



Psychological Capital as a Moderator in the Relationship between Fear of COVID-19 and Sleep Quality among Frontline Healthcare Workers

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The quality of sleep is a critical psychological concern for numerous frontline healthcare professionals during the COVID-19 pandemic. While prior research has examined the factors contributing to mental health difficulties among these workers, there remains a gap in understanding how the fear of COVID-19 affects their sleep quality. Furthermore, the potential role of psychological capital (PsyCap) in alleviating the adverse effects of COVID-19-related fear on sleep quality has not been extensively studied. This research aimed to explore the moderating effect of PsyCap on the relationship between fear of COVID-19 and sleep quality among 389 frontline healthcare workers in Nigeria. Regression analysis indicated that those experiencing elevated levels of fear related to COVID-19 reported diminished sleep quality. Conversely, individuals with higher PsyCap demonstrated improved sleep quality. Notably, sleep quality significantly enhanced in frontline healthcare workers with high fear levels when they also possessed high PsyCap. The findings suggest the necessity of implementing psychological interventions aimed at bolstering PsyCap among healthcare workers to alleviate stress and enhance sleep quality during the COVID-19 pandemic and in future health crises.

Keywords: fear of COVID-19, healthcare workers, psychological capital, sleep quality, Nigeria

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Introduction

The COVID-19 pandemic has posed considerable challenges and disruptions to everyday life worldwide (Chen et al., 2020). The swift transmission of the virus and its traumatic consequences has resulted in emotional and psychological distress for numerous individuals (Ahorsu et al., 2022). Healthcare workers, in particular, have encountered increased psychological issues compared to the general population (Gupta et al., 2020). A notable issue among healthcare workers during the pandemic has been poor sleep quality (Barbosa-Camacho et al., 2023; Tosun et al., 2022). For example, a meta-analysis conducted by Alimoradi et al. (2021) indicated that sleep-related problems were more common among healthcare professionals (31%) than in the general population (18%).

Sleep quality refers to the subjective evaluation of how well one sleeps, including factors such as sleep duration, sleep disturbances, sleep latency (the time it takes to fall asleep), and overall satisfaction with sleep (Buysse et al., 1989). Healthcare workers have reported poorer sleep quality than the general population during the COVID-19 pandemic, primarily due to their high risk of exposure and

infection as well as the excessive work stressors and demanding conditions they face (Balogun et al., 2023). For example, unlike the general public, healthcare workers encounter a variety of stressors at work, including extended hours of contact, overtime, long shifts, prolonged separation from family, and exposure to traumatic events and the deaths of COVID-19 patients (Shaukat et al., 2020) and stigmatization (Kwaghe et al., 2021). These challenges expose them to a significantly greater likelihood of experiencing stress, tension, and sleep issues compared to the general population (Abbas et al., 2021).

When healthcare workers experience sleep disturbances, their ability to focus, make informed decisions, and perform tasks efficiently is compromised (Phan et al., 2021). This decline in cognitive function can result in lapses in attention or errors during critical situations, increasing the risk of medical mistakes. As a result, inadequate sleep quality among healthcare workers can negatively impact their job performance and the quality of care they provide, ultimately putting patient safety at risk (Goda & Ghanem, 2023). Furthermore, increased sleep disturbances can worsen mental health issues, such as anxiety and depression, in this population. Therefore, it is

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crucial to empirically study the factors contributing to poor sleep quality among healthcare workers on the frontline during the COVID-19 pandemic and explore potential management strategies. Understanding the predictors of poor sleep quality in this group would not only enhance existing literature but also aid in developing intervention programs to address and prevent sleep-related issues among healthcare workers during the COVID-19 pandemic and future health crises.

