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Secondary Traumatic Stress and Psychosocial Wellbeing Among Humanitarian Health Workers in Northwestern Nigeria: The Moderating Role of Hardiness

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Abstract

This study investigated the moderating role of hardiness between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Cross-sectional survey design was adopted using a sample of 344 humanitarian health workers. They comprised 208 (60.5%) males and 136 (39.5%) females. Their ages ranged from 25-61years with a mean age of 39.29years and standard deviation of 10.83years. The sample for the study was drawn using Multistage sampling technique where census, purposive, proportionate and simple random sampling were used in stages. Secondary Traumatic Stress Scale, Hardiness Scale and the Copenhagen Psychosocial Wellbeing Scale were used for data collection. The four hypotheses postulated were tested using Multiple Linear Regression, Hayes Process Macro Moderation Analysis and Standard Multiple Regression Analysis. Results indicated that, secondary traumatic stress negatively influenced psychosocial wellbeing among humanitarian health workers. The result further showed that intrusions, avoidance and arousal independently and inversely predicted psychosocial wellbeing. The result also indicated that, hardiness positively influenced psychosocial wellbeing among humanitarian health workers. The result further showed that challenge, control and commitment independently and positively predicted psychosocial wellbeing. The result also showed that, hardiness significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers. Lastly, secondary traumatic stress and hardiness jointly influenced psychosocial wellbeing among humanitarian health workers. It was recommended that clinical psychologists design hardiness training programmes for humanitarian health workers. The training should cover strategies in which staff can develop the skills to face challenges, develop control of events around them and emphasize commitment to goals.

Key Words: *Secondary traumatic stress, hardiness, psychosocial wellbeing, humanitarian, health workers*

Introduction

Psychosocial wellbeing is an aspect of positive psychology that is recently receiving huge research attention due to its vitality in determining mental health. It is one of the building blocks of mental health and is essential for optimal performance in academic, occupational and social settings (Rivera-Picon et al., 2022). High levels of psychosocial wellbeing are associated with success in professional, personal and interpersonal endeavours. On the lower pole, lack of autonomy, feelings of resentment, and social withdrawal are observed in people with a low-level of psychosocial wellbeing (Alonazi et al., 2023). Some of the likely reasons for poor psychosocial wellbeing among humanitarian health workers are the unsecured context of work, excessive workload, chronic psychophysical fatigue and secondary trauma. Many humanitarian health workers in Northwestern Nigeria have reported that exposure to the secondary trauma suffered by the survivors they support, causes elevated levels of helplessness, mental distress and deterioration in quality of living (Yabilsu-Guyuk et al., 2022). The continuous exposure to these secondary traumatic stressors implies that all humanitarian health workers may be at risk of mental health problems such as posttraumatic stress disorder if interventions are not implemented.

People with high levels of psychological wellbeing report feeling capable, happy, well-supported, satisfied with life and can tolerate minimal distress levels. This view of psychosocial wellbeing is one sided and focuses solely on individual and subjective evaluations of life and wellbeing. Apparently, people enjoy high wellbeing when they are capable of pursuing personal goals and values and mutually benefiting from available supports from the society. However, the relationship between psychosocial wellbeing and the risky nature of humanitarian work is inverse (Yabilsu-Guyuk et al., 2022). Thus, exposure to humanitarian work, over time tends to build elevated levels of mental distress from posttraumatic stress, anxiety, depression, alcohol misuse and burnout syndrome. These findings support the prevailing perspective that humanitarian health workers' exposure to extreme and chronic stress is high and in return, gives rise to mental health problems that may impede the further delivery of humanitarian assistance (Bagereka et al., 2023; Alexandra et al., 2022).

Furthermore, in some European studies (Hasanvand et al., 2024**;** Rivera-Picon et al., 2022), work-related demands and exposure to psychosocial stressors that undermine humanitarian workers' wellbeing have been reported. Among these European states (Kosovo, Greece and Israel), psychosocial and traumatic stress have been reported to affect 22% of humanitarian health workers from 2010 - 2015, contributing to 60% of all lost working days (Hasanvand et al., 2024**)**. This indicates that poor psychosocial wellbeing affects both individual performance and organizational outcomes. Numerous studies among humanitarian workers in Sri-Lanka, Pakistan, Iraq, Iran, Afghanistan, Uzbekistan, and Yemen have also reported high scores of posttraumatic stress (19% due to empathic concerns for the distress experienced by crisis survivors) (Eriksson et al., 2023; Lopes et al., 2023). The above reported global prevalences of psychosocial problems are high, this may explain the declining psychosocial wellbeing among these workers across the globe.

