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TRAUMA EXPOSURE, EMOTION REGULATION, AND NEUROTICISM AS PREDICTORS OF SLEEP QUALITY AMONG MILITARY PERSONNEL AT ARMED FORCES COMMAND AND STAFF COLLEGE (AFCSC), JAJI

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ABSTRACT: This study explored how trauma exposure, emotion regulation, and neuroticism predict sleep quality among military personnel at the Armed Forces Command and Staff College (AFCSC), Jaji, Nigeria. Using a cross-sectional survey, data were collected from 291 commissioned officers across the Army, Navy, and Air Force through standardized psychological instruments. Data was analyzed using Multiple Hierarchical Regression. Findings revealed that trauma exposure had the most substantial influence on poor sleep quality ($\beta = .62$, $p < .001$), followed by expressive suppression ($\beta = .48$, $p < .001$) and neuroticism ($\beta = .18$, $p < .001$). Surprisingly, cognitive reappraisal, often regarded as an adaptive strategy, was also associated with poor sleep ($\beta = .37$, $p < .001$), suggesting that prolonged cognitive effort under chronic stress may worsen sleep disturbance. The combined influence of the predictors explained a large proportion of the variance in sleep quality, indicating that sleep dysfunction in the military extends beyond physical fatigue to include psychological strain and maladaptive coping. It was concluded that trauma exposure, emotion regulation style, and personality factors jointly shape sleep health in high-stress occupational settings. Therefore, military health programs should incorporate trauma-informed counseling, adaptive emotion regulation training, and personality-based resilience interventions to enhance sleep quality and overall psychological wellbeing among Nigerian military personnel.

Keywords: Trauma Exposure, Emotion Regulation, Neuroticism, Sleep Quality, Military Personnel

INTRODUCTION

Sleep is a vital component of human functioning, playing a central role in emotional regulation, cognitive performance, and physiological restoration (Vyazovskiy, 2015). For military personnel, however, sleep often becomes a compromised necessity rather than a daily restorative process. The operational demands of military life, such as prolonged deployment, irregular duty schedules, and exposure to life-threatening events, create conditions that undermine both the quality and quantity of sleep (Watson et al., 2015). Inadequate sleep has been linked to impaired judgment, slower reaction times, emotional instability, and increased vulnerability to mental health disorders, including depression, anxiety, and posttraumatic stress disorder (Lopresti et al., 2016). Within this

high-risk occupational group, sleep disturbances are not merely personal health issues but critical threats to operational readiness, decision-making, and national security.

Among the factors influencing sleep quality in military populations, trauma exposure has emerged as a particularly potent predictor. Service members frequently witness violence, engage in combat, or experience traumatic losses that disrupt psychological equilibrium (Miller et al., 2020). Such exposures often result in persistent hyperarousal, nightmares, and intrusive thoughts, all of which degrade sleep continuity (Brownlow et al., 2022). Furthermore, the military's stoic culture, emphasizing discipline, endurance, and emotional restraint, can discourage acknowledgement of psychological distress, leading many personnel to suppress trauma-related symptoms rather than seek support (Marike et al., 2021). The cumulative impact of unprocessed trauma consequently manifests in chronic sleep problems and broader psychosomatic dysfunctions.

Closely related to trauma exposure is emotion regulation, the psychological process through which individuals manage their emotional experiences and expressions. According to Gross's (2002) Process Model of Emotion Regulation, individuals rely on two primary strategies: cognitive reappraisal (reinterpreting a stressful event to alter its emotional impact) and expressive suppression (inhibiting emotional expression). In civilian populations, cognitive reappraisal is generally associated with adaptive outcomes, whereas suppression tends to predict anxiety and sleep disturbances (Semplonius & Willoughby, 2018). However, in military environments where emotional control is institutionalized, suppression often becomes a default coping strategy, exacerbating physiological hyperactivation and poor sleep. Notably, the chronic use of suppression under stress can maintain a state of cognitive and emotional strain, resulting in persistent insomnia and emotional fatigue.