Fear of COVID-19 is a crucial factor that can influence sleep quality among healthcare workers. Fear of COVID-19 refers to the distressing emotional response linked to the possibility of being infected with COVID-19 (Ahorsu et al., 2022). It is an intense and disproportionate fear of contracting the virus responsible for COVID-19. Yıldırım et al (2023) highlighted that one of the predominant effects of the COVID-19 pandemic on healthcare professionals is the experience of fear. The apprehension surrounding the virus is so prevalent that it poses a considerable challenge for healthcare management (Balogun et al., 2023; Moussa et al., 2021). While a certain degree of fear is necessary for the body to react appropriately during the pandemic, an excessive level of fear can adversely affect the sleep quality of healthcare workers, resulting in a range of physical and mental health complications (Balogun et al., 2023; De Clercq et al., 2021; Perz et al., 2020; Siddique et al., 2021; Yıldırım et al., 2020). High levels of fear of COVID-19 may lead to heightened anxiety about physical symptoms, significant stress related to potential personal and professional losses, and an increased tendency to seek reassurance and safety measures (Mohsin et al., 2021).

Existing research shows that frontline healthcare workers have experienced significant fear of COVID-19 (Fofie et al., 2023). The increased risk of infection, the anxiety of possibly transmitting the virus to their families, the prospect of quarantine, and the widespread stigma associated with the virus likely exacerbated the fear and anxiety felt by these professionals in their fight against the pandemic (Osei et al., 2022; Temsah et al., 2022). Frontline healthcare workers who experience a significant degree of fear regarding COVID-19 may engage in irrational thinking and feel unsafe, uncertain, and vulnerable (Balogun et al., 2023). They might view COVID-19 as a threat instead of a challenge, resulting in increased tension and stress (Çağış & Yıldırım, 2022). Early research has shown that an overwhelming fear of COVID-19 can result in adverse effects for these healthcare workers, including somatic symptoms, anxiety, social dysfunction, depression (Bakioglu et al., 2021; Balogun et al., 2023), lower job satisfaction, job stress, psychological distress, and turnover intentions (De Los Santos & Labrague, 2021; Labrague & De Los Santos, 2021). Other research has demonstrated a link between the fear of COVID-19 and a decline in sleep quality among the general population (De Clercq et al., 2023; Siddique, Ahmed, & Hossain, 2021). Frontline healthcare workers with heightened fear of COVID-19 may perceived loss of essential resources, including safety, energy, and the cognitive capacity for rational thought. This disruption may hinder their ability to relax, thereby complicating the process of falling asleep or maintaining sleep. However, despite these existing studies, the specific impact of COVID-19-related fear on the sleep quality of frontline healthcare workers has not been thoroughly investigated. Moreover, while previous research has identified psychological capital (PsyCap) as potential factor that can help reduce the negative impact of fear related to COVID-19 (Yıldırım et al., 2023), the moderating role of

PsyCap in the relationship between fear of COVID-19 and sleep quality has not been adequately investigated.

PsyCap refers to an individual's positive psychological developmental state (Luthans et al., 2007). PsyCap is a crucial personal resource that includes elements such as self-efficacy, optimism, hope, and resilience. (Luthans et al., 2007). Self-efficacy pertains to an individual's belief in their capacity to accomplish tasks and overcome challenges (Afolabi & Balogun, 2017; Bandura, 2001). Optimism reflects a general expectation of favorable outcomes in various aspects of life. Hope is conceptualized as the determination to succeed, coupled with the ability to identify, clarify, and pursue pathways to achieve success. Resilience denotes the capacity to recover from psychological or physical adversities, marked by effective coping strategies and adaptability in the face of challenges, uncertainty, and conflict (Balogun, 2023; Luthans, Youssef-Morgan, & Avolio, 2015; Wang & Zhang, 2011). While each component of PsyCap is individually linked to numerous beneficial psychological traits, these features collectively form PsyCap, resulting in an overall effect that surpasses the influence of its individual subcomponents (Yıldırım et al., 2023).

