposure, situational demands become insurmountable and problem-solving abilities are compromised. The sharp diminution of group efficacy may leave service members with a strong sense of disillusionment, increasing their risk for PTSD. A contradicted finding by Pietrzak et al., (2010) they found negative associations between unit cohesion and PTSD symptoms, depressive symptoms, and a positive association with resilience. Their findings support the protective effect of unit cohesion against mental health problems. Also, lack of social support and cohesion during deployment has been shown to be related to an increased risk of depression Fikretoglu et al., 2006).

Furthermore, the third hypothesis showed Combat Exposure and Unit Cohesion significantly and jointly predicted Depressive Symptoms among Nigeria Soldiers wounded in action. This finding was supported by Fontana et al., (1997) they found that high unit cohesion in combination with high war zone stress was actually associated with the highest levels of PTSD and psychopathology. The authors attributed their findings to a theory put forth by Milgram and Hobfoll (1986) who suggested that there is a downside to high unit cohesion. This finding suggests that injury and death of fellow service members contributed to higher rates of PTSD symptoms due to the closeness of relationships forged in highly cohesive units. Similarly, Browne, Iversen. Hull & Workman, (2008) have shown that high levels of comradeship and low levels of leadership were linked with heavy drinking.

## CONCLUSION

The study showed that Combat Exposure and Unit Cohesion are significant predictors of Depressive Symptoms among wounded soldiers, for example, it validates many findings done outside Nigeria regarding the influence of Combat Exposure on Depressive Symptoms.

The study concluded that sustaining injury, witnessing injured and death of fellow service members might shatter cohesion and lead to development of Depressive symptoms among soldiers due to the closeness of relationships forged in highly cohesive units and unpleasant health condition they found themselves.

This study also showed that the combined or joint effects of Combat Exposure and Unit Cohesion predicted Depressive Symptoms among the wounded in action soldiers.

The study recommended that the military authorities should effectively engage the services of mental health professionals such as the Psychologists to help in assessment and treatment of soldiers with combat trauma. Also, mood disorder alongside other factors such as life experience should be assessed as applied to the patients especially soldier patients being referred from combat areas irrespective of the nature of the health issue as this study has shown that there is mental aspect of physical injury; Most of the soldiers are traumatized, overly depressed, feel guilty and have bad mood, poor appetites, insomnia, lack of motivation, rage, and abuse of drugs and alcohol.

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