Additionally, personality traits—particularly neuroticism—play a crucial role in determining sleep quality. Neuroticism, characterized by heightened emotional sensitivity and proneness to anxiety, depression, and worry (Costa & McCrae, 1992), has been consistently linked to sleep difficulties (Križan & Hisler, 2019). Individuals high in neuroticism are more likely to experience exaggerated stress responses and cognitive rumination, both of which hinder sleep initiation and maintenance (Catherman et al., 2023). In military contexts, where individuals are regularly exposed to high-stress and unpredictable environments, neuroticism may interact with trauma exposure and emotion regulation strategies to further impair sleep quality.

Despite extensive global research on these psychological determinants of sleep, empirical studies within the Nigerian military context remain scarce. Most Nigerian investigations have primarily addressed occupational stress, combat fatigue, and posttraumatic stress disorder, while giving limited attention to the psychological mechanisms linking trauma exposure, emotion regulation, and personality traits with sleep quality (Aigboje & Osa-Afianna, 2014; Adegbesan & Ofole, 2023; Dagona, 2022; Aguwa, et al., 2022). Moreover, while a few studies have explored emotion regulation and sleep among civilians (Chukwuemelie et al., 2025), such findings cannot be generalized to military populations exposed to chronic operational and combat stress. Addressing this gap is essential for developing context-specific, trauma-informed interventions that can

enhance sleep health, psychological wellbeing, and operational readiness among Nigerian Armed Forces personnel.

Therefore, the present study draws on Trauma Theory (Herman, 1992), Gross's Process Model of Emotion Regulation (2002), and the Stress–Diathesis Model (Zubin & Spring, 1977) to examine how trauma exposure, emotion regulation strategies, and neuroticism predict sleep quality among military personnel at the Armed Forces Command and Staff College (AFCSC), Jaji. These theoretical frameworks collectively provide a foundation for understanding how exposure to stress interacts with emotional processes and personality vulnerabilities to influence sleep outcomes in high-stress occupational settings.

Objectives of the Study

1. Determine the extent to which trauma exposure predicts sleep quality among military personnel at AFCSC.
2. Examine the influence of emotion regulation strategies (cognitive reappraisal and expressive suppression) on sleep quality.
3. Assess the predictive role of neuroticism on sleep quality among Nigerian military officers.
4. Evaluate the combined and interactive effects of trauma exposure, emotion regulation, and neuroticism on sleep quality.
5. Provide empirical evidence to guide the development of trauma-informed psychological interventions and sleep management programs aimed at improving mental health and operational effectiveness within the Nigerian Armed Forces.

Research Questions

1. What is the relationship between trauma exposure and sleep quality among military personnel in AFCSC Jaji?
2. How do emotion regulation strategies influence sleep quality?
3. Does neuroticism affect sleep quality among AFCSC personnel?
4. What is the combined predictive influence of trauma exposure, emotion regulation, and neuroticism on sleep quality?

LITERATURE REVIEW

Concept of Sleep Quality

Sleep quality refers to the degree to which sleep is restful, sufficient, and restorative, encompassing dimensions such as sleep duration, latency, efficiency, and subjective satisfaction (Buysse et al., 1989; Shin & Shin, 2006). High-quality sleep is crucial for emotional regulation, cognitive function, and physical recovery (Vyazovskiy, 2015). Conversely, poor sleep quality is associated with impaired attention, emotional instability, and increased vulnerability to mental health disorders such as depression and anxiety (Lopresti et al., 2016; Medic et al., 2017). Within military settings, maintaining good sleep is especially challenging. Operational stress, night patrols, irregular duty

cycles, and exposure to life-threatening events disrupt normal sleep–wake patterns (Watson et al., 2015; Good et al., 2020). Studies have shown that chronic sleep deprivation among soldiers leads to fatigue, reduced vigilance, slower reaction times, and impaired judgment (Killgore et al., 2010). Moreover, trauma exposure—common in combat environments—further compromises sleep through hyperarousal, nightmares, and intrusive memories (Brownlow et al., 2022; Bai et al., 2023). Sleep disturbance is not merely a symptom but a core mechanism linking psychological distress and performance decline (Palmer & Alfano, 2023). In the Nigerian military, factors such as extended deployments, limited rest periods, and exposure to violence compound the risk of sleep disruption (Afolabi & Olaseni, 2022). Thus, sleep quality serves as both a psychological and physiological indicator of adjustment to stress. Understanding its predictors—such as trauma exposure, emotion regulation, and personality traits—is essential for enhancing mental health, resilience, and operational effectiveness among military personnel.