Healthcare professionals with higher levels of PsyCap may feel better equipped to handle work-related stress and the anxieties associated with COVID-19. They are more likely to focus on positive outcomes rather than dwelling on fears related to the pandemic, imagine a future where the situation is under control, and use effective coping strategies to manage their emotions and stress. These factors can decrease feelings of helplessness caused by fear and uncertainty about the virus, improving their ability to cope and potentially leading to reduced stress and better sleep quality despite external pressures (Yıldırım et al., 2023).

Research has shown that PsyCap can alleviate stress, negative emotions, depressive symptoms, fear of COVID-19, social isolation, and burnout experienced by individuals during the pandemic (Çağış & Yıldırım, 2022; Huang et al., 2023; Wu et al., 2023; Yıldırım et al., 2022). Furthermore, Turliuc and Candel (2021) discovered that PsyCap had a positive correlation with life satisfaction. Moreover, a positive correlation has been established between PsyCap and health-protective behaviors during the COVID-19 crisis (Maykrantz et al., 2021). Previous research has indicated that PsyCap can alleviate the detrimental psychological impacts of fear associated with COVID-19 among healthcare professionals (Çağış & Yıldırım, 2022). For instance, research conducted by Basar et al. (2024) revealed that PsyCap lessened the adverse effects of COVID-19-related fear on burnout experienced by nurses in Turkey.

However, despite the existing body of research, there has been no specific investigation into how PsyCap may moderate the negative consequences of COVID-19 fear on sleep quality among frontline healthcare workers. This topic holds importance not only in the context of the COVID-19 pandemic but also for potential future disease outbreaks. This understanding will be vital in developing effective strategies to reduce and prevent sleep disturbances among healthcare professionals during similar health emergencies. Therefore, using the conservation of resources (COR) theory (Hobfoll, 1989) as a theoretical framework, this study aims to explore the moderating role of PsyCap in the relationship between fear of COVID-19 and sleep quality among a sample of frontline healthcare workers in Nigeria. Nigeria is recognized as one of the nations in Africa that faced a significant number of COVID-19 cases (Amzat et al., 2020). During the COVID-19 pandemic in Nigeria, there

were shortage of personnel and resources required to effectively address the crisis (Okediran et al. 2020). These inadequacies heightened the workload and stress levels of the majority of frontline healthcare workers in Nigeria, leading to increased feelings of vulnerability and insecurity throughout the pandemic (Balogun et al., 2023). Consequently, many frontline healthcare workers faced increased worries regarding the risk of exposure and infection, which amplified their fear of COVID-19 and may result in sleep disturbances (Balogun et al., 2023). While there are studies that explore the negative impacts of COVID-19 in Nigeria (e.g., Aliyu et al., 2024; Ariyo et al., 2022; Ibigbami et al., 2022; Kwaghe et al., 2021), none have adequately investigated the relationship between fear of COVID-19 and sleep quality among frontline healthcare workers, as well as the moderating effect of PsyCap in the relationship, thus necessitating the need for the current research.

The COR theory (Hobfoll, 1989; 2011) provides a comprehensive framework for understanding the dynamics of PsyCap moderates the connection between COVID-19 related fear and sleep quality. The COR theory asserts that individuals strive to acquire, maintain, and safeguard their resources, which include tangible items, environmental conditions, personal characteristics, and energy (Hobfoll, 1989). This theory suggests that individuals are motivated to utilize their personal resources to gain additional resources, protect against potential losses, and recover from any losses they may have experienced (Hobfoll, 1989). When individuals perceive a threat to their resources, encounter resource loss, or fail to gain resources despite their efforts, they may experience stress and adverse psychological effects (Balogun, 2023).