Other researches (Alonazi et al., 2023; Connorton et al., 2022) have reported the level of anxiety among emergency context workers to be as high as 50 - 70% in South-Sudan, Chad and the Democratic Republic of Congo. In Adamawa state, Yabilsu-Guyuk et al. (2022) found the prevalence of secondary traumatic stress among humanitarian health workers to be 47%, 46%, 7% among counselors, nurses and doctors respectively. These reports are high and mostly obtained in the Northeastern part of Nigeria with little or no reports of these psychosocial risks among humanitarian health workers in Northwestern states (Kaduna, Kano, Katsina, Kebbi, Jigawa, Sokoto and Zamfara). This study focuses on how secondary traumatic stress affects the psychosocial wellbeing of humanitarian health workers and how hardiness skills moderate this relationship.

One factor that has received wide claims on its' ability to predict psychosocial wellbeing among workers in the humanitarian sector is secondary traumatic stress. Secondary traumatic stress comprises of major symptoms including intrusion, avoidance, and arousal (Platania et al., 2022). Intrusion entails re-experiencing symptoms after the trauma, such as having intrusive thoughts or recollections, recurrent dreams of the trauma, flashbacks of the trauma (Lai et al., 2023). The avoidance symptoms involve avoiding thinking about the trauma, avoiding people or places that remind one of the trauma (Platania et al., 2022). While the arousal symptoms include insomnia, irritability, decreased concentration, hypervigilance, or exaggerated startle response (Lai et al., 2023). The secondary nature of trauma rather than incidence of violent attacks, are becoming more associated with negative mental health outcomes among humanitarian health workers (Lopes-Cardozo et al., 2022; Jachens, 2019). In Albania, Strohmeier and Scholte (2018) reported that more than 50% of humanitarian health workers had experienced five or more traumatic stress symptoms (Ager et al., 2022). Similarly, international humanitarian workers in Kosovo who supported survivors exposed to a high number of traumatic events were also more likely to be at an increased risk of posttraumatic stress disorder and depression at post-deployment (Lopes-Cardozo et al., 2022). Surprisingly, none of the statistics covered in the background so far has been obtained in Northwestern Nigeria.

One variable that has buffering effects against external threats to human wellbeing is hardiness. Hardiness is a personality trait associated with the ability to demonstrate positive health, high performance and resistance to stressful conditions (Motan, 2022). This construct consists of three interrelated dimensions namely: Commitment; which covers interest in various areas of life and the ability to evaluate one's work as worth the effort. The control dimension involves struggling to have an impact on outcomes, instead of being passive and weak (Reynaud et al., 2023). The challenge dimension, covers people's belief that their experiences should be considered as an opportunity for development and progress. Control allows individuals to deploy more active efforts to find solutions for negative or stressful situations while a higher sense of commitment allows individuals to remain mentally present in a difficult situation and confront it (Delahaij et al., 2020). Psychologically hardy people promote their wellbeing by using effective coping strategies in the face of stressful events. In critical situations, hardiness is found to be negatively related to depression and anxiety (Motan, 2022). People with higher level of hardiness report experiencing more positive emotions despite life challenges. Under stressful conditions, hardiness

has shown positive associations with psychological well-being and has been found to buffer against the development of psychological distress (Eschleman et al., 2020).

Hardiness is viewed as an important protective factor for mental health, which is distinct from other recognized buffers (Tseliou & Ashfield-Watt, 2022). Overall, whether hardiness has an indirect effect on psychosocial wellbeing is not known, however, it is clear that it is an important predictor of mental well-being (Jones et al., 2022). Stemming from the above background and the identified gaps, this study investigated secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria and examined the moderating role of hardiness.

Secondary Traumatic Stress and Psychosocial Wellbeing

Carnall et al. (2022) examined posttraumatic stress disorder (PTSD), complex PTSD, depression, and anxiety among rail workers in United Kingdom. Data were analyzed using logistic and linear regression. Results indicated that hearing about and witnessing a fatality were associated with posttraumatic stress disorder and complicated posttraumatic stress disorder. Also, reporting more physical health problems was associated with posttraumatic stress disorder and positively associated with anxiety. The result also indicated that posttraumatic stress disorder was associated with depression and anxiety which are the risk factors for poor psychosocial wellbeing among rail workers. This study contributed tremendously to existing literature, but it differs with the present study in the following ways. The reviewed study was carried out among workers who were directly exposed to traumatic experiences while the present study was conducted among health workers indirectly exposed to trauma. Also, the study assessed mental distress (depression and anxiety) as opposed to psychosocial wellbeing which was the target of the present study. Lastly, the study is criticized for limiting its scope to rail workers in United Kingdom and the COVID-19 context. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. Since the study is not indigenous, the findings are thus less useful for interventions in Nigeria, hence, the need for the present study.