Hypotheses

Following the review of literature, research hypotheses were formulated in the study as follows;

i. Trauma exposure will significantly predict sleep quality among military personnel in AFCSC Jaji, Kaduna State.
ii. Emotion regulation will significantly predict sleep quality of military personnel in AFCSC Jaji, Kaduna State.
iii. Neuroticism will significantly predict sleep quality among military personnel in AFCSC Jaji, Kaduna State.

Concept of Trauma Exposure

Trauma exposure refers to direct or indirect encounters with life-threatening or distressing events that overwhelm an individual's capacity to cope (American Psychiatric Association [APA], 2013). In the military context, it includes witnessing violence, engaging in combat, or losing comrades during operations. Such repeated exposures are common among service members and often result in physiological hyperarousal, emotional distress, and sleep disruption (Miller et al., 2020; Brownlow et al., 2022). Exposure to trauma activates the hypothalamic–pituitary–adrenal (HPA) axis, leading to increased cortisol levels and sympathetic activation that interfere with sleep onset and maintenance (Yehuda et al., 2015). Psychologically, trauma triggers intrusive thoughts, nightmares, and hypervigilance—core symptoms of posttraumatic stress disorder (PTSD)—which contribute to chronic insomnia and poor restorative sleep (Germain, 2013; Bai et al., 2023). In African and Nigerian contexts, military personnel frequently encounter both combat-related and secondary trauma during peacekeeping and counterinsurgency missions. Studies show that soldiers deployed in the North-East report heightened trauma exposure and poor sleep quality, mediated by emotional exhaustion and hyperarousal (Afolabi & Olaseni, 2022; Okolie & Eze, 2022). Moreover, military norms emphasizing stoicism discourage help-seeking, promoting emotional suppression that worsens physiological tension and sleep disturbances (Akinwale, 2021). Conceptually, trauma exposure serves as both a precipitating and sustaining factor of poor sleep quality. It disrupts physiological regulation, increases emotional arousal, and undermines recovery processes.

Understanding these dynamics among Nigerian military personnel is essential for designing trauma-informed interventions that enhance resilience, emotional health, and sleep restoration.

Concept of Emotion Regulation

Emotion regulation refers to the processes by which individuals influence the emotions they experience, when they experience them, and how they are expressed (Gross, 2002). It plays a central role in maintaining psychological balance and adaptive functioning, particularly in stressful or high-demand environments such as the military. According to Gross's (2002) Process Model of Emotion Regulation, people use different strategies to manage emotions—most notably cognitive reappraisal and expressive suppression. Cognitive reappraisal involves reinterpreting an emotional situation to alter its impact and is typically considered an adaptive strategy, associated with reduced negative affect, improved wellbeing, and better sleep outcomes (Gross & John, 2003; Mauss et al., 2013). In contrast, expressive suppression—which involves inhibiting outward emotional expressions—is often maladaptive, as it increases physiological arousal, emotional strain, and cognitive load, thereby impairing sleep and recovery (Semplonius & Willoughby, 2018). In military contexts, emotional control is often viewed as a sign of discipline and strength, leading personnel to rely heavily on suppression to maintain composure during operations (Rehman et al., 2024). While this may serve short-term performance goals, chronic emotional inhibition can produce psychological exhaustion, hyperarousal, and sleep disruption (Taylor et al., 2023). Conversely, soldiers who adopt adaptive strategies like cognitive reappraisal tend to report lower stress levels and better emotional adjustment, which contribute to improved sleep quality and overall mental health (Adler et al., 2016).