In accordance with the COR theory, this research contends that frontline healthcare workers with higher levels of PsyCap may feel more equipped to adapt and manage the stresses linked to the COVID-19 pandemic, including the fear it generates (Alat et al., 2021). By perceiving their roles as competent, they may view the fear of COVID-19 as a challenge rather than a threat, thus reducing its adverse effects on their sleep. Furthermore, frontline healthcare workers with high PsyCap may concentrate on positive outcomes instead of fixating on their fears regarding COVID-19. This optimistic perspective can serve as a buffer against stress and anxiety, resulting in fewer sleep disturbances. A strong sense of PsyCap can enable these workers to utilize effective coping strategies to handle their emotions and stressors, thereby helping them maintain healthier sleep patterns despite challenges. Based on the existing literature and the rationale of COR theory, the following hypotheses have been proposed:

H1: Fear of COVID-19 will negatively impact the sleep quality of frontline healthcare workers.

H2: PsyCap will positively predict sleep quality of frontline healthcare workers.

H3: PsyCap will significantly moderate the relationship between fear of COVID-19 and the sleep quality, such that high PsyCap reduces the impact of fear of COVID-19 on sleep.

Methods

Participants and Procedures

This cross-sectional survey study was carried out between June 2020 and February 2021, involving 389 frontline healthcare workers during the initial wave of

COVID-19 in Nigeria. Data collection was facilitated through an online survey platform utilizing a snowball sampling technique. Participants were recruited via online announcements made by professional associations representing various healthcare disciplines, including doctors, nurses, pharmacists, laboratory scientists, and social workers in Nigeria. The primary inclusion criterion mandated that healthcare workers must have been delivering in-person healthcare services rather than providing care remotely (via phone or online) during the study period.

The sample comprised 174 (44.7%) males and 215 (55.3%) females, with ages spanning from 31 to 53 years (Mean = 35.89; Standard Deviation = 24.45). In terms of marital status, there were 93 (23.9%) single individuals, 246 (63.2%) married individuals, and 50 (12.9%) who were separated or divorced. Additionally, the distribution of participants by professional level included 169 (43.4%) at the junior level, 194 (49.9%) at the senior level, and 26 (6.7%) at the management level. Regarding academic qualifications, 119 (30.6%) held a Diploma, 257 (66.1%) possessed a Bachelor's degree, and 13 (3.3%) had attained a Master's degree. Furthermore, 307 (78.9%) of the respondents lived with their families, while 82 (21.1%) did not. Work experience varied from 8 to 19 years, with a mean of 28.55 years and a standard deviation of 12.37 years.

Measures

Fear of COVID-19: this was measured with the 7-item Fear of COVID-19 Scale developed by Ahorsu et al. (2022). The scale employs a 5-point Likert format, where responses range from 1 (strongly disagree) to 5 (strongly agree). Sample items include "I am afraid of losing my life because of COVID-19" and "I cannot sleep because I'm worrying about getting COVID-19." This scale has been utilized with Nigerian populations and has shown reliability, achieving a Cronbach's alpha of .91 in the present study.

PsyCap: this was assessed using the English version of Compound Psychological Capital Scale (CPC-12) developed by Lorenz et al. (2022). The scale, which consists of 12 items, measures four dimensions of PsyCap: self-efficacy, optimism, hope, and resilience. Sample items include "I am confident that I could deal efficiently with unexpected events" (self-efficacy), "The future holds a lot of good in store for me" (optimism), "Right now, I see myself as being pretty successful" (hope) and "After serious life difficulties, I tend to quickly bounce back" (resilience). Responses are measured on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), with the current study reporting a Cronbach's alpha of 0.89.

Pittsburgh Sleep Quality Index (PSQI): The PSQI, developed by Buysse et al. (1989), comprises 19 items aimed at assessing sleep quality and disturbances over a one-month timeframe. These items are categorized into seven components: sleep duration, sleep disturbance, daytime dysfunction due to sleepiness, sleep latency, sleep efficiency, overall sleep quality, and sleep medication use. Initially, the seven components were scored from 0 (no difficulty) to 3 (severe difficulty), with higher scores indicating poorer sleep quality or disturbances. The total score, which ranges from 0 to 21 (indicating severe sleep issues), considers scores above 5 as indicative of a sleep problem. For enhanced clarity and interpretation, all items across the seven components were reverse scored in the current study, ranging from 0 (severe difficulty) to 3 (no difficulty), indicating that a higher score reflects better sleep quality. The scale exhibited a Cronbach's alpha of .87 in this research.