Radstaak et al. (2022) investigated wellbeing in the context of care-as-usual treatment for posttraumatic stress disorder patients in Netherland. The naturalistic study assessed 318 patients with posttraumatic stress disorder attending a community mental health center between March 2013 to October 2015. Results indicated that wellbeing predicted treatment efficiency such that participants with more severe posttraumatic stress disorder symptoms benefitted more from care-as-usual treatment when they reported relatively high levels of well-being at the start of treatment. The findings suggested a benefit to including well-being as a pretreatment and outcome variable when evaluating posttraumatic stress disorder treatments. This study also shares similarities with the present study in that they both assessed the role of trauma on psychological and social wellbeing. The differences are in the designs adopted, where the reviewed study used naturalistic observation and the present study used cross-sectional survey. Also, the reviewed study was carried out in Netherland using different scales from the ones used in the present study using a Nigerian sample. Again, the participants were patients as opposed to the humanitarian health workers used in the present study. This means that the two studies may possess both similarities

and differences in their study results and its application to real life. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Hunter (2021) examined the predictive relationships among vicarious trauma, wellness, and resiliency in Clinical Mental Health Counselors (CMHC) who provide counseling services to survivors of interpersonal violence in Walden University Washington. Results of multiple linear regression analysis indicated resiliency levels predicted vicarious trauma but wellness levels did not. The result also indicated that vicarious trauma significantly predicted the level of wellness experienced by mental health counselors. The results extended current knowledge and understanding of vicarious trauma among professionals, with specific consideration of wellness, resiliency, professional discipline (CMHC), and caseload composition (IPV). However, they differ in the sample size employed, the population, sampling technique used and the setting for the studies. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. These differences are covered in the present study.

Bock et al. (2020) examined secondary trauma events, secondary traumatic stress, and their possible consequences for psychological well-being and work ability among nurses in Germany. Results indicated that nurses with secondary traumatic symptoms reported higher depression and anxiety scores compared to nurses without secondary trauma experience, and to nurses with secondary trauma experience but without secondary traumatic stress. This study just like previously reviewed studies, is related to the present study but differs in terms of the limited sample of nurses used, the setting was limited to Germany and the context was not of humanitarian origin. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. These differences constitute the gap which the present study covers in Nigeria. Since the reviewed study is not indigenous, the findings obtained therein are less useful for interventions in Nigeria, thus, the need for the present study.

Hardiness and Psychosocial Wellbeing

Hasanvand et al. (2024) examined psychological hardiness, mental health and emotional intelligence among Nurses in Eleshtar, Iran. Findings revealed that, there was a positive and significant relationship among mental health, emotional intelligence and its components (self-motivation, self-consciousness, self-control, social awareness, and social skills) and psychological hardiness. However, the study suffers the critique that the nurses used in the reviewed study were not of humanitarian origin, the dependent variable was mental health, although there was no specific finding on psychosocial wellbeing. Lastly, the study was carried out in Iran as opposed to Northwestern Nigeria. The reviewed study also failed to show how the dimensions of hardiness affect the dimensions of psychosocial wellbeing. These claims have limited the availability of supportive findings that relate to the present study. Therefore, there was absolute need for the present study to be conducted.

Ifeagwazi et al. (2021) examined the association of social support, hardiness and religious commitment on psychological well-being of psychiatric patients' caregivers. The cross-sectional survey adopted 420 patients' caregivers drawn from a neuro-psychiatric hospital in Eastern Nigeria. Multiple regression results showed that hardiness, social support and religious commitment positively predicted psychological well-being in total sample. This study shares similar attributes with the present study because they both assessed hardiness and wellbeing. However, the study was not carried out among humanitarian health workers, neither was the setting in Northwestern Nigeria, and lastly, the targeted dependent variable was not psychosocial wellbeing as is done in the present study.