Concept of Neuroticism

Neuroticism is a fundamental dimension of personality that reflects an individual's predisposition to experience negative emotional states such as anxiety, sadness, fear, and irritability (Costa & McCrae, 1992). People high in neuroticism are emotionally reactive, easily distressed, and prone to maladaptive coping strategies when confronted with stress. This emotional instability makes neuroticism one of the strongest personality predictors of poor mental and physical health outcomes, including sleep disturbances (Nilsen et al., 2024; Križan & Hisler, 2019). From a psychophysiological perspective, neuroticism is associated with heightened sensitivity of the hypothalamic–pituitary–adrenal (HPA) axis, leading to increased cortisol secretion and sustained hyperarousal—both of which interfere with the onset and maintenance of sleep (Gray & Watson, 2002). Individuals with high neuroticism tend to engage in rumination and worry, which prolongs cognitive activity at bedtime and hinders relaxation (Catherman et al., 2023). These repetitive thought patterns contribute to insomnia, fragmented sleep, and lower restorative quality. Empirical studies consistently link neuroticism with poor sleep outcomes across civilian and military samples. Križan and Hisler (2019) demonstrated that neurotic individuals exhibit lower sleep efficiency and more nocturnal awakenings. Similarly, Catherman et al. (2023) found that neuroticism amplifies the negative effects of stress and trauma on sleep quality. In high-stress occupations such as the military, where exposure to combat, trauma, and strict discipline is frequent, neuroticism can intensify vulnerability to emotional dysregulation, hypervigilance, and sleep disturbances (Taylor et al., 2023).

Conversely, low neuroticism is associated with emotional stability, self-regulation, and resilience—traits that protect against stress-induced insomnia and psychological burnout (Palmer & Alfano, 2023). For military personnel, managing the emotional and physiological reactivity linked to neuroticism is crucial for maintaining optimal sleep and operational readiness.

Theoretical Review

Trauma Theory

The Trauma Theory (Herman, 1992) posits that exposure to life-threatening or distressing events disrupts an individual's sense of safety, autonomy, and self-regulation. Repeated trauma leads to chronic physiological hyperarousal, intrusive memories, and avoidance behaviors—symptoms commonly observed in posttraumatic stress disorder (PTSD). These symptoms are closely linked to disrupted sleep architecture, including difficulty falling asleep, nightmares, and fragmented sleep (Miller et al., 2020). The theory provides a framework for understanding how trauma exposure among military personnel leads to persistent arousal and emotional dysregulation, thereby impairing sleep quality. In Nigerian military contexts, frequent deployments, exposure to combat, and loss of comrades serve as recurrent trauma triggers, reinforcing maladaptive arousal patterns that compromise restorative sleep.

Gross's Process Model of Emotion Regulation

Gross's (2002) Process Model of Emotion Regulation explains how individuals manage emotions through antecedent-focused strategies (e.g., cognitive reappraisal) and response-focused strategies (e.g., expressive suppression). The model suggests that the timing and type of regulation strategy determine its adaptive or maladaptive effects on emotional and physiological functioning. Cognitive reappraisal typically reduces negative emotional intensity and physiological arousal, promoting adaptive outcomes such as improved mood and better sleep. Conversely, expressive suppression is often associated with sustained physiological activation and reduced sleep quality due to emotional suppression and increased stress load (Semplonius & Willoughby, 2018). Within military culture, where emotional expression is discouraged, suppression becomes a dominant strategy, explaining higher rates of sleep problems and psychological distress. This theory thus helps to elucidate the link between emotional control tendencies and sleep quality in highly disciplined environments such as the Nigerian Armed Forces.