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Data Analysis

The collected data underwent analysis through both descriptive and inferential statistical methods. Descriptive statistics, including frequency, mean, and standard deviation, were employed to evaluate the socio-demographic characteristics of the participants. To identify relationships among the study variables, the Pearson Product Moment Correlation was utilized. The PROCESS module developed by Hayes (2013) was employed to evaluate the hypotheses of the study. Given its robustness, the PROCESS macro is favoured over traditional regression analysis for examining moderation hypotheses. It performs regression-based path analysis and generates product terms to assess interaction effects, while automatically centering the predictor variables before conducting the analysis.

Control Variables

Socio-demographic factors such as age, gender, and marital status have been associated with mental health outcomes among healthcare professionals during the COVID-19 pandemic (Balogun et al., 2023). Consequently, age, gender, marital status, number of working hours, and work experience were incorporated as control variables in this study.

Ethical Approval

This research was evaluated and approved by the Ethics and Research Committee of the Department of Psychology, at Adekunle Ajasin University, Akungba-Akoko, Ondo State, Nigeria. Questionnaires were only administered to participants who agreed to take part in the

study. They were assured that their privacy and responses would be kept confidential.

Results

Test of Common Method Bias

Harman's single factor test was conducted to check for common method bias in the study. All scale items were loaded into one common factor, resulting in a total variance of 26.35%. Since this value was below the required criterion of 50%, it suggests that common method variance was not a significant issue in this study.

Descriptive and correlation analyses were conducted to determine the mean, standard deviation, and degree of correlations among the variables studied. The results are presented in Table 1.

As indicated in Table 1, a significant negative correlation was found between fear of COVID-19 and sleep quality ($r = -.33$; $p < 0.05$), suggesting an association between higher fear of COVID-19 and lower sleep quality among frontline healthcare workers. Additionally, PsyCap was positively correlated with sleep quality ($r = .30$; $p < 0.01$), indicating a relationship between higher PsyCap and better sleep quality.

Test of Hypotheses

The PROCESS module developed by Hayes (2013) was conducted to test the study hypotheses of the study. It performs regression-based path analysis and generates product terms to assess interaction effects, while automatically centering the predictor variables before conducting the analysis. The results of the moderated regression analysis are presented in Table 2.

Table 1. Descriptive Statistics and Correlations for Study Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Age	35.89	24.45	-							
2. Gender	-	-	.13	-						
3. Marital status	.	-	-.25	.14*	-					
4. Number of working hours	19.32	4.61	.19*	.14	-.17*	-				
5. Work experience	28.55	7.37	-.14*	.31	-.23*	.00	-			
6. Fear of COVID-19	14.23	6.87	-.16*	-.21*	.21*	-.34*	-.26*	-		
7. PsyCap	40.71	7.91	-.39*	-.08	.17**	-.18*	-.24*	.23*	-	
8. Sleep quality	51.29	9.34	-.14*	-.03	.01	-.29*	-.22*	-.33*	.30**	-

* $p < 0.05$; ** $p < 0.01$

Table 2. Regression Results Predicting Sleep Quality from Fear of COVID-19 and PsyCap

	β	SE	t	P	LLCI	ULCI
Age	.24	.10	2.46	.005	.039	.212
Gender	-.03	.02	-.93	.552	-.011	-.039
Marital Status	.01	.18	.87	.610	.002	.057
Working hour	-.29	.09	-8.12	.001	-.234	-.598
Working experience	.22	.03	2.45	.002	.283	.357
Fear of COVID-19	-.50	.44	-9.81	.000	-.416	-.558
Psychological Capital (PsyCap)	.32	.27	4.85	.000	.279	.11
Fear of COVID-19 x PsyCap	-.09	.03	-2.74	.021	-.163	-.03

Note: ** $p < 0.01$, * $p < 0.05$

Table 2 shows that the model significantly predicted the sleep quality ($F = (8,142) = 165.173, p = .021, R^2 = .410$). Age significantly predicted sleep quality ($\beta = .24, p = .005$). This suggests that as frontline healthcare workers age, their sleep quality improves. The results showed that gender ($\beta = -.03; p = .552$) and marital status ($\beta = .01; p = .610$) are not significantly associated with sleep quality among frontline healthcare workers. The number of working hours had a negative relationship with sleep quality ($\beta = -.29, p = .001$), an association between longer shifts and lower sleep quality among frontline healthcare workers. On the other hand, work experience was positively associated with sleep quality ($\beta = .22; p = .002$), indicating a relationship higher working experience and better sleep quality among frontline healthcare workers. These socio-demographic variables explained 8% of the variance in sleep quality ($R^2 = .08$).

Fear of COVID-19 negatively predicted sleep quality ($\beta = -.50, p = .000$), suggesting an association between higher fear of COVID-19 and lower sleep quality among frontline healthcare workers. This results supported hypothesis 1. Additionally, PsyCap predicted sleep quality ($\beta = .32, p = .000$), indicating that higher PsyCap is associated with better sleep quality among frontline healthcare workers. Therefore, hypothesis 2 is supported.

The interaction between fear of COVID-19 and PsyCap on sleep quality ($\beta = -.09, p = .021$) was significant, indicating that the negative effect of fear of COVID-19 on sleep quality decreased significantly for frontline healthcare workers with higher PsyCap levels. These results supported hypothesis 3. The interaction term is depicted in Figure 1.