The Stress–Diathesis Model

The Stress–Diathesis Model (Zubin & Spring, 1977) provides a framework for understanding how inherent vulnerabilities interact with stressors to produce maladaptive outcomes. In this model, neuroticism serves as a diathesis—a predispositional risk factor that heightens sensitivity to environmental stressors such as trauma. When combined with high stress or poor emotion regulation, individuals with elevated neuroticism are more likely to experience sleep disturbances, anxiety, and depression (Križan & Hisler, 2019). In military contexts, this model suggests that officers with higher neurotic tendencies may exhibit amplified physiological and emotional reactions to trauma exposure, resulting in chronic sleep problems. Thus, the Stress–Diathesis Model

integrates personality, stress, and emotional regulation to explain individual variability in sleep quality outcomes following traumatic events.

Empirical Review

Studies among military populations consistently show that exposure to traumatic combat situations predicts poor sleep outcomes such as insomnia, nightmares, and sleep fragmentation (Mysliwiec et al., 2018; Miller et al., 2020). Brownlow et al. (2022) reported that trauma-related hyperarousal interferes with sleep onset and continuity, leading to long-term deterioration in mental and physical functioning. Similar findings have been documented among first responders and civilians exposed to violence, suggesting that posttraumatic arousal mechanisms extend beyond the battlefield to other high-stress settings (Palagini et al., 2017).

Research conducted among Nigerian soldiers deployed to counter-insurgency operations has reported elevated stress and trauma symptoms, alongside impaired psychological health (Adegbesan & Ofole, 2023; Dagona, 2022). Similarly, Aguwa et al (2022) found that burnout and occupational stress were prevalent among Nigerian military personnel, suggesting cumulative psychological strain. While these studies provide critical insight into the traumatic and stressful realities of military life, few have examined their implications for sleep quality, leaving an empirical gap in understanding how trauma translates into sleep dysfunction within this population.

Emotion regulation has also emerged as an important predictor of sleep quality. According to Gross (2002), individuals employ emotion regulation strategies such as cognitive reappraisal and expressive suppression to manage emotional responses. Empirical evidence supports the link between these strategies and sleep outcomes. Semplonius and Willoughby (2018) found that individuals who habitually used suppression reported poorer sleep quality, while reappraisal tended to relate to better sleep efficiency. In contrast, Mauss et al. (2013) observed that in chronically stressful contexts, the cognitive effort required for constant reappraisal may contribute to physiological activation and sleep difficulties. Military personnel, who often operate under rigid emotional control norms, are particularly vulnerable to the adverse effects of suppression, as persistent inhibition of emotion can heighten physiological arousal and impair recovery processes during sleep (Kalmbach et al., 2018). Evidence from Nigerian civilian populations also supports these associations; Chukwuemelie et al. (2025) found that emotion regulation moderated the relationship between trauma exposure and sleep quality among adults in Uyo Metropolis. However, there is a paucity of such studies among Nigerian military personnel, despite their continuous exposure to emotionally taxing operations.

Personality traits have further been implicated in explaining sleep variability, with neuroticism being most consistently associated with poor sleep quality. Empirical findings indicate that individuals with high levels of neuroticism are more likely to experience sleep disturbance due to sustained physiological and cognitive arousal, particularly at bedtime when rumination and negative emotional processing tend to intensify (Križan & Hisler, 2019). Research in both community and clinical populations further shows that neuroticism contributes to greater susceptibility to insomnia and nightmares following exposure to adverse events, suggesting that the trait serves as a vulnerability factor linking stress to sleep difficulties (Harvey et al., 2011).

Evidence from trauma-exposed military samples reinforces this position. Van Liempt et al. (2013) found that neuroticism exacerbated sleep disturbances among soldiers with PTSD, indicating that the trait not only predicts sleep problems directly but also amplifies the negative effects of trauma on restorative sleep.

Collectively, these studies establish that trauma exposure, emotion regulation, and personality traits are significant predictors of sleep quality. Yet, there remains a lack of integrative research that considers these factors simultaneously, particularly within African and Nigerian military populations. Most Nigerian studies have concentrated on occupational stress, burnout, or general psychological distress among soldiers (Adegbesan & Ofole, 2023; Aguwa et al., 2022; Aigboje & Osa-Afianna, 2014) without exploring the psychological mechanisms through which trauma, emotion regulation and neuroticism influence sleep quality. This gap limits understanding of how emotional and dispositional variables combine to affect soldiers' recovery processes and overall readiness. Addressing this shortfall is crucial for developing context-specific, trauma-informed interventions aimed at improving sleep health among Nigerian military personnel.