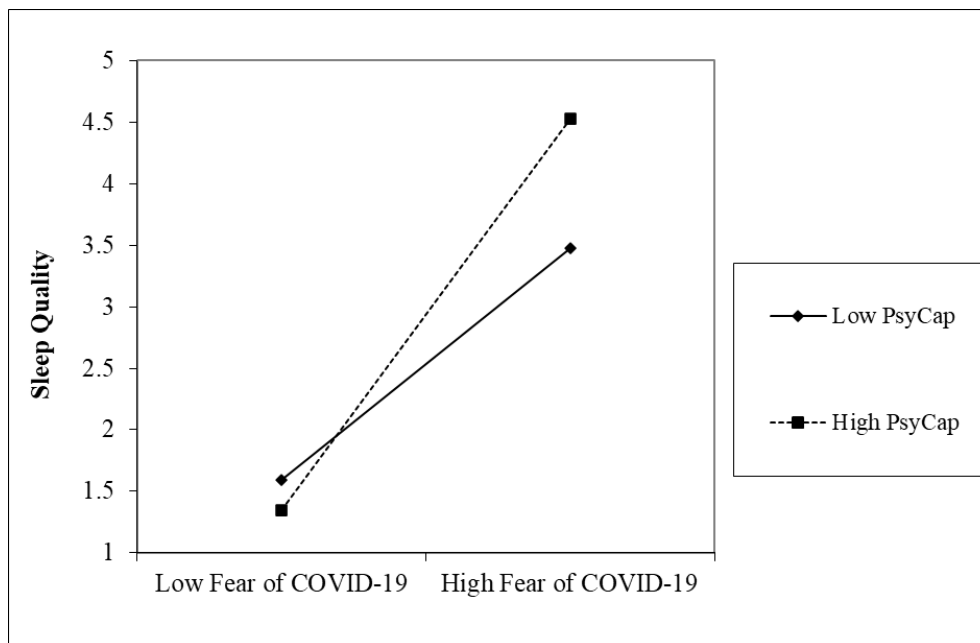


Figure 1: Interaction of fear of COVID-19 and PsyCap on Sleep Quality

Discussion

This study investigated the moderating effect of PsyCap on the relationship between fear of COVID-19 and sleep quality among frontline healthcare professionals. To the researcher's knowledge, this is the first study to explore these dynamics specifically within this group during the COVID-19 pandemic. Consequently, this research significantly enhances the existing literature by highlighting the adverse psychological effects of COVID-19-related fear and the mitigating influence of PsyCap among frontline healthcare workers during this crisis.

The analysis confirmed the study's hypotheses, demonstrating a negative correlation between fear of COVID-19 and sleep quality. Specifically, it was found that frontline healthcare workers who experience heightened fear of COVID-19 reported lower sleep quality. This finding aligns with the research conducted by De Clercq et al. (2021) and Siddique et al. (2021), which indicated a positive relationship between fear of COVID-19 and sleep disturbances in populations from Pakistan and Bangladesh, although those studies did not focus on frontline healthcare workers. The results further support the conclusions drawn by Balogun et al. (2023), which indicated that the fear of COVID-19 notably exacerbated mental health issues,

including anxiety and insomnia, among healthcare professionals in Nigeria. The results support earlier studies that demonstrated a positive relationship between the fear of COVID-19 and the levels of anxiety and depression experienced by individuals residing in Turkey (Bakioğlu et al., 2021; Satıcı et al., 2020). COVID-19 was a novel disease with no definite cure. As result of this, many healthcare professionals caring for infected patients felt vulnerable and insecure (Balogun et al., 2023). This heightened sense of concern regarding potential exposure and infection could have increased their vulnerability to sleep disturbances.

The findings of the study indicated that frontline healthcare workers with higher levels of PsyCap reported better sleep quality. Additionally, PsyCap moderated the relationship between fear of COVID-19 and sleep quality. This indicates that frontline healthcare professionals with higher levels of PsyCap reported improved sleep quality despite experiencing significant fear of COVID-19. The combination of high fear and high PsyCap appears to create a unique environment where frontline workers are motivated to take proactive steps towards managing their stress and improving their sleep quality. Based on Figure 1, sleep quality worsen for frontline workers with low fear of COVID-19 and high PsyCap. A possible explanation could be that those with low fear may lack the motivation or fail

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to recognize the need for change, resulting in stagnant or poor sleep quality. This finding partly supported the result of previous research which revealed that PsyCap lessened the adverse effects of COVID-19-related fear (Basar et al., 2024). This observation is also consistent with the principles of COR theory (Hobfoll, 1989), which posits that personal resources can aid individuals in navigating life-threatening circumstances. Consequently, frontline healthcare workers with greater PsyCap may report fewer sleep disturbances, as PsyCap enables them to effectively manage the challenges posed by the COVID-19 pandemic.

Theoretical and Practical Implications

This research enhances the comprehension of the interplay between COVID-19-related fear and sleep quality by examining the moderating effect of PsyCap. It is one of the pioneering studies to integrate the COR theory into the model linking fear of COVID-19 to sleep quality, utilizing it as a novel theoretical framework to elucidate how personal coping resources, such as PsyCap, influence this relationship in Nigeria. The findings substantiate the COR theory, indicating that PsyCap plays a significant role in mitigating the effects of COVID-19 fear on sleep disturbances among frontline healthcare professionals in Nigeria. Consequently, PsyCap is identified as a vital personal resource that can help alleviate the adverse consequences of COVID-19-related fear on sleep issues for these workers.

From a practical standpoint, the findings of this study hold significant implications for healthcare management. This research provides critical insights that can guide responses to future health crises or emergencies. The study's results indicate that healthcare professionals with elevated levels of PsyCap may experience a reduced negative impact on sleep quality, even amidst heightened fear related to COVID-19. This suggests that nurturing PsyCap attributes, such as resilience, optimism, hope, and self-efficacy among healthcare workers, is vital for effectively managing stress during future health emergencies. Healthcare management should focus on implementing training programs designed to enhance these qualities, which may include workshops on stress management and the provision of mental health support resources like counseling services, peer support groups, and designated mental health days. Furthermore, conducting regular evaluations of healthcare workers' PsyCap and mental health status during crises can assist in identifying individuals at risk of experiencing poor sleep quality. Early interventions can then be customized for these individuals to alleviate the adverse effects of fear and anxiety associated with crises. Additionally, effective communication during health emergencies is crucial. Messaging that highlights hope, support, and collective resilience can bolster PsyCap among healthcare workers, thereby helping to reduce fears and improve sleep quality and overall well-being during future health crises or emergencies. Policymakers should also contemplate the integration of psychological resilience training into public health strategies to better prepare healthcare workers for upcoming health challenges. They might also consider incorporating PsyCap assessments into recruitment processes or ongoing employee evaluations to ensure a resilient workforce capable of managing future emergencies.

Limitations and Directions for Future Research

This study presents several significant limitations. Firstly, the reliance on self-reported measures may

introduce common method bias. Although the study adopted the Harman's single factor test was conducted to check for common method bias in the study, future research should consider employing alternative methodologies, such as time lag, collection of data from multiple sources, and randomized question order to explore the relationships among the study variables (see Podsakoff et al., 2024). Secondly, the data collection was conducted through an online survey platform, which excluded healthcare workers lacking internet access from participation. Consequently, future investigations should aim to include larger samples that encompass healthcare professionals without internet connectivity. Thirdly, the cross-sectional design of this study restricts the ability to infer causal relationships among the variables. Future studies should undertake longitudinal research to explore the evolution of PsyCap over time during various prolonged health crises, natural disasters, and public health emergencies. Gaining insights into the functioning of PsyCap in these diverse contexts can inform effective coping strategies and resilience-building methods tailored to specific circumstances. Additionally, the current study's sample was restricted to healthcare professionals in Nigeria; therefore, it is crucial to replicate similar investigations in varied settings and countries to improve the external validity of the results. Future research could also examine the influence of PsyCap in different professions impacted by health crises, such as social workers and educators. This comparative analysis may uncover distinct challenges and resilience factors relevant to each field, facilitating the development of targeted interventions that enhance PsyCap across various sectors. Furthermore, future inquiries should explore additional potential moderating variables, including emotional intelligence and social support. Higher emotional intelligence may alleviate the impact of fear associated with future health crises on sleep quality, as it significantly influences how individuals cope with and respond to stress and anxiety. Individuals with elevated emotional intelligence are more likely to reassess events or situations in a manner that alters their emotional responses. For example, healthcare workers with a greater ability for cognitive reappraisal may view health crises as challenges rather than threats, thereby reducing their emotional consequences, such as fear. Social support can serve as a vital resource at the societal level to mitigate the threats and difficulties posed by health crises. Emotional support, in particular, may play a significant role as a protective factor against the anxiety of infection and the psychological distress linked to health crises or emergencies (Kornas-Biela et al., 2023).

Conclusion

This research has added to the expanding literature that highlights the importance of positive psychological resources, such as PsyCap, in safeguarding the mental well-being of healthcare professionals during crises, including pandemics. The study shows that fear of COVID-19 is negatively associated with sleep quality among frontline healthcare workers. Moreover, PsyCap mitigates the negative impact of fear of COVID-19 on sleep quality. Consequently, it is advisable for healthcare management to implement psychological interventions aimed at bolstering the PsyCap of healthcare personnel. Such measures can assist healthcare workers in effectively coping with stress and enhancing their sleep quality during the COVID-19 pandemic and any future health emergencies.

Conflict of Interest

The author states that there is no conflict of interest.

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