METHODOLOGY

Participants

The participants comprised 291 commissioned officers drawn from the Nigerian Army, Navy, and Air Force, who were either undergoing professional courses or serving in administrative and instructional capacities at the Armed Forces Command and Staff College (AFCSC), Jaji. The choice of this population was informed by the college's training structure, which primarily accommodates mid-level and senior commissioned officers; therefore, non-commissioned personnel were excluded. The sample included 256 males (88%) and 35 females (12%), with ages ranging from 22 to 56 years ($M = 38.31$, $SD = 10.88$). Participants represented a broad range of ranks—from Lieutenants to Colonels—and diverse operational specializations, including combat, intelligence, logistics, and training. This composition ensured adequate heterogeneity within the commissioned cadre and enhanced representativeness across service branches and functional areas of the Nigerian Armed Forces. A purposive sampling technique was adopted due to the specialized and hierarchical nature of the military population. This approach ensured that respondents possessed direct operational experience and sufficient service exposure.

Inclusion criteria were as follows:

1. Participants must be commissioned officers currently enrolled in training or serving in AFCSC.
2. Participants must have at least one year of continuous active service.
3. Participants must be willing to provide informed consent.

Exclusion criteria included:

1. Personnel with medically diagnosed sleep disorders, psychiatric conditions, or on sedative medication.

2. Individuals on extended medical leave or non-operational assignments.

The final sample size (N = 291) was determined based on Tabachnick and Fidell's (2019) recommendation for regression analysis: $N \geq 50 + 8m$, where m represents the number of predictors. With three major predictors, a minimum of 74 participants was required, meaning the sample of 291 provided excellent statistical power and generalizability.

Design

The study employed a cross-sectional survey design, enabling the measurement of relationships among trauma exposure, emotion regulation, neuroticism, and sleep quality at a single point in time.

Measures

Four standardized and psychometrically validated instruments were used to measure the study variables.

The Brief Trauma Questionnaire (BTQ), developed by Schnurr et al. (1999), is a 10-item dichotomous self-report scale designed to assess exposure to traumatic life events such as combat, accidents, and witnessing violence. Each item is scored Yes (1) or No (0), yielding a total score range of 0–10, with higher scores indicating greater trauma exposure. The BTQ has been widely used in both civilian and military populations, demonstrating strong reliability and validity (α = .91). In this study, the internal consistency reliability coefficient was α = .90, indicating excellent reliability. Sample item: "Have you ever witnessed or experienced a situation that threatened your life or the life of someone else?"

The Emotion Regulation Questionnaire (ERQ), developed by Gross and John (2003), measures two key strategies of emotion regulation—cognitive reappraisal (6 items) and expressive suppression (4 items). Items are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Subscale scores are computed separately, with higher scores indicating greater use of each strategy. Cognitive reappraisal reflects adaptive emotion management, while expressive suppression captures inhibitive and maladaptive control. Reliability coefficients in this study were α = .88 for reappraisal and α = .84 for suppression. Sample items include: "I control my emotions by changing the way I think about the situation I'm in." (Reappraisal), "I keep my emotions to myself." (Suppression)

The Neuroticism Subscale of the Big Five Inventory (BFI), a subscale of the Big Five Inventory developed by John et al. (1991), assesses emotional instability and proneness to distress. The 8-item scale uses a 5-point Likert format ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores reflect higher levels of neuroticism. Example items include: "I get upset easily" and "I often feel tense or jittery". The BFI has demonstrated good cross-cultural reliability and validity. In the present study, the internal consistency coefficient was α = .83.

The Sleep Quality Scale (SQS), developed by Yi and Shin (2006), is a comprehensive 28-item measure assessing six components of sleep: sleep efficiency, Sleep latency, Sleep disturbance,

Daytime dysfunction, Sleep restoration, and Waking difficulties. Items are scored on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). Total scores range from 28 to 112, with higher scores indicating poorer sleep quality. The SQS has demonstrated high reliability across various populations (α = .90–.92). In this study, Cronbach's alpha was α = .90, indicating strong internal consistency.

Procedure

Prior to data collection, ethical approval was obtained from the Nigerian Defence Academy (NDA) Department of Psychology Research Ethics Committee, and the Director of Joint Studies AFSCS granted formal permission. Participants were briefed on the study objectives, confidentiality procedures, and voluntary participation rights. Data were collected over a two-week period within AFCSC premises. Officers completed the questionnaires in small, controlled group sessions (10–15 participants per session) within classrooms or offices to ensure concentration and confidentiality. The researcher and trained research assistants supervised administration sessions, providing clarifications where necessary. Completion time per participant averaged 25–30 minutes. Respondents were instructed not to include names, service numbers, or identifiable information to maintain anonymity. Of the 300 distributed questionnaires, 291 were fully completed and valid for analysis, yielding a response rate of 97%. After collection, all data were securely stored in password-protected electronic files and locked cabinets accessible only to the principal investigator.

RESULTS

Descriptive Statistics

Preliminary analyses were conducted to examine the distribution and internal consistency of study variables. Means, standard deviations, and intercorrelations are presented in Table 1. Participants reported moderate to high levels of trauma exposure (M = 5.67, SD = 2.81), moderate use of cognitive reappraisal (M = 27.64, SD = 6.02), high expressive suppression (M = 21.45, SD = 5.11), and moderate neuroticism (M = 22.78, SD = 4.85). The average sleep quality score (M = 73.32, SD = 11.96) suggested generally poor sleep quality among the sample.

Table 1: Means, Standard Deviations, and Correlations for Trauma Exposure, Emotion Regulation, Neuroticism and Sleep Quality

S/N	Variables	M	SD	1	2	3	4	5
1	Sleep_Quality	65.51	9.09	-	.62***	.36***	.40***	.19***
2	Trauma_Exp	4.88	1.48		-	.10*	-.05	.05
3	Reappraisal	23.56	10.99			-	-.14**	.15**
4	Suppression	16.99	7.14				-	-.14**
5	Neuroticism	30.61	11.56					-

Table 4.2: Coefficient table of Hierarchical Regression Showing the Prediction of Sleep Quality from Trauma Exposure, Emotion Regulation, and Neuroticism

Variables	R	R^2	$R^2\Delta$	F	B	Beta(β)	t
Model 1	.62***	.38***	.38***	178.48			
Trauma Exposure					3.80	.62***	13.36***
Model 2	.84***	.70***	.32***	223.43			
Re-appraisal					.306	.370***	11.29***
Suppression					.612	.480***	14.71***
Model 3	.855***	.731***	.03***	194.12			
Neuroticism					.14	.18***	5.71***

*Note: *=p<.05; **=p<.01, ***=p<.001(significant). Gender= 1-male, 2-female*

Hierarchical regression results showed that trauma exposure (β = .618, p < .00), both domains of emotion regulation - cognitive reappraisal (β = .37, *p*< .001) and expressive suppression (β = .48 *p*< .001), and neuroticism (β = .18, *p*< .001) significantly predicted sleep quality. Trauma exposure explained 38.2% of the variance in sleep quality (R^2 = .382), which is considered a large effect size. Emotion regulation accounted for 32% of the variance in sleep quality ($R^2\Delta$ = .32) while neuroticism accounted for only 3% of the variance in sleep quality ($R^2\Delta$ = .03). The overall model explained a total 73.1% variance in sleep quality (R^2 = .731).

Discussion

The results showed that all three variables—trauma exposure, emotion regulation strategies, and neuroticism—significantly and jointly predicted poor sleep quality, explaining 73.1% of the variance. Trauma exposure emerged as the strongest predictor of poor sleep quality, confirming that frequent exposure to combat and life-threatening events disrupts restorative sleep. This finding aligns with previous research indicating that trauma-related hyperarousal, intrusive memories, and nightmares impair sleep continuity (Brownlow et al., 2022; Bai et al., 2023). Consistent with Conservation of Resources Theory (Hobfoll, 1989), exposure to trauma depletes emotional and physiological resources, increasing vulnerability to sleep disturbance. The military environment—marked by operational stress and irregular rest—likely intensifies these effects.

Emotion regulation strategies also significantly predicted sleep quality. Expressive suppression was strongly associated with poorer sleep, supporting Gross's (2002) Process Model of Emotion Regulation, which emphasizes the physiological strain of inhibiting emotions. Interestingly, cognitive reappraisal—typically adaptive—was also linked to poor sleep, suggesting that constant cognitive effort to reinterpret stressful experiences may lead to mental fatigue under chronic stress. This aligns with studies showing that even adaptive regulation strategies can become counterproductive when overused in high-pressure contexts (Semplonius & Willoughby, 2018).

Neuroticism independently predicted poor sleep quality, albeit modestly. This finding agrees with prior work linking neuroticism to emotional instability, rumination, and poor sleep efficiency (Križan & Hisler, 2019; Catherman et al., 2023). From the Stress-Diathesis Model (Zubin & Spring, 1977), neuroticism may amplify the impact of trauma by increasing emotional reactivity and worry, prolonging physiological arousal that interferes with sleep.

The findings highlight crucial psychological dimensions of military functioning, demonstrating that trauma exposure, emotion regulation strategies, and personality traits jointly shape sleep quality among Nigerian military personnel. Practically, the strong influence of trauma and emotional suppression underscores the need for trauma-informed psychological services within the Armed Forces. Sleep complaints should be approached not only as physiological issues but as potential indicators of deeper psychological strain. Routine assessment of trauma history and emotional coping patterns during medical evaluations would facilitate early detection and intervention.

Limitations

Despite offering valuable insights into the psychological predictors of sleep quality among Nigerian military personnel, this study has certain limitations. The use of self-report smeasures may have introduced response biases such as social desirability and underreporting of trauma or maladaptive emotional coping, particularly within a culture that values emotional restraint.

The cross-sectional design also restricts causal inference; longitudinal research is needed to clarify the directionality between trauma exposure, emotion regulation, and sleep outcomes.

Furthermore, the study focused exclusively on commissioned officers at AFCSC, which may limit generalizability to non-commissioned personnel whose operational experiences and stress exposures differ. Future studies should include broader rank categories and employ mixed methods to enhance validity and contextual depth.

Conclusion

This study found that trauma exposure, emotion regulation, and neuroticism significantly predict sleep quality among military personnel at AFCSC, Jaji. Trauma exposure and expressive suppression were the strongest predictors, indicating that repeated stress, maladaptive coping, and personality traits jointly impair sleep. The findings highlight that sleep disturbance in military contexts is primarily psychological, noted in trauma-related hyperarousal and emotional strain rather than operational fatigue alone. Interventions focusing on trauma recovery, adaptive emotion regulation, and personality-based counselling are essential to improve soldiers' well-being and operational readiness.

Recommendations

Based on the findings of this study, the following recommendations are proposed to improve sleep quality and psychological resilience among Nigerian military personnel:

1. The Nigerian Armed Forces should establish structured trauma counseling and debriefing programs for officers frequently exposed to combat and operational stress. Such interventions can help process traumatic experiences and prevent chronic hyperarousal that disrupts sleep.
2. Military wellness and leadership programs should include modules on adaptive emotion regulation strategies, emphasizing flexible use of cognitive reappraisal and reduction of chronic emotional suppression, which is prevalent in military culture.
3. Regular workshops should be organized to educate personnel on healthy sleep practices, relaxation techniques, and the importance of adequate rest for mental performance and operational readiness.
4. Psychological assessments during recruitment and periodic evaluations should include measures of neuroticism and emotional stability. Personnel with high neurotic tendencies should receive targeted counseling to build emotional resilience and coping capacity.

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