Davoudimoghaddam et al. (2018) examined the effect of hardiness skills training on personal and social adjustment among women household heads in Mashhad, Iran. Results indicated that the hardiness skills training led to the improvement of personal and social adjustment of women household heads. More so, the hardiness training intervention effectively improved at-home, health-related, emotional and occupational adjustments among them. The reviewed study also failed to show how the dimensions of hardiness affect the dimensions of psychosocial wellbeing. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Jotwani (2018) examined the relationship between hardiness and psychosocial distress among humanitarian workers in Madhya-Pradesh, India. The cross-sectional study was caried out among 100 humanitarian workers sampled on purposive basis. The results indicated that there is a significant negative correlation between hardiness and psychological distress among humanitarian workers. The reviewed study also failed to show how the dimensions of hardiness affect the dimensions of psychosocial wellbeing. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Secondary Traumatic Stress, Hardiness and Psychosocial Wellbeing

Bekesiene et al. (2023) evaluated the effect of hardiness on the relations between perceived traumatic experiences and social wellbeing among military officers in Lithuania. The results revealed that resilience and hardiness had moderate mediating roles between perceived traumatic stress and social wellbeing. They also found that when psychological hardiness is low, the level of perceived traumatic stress has a statistically significant moderating effect, i.e., it reduces the effect of hardiness on military performance. This study has the strength that it assessed the role of hardiness as a moderator variable using a high sample size. The reviewed study also failed to show how the dimensions of hardiness moderate the predictor-to-outcome relationship in this study. However, the study was not conducted in a humanitarian context, nor in northwestern Nigeria, thus it lacks ecological validity in relation to the present study.

Vagni et al. (2020) examined hardiness, stress and secondary trauma in Italian healthcare and emergency workers during the COVID-19 Pandemic. The results indicated that healthcare workers had higher levels of stress and arousal than the emergency workers group and those involved in the treatment of COVID-19 were exposed to a large degree of stress and were at high

risk of developing secondary trauma. Lastly, stress and hardiness resulted in 37% and 17% of the variance of arousal and intrusion, respectively. However, this study also shares similar features with the present study, but it was not conducted in Northwestern Nigeria, neither does it delineate the impact of the predictor variables on psychosocial wellbeing among humanitarian health workers. The reviewed study also failed to show how the dimensions of hardiness moderate the predictor-to-outcome relationship in this study.

Cieslak et al. (2020) examined the moderating role of hardiness and social support on the relation between job stressors and well-being. The cross-sectional study was conducted on a group of 200 women employed as office workers. The results showed that hardiness correlates with the indexes of emotional support as well as practical support coming from supervisors, although the connection however, was not strong. It was also found that hardiness and social support were directly connected with the level of well-being. This study is unique and constitutes one of the few studies to reveal the "no significant moderating effect" of hardiness. This is quite weird and calls for more studies to clear this doubt.

Abbasi et al. (2020) analyzed the role of hardiness and optimism on negative life events and coping self-efficacy among 228 psychological first aiders in Iran. Hierarchical linear regression analyses were used to examine the moderating role of hardiness and optimism. The results reveal that there was a significant relationship between hardiness, optimism, negative life events and coping self-efficacy. Hardiness and optimism were also found to be moderators in the relationship between negative life events and coping self-efficacy. This study is related to the present study in the use of hardiness as a moderator and the use of psychological first aiders for data collection. However, the two studies differ in the independent and dependent variables used. The reviewed study also failed to show how the dimensions of hardiness moderate the predictor-to-outcome relationship in this study. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Hypotheses

In line with the gaps identified in the literature reviewed, the following hypotheses were postulated and tested:

i. Secondary traumatic stress will significantly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
ii. Hardiness will significantly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
iii. Hardiness will significantly moderate the influence of secondary traumatic stress on psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
iv. Secondary traumatic stress and hardiness will jointly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.

Design

This study adopted cross-sectional survey design. In the present study, the opinions and views of humanitarian health workers were collected at a single point in time and used for relational inferences. Therefore, the independent variable in this study is secondary traumatic stress, the moderating variable was hardiness while the dependent variable was psychosocial wellbeing.

Setting

This study was carried out among humanitarian health workers in Northwestern Nigeria (Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto and Zamfara states). Northwest is the one of the six geopolitical zones of Nigeria representing both a geographical and political region of the country. It comprises seven states – Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara. The region has a population of about 49 million people, which equals about 23% of the total population of the country (Ejiofor, 2022; Oyewole et al., 2023). Nigeria's arid Northwest is beset by violence between bandits and communities, herders and farmers, which has been compounded by an explosion in criminal activity and infiltration by jihadist groups into the region. Below is the Nigeria map depicting the seven states in northwestern Nigeria.

Figure 1: Map of Nigeria showing Northwestern Nigeria

The zone currently has the highest number of out-of-school children in Nigeria (Oyewole et al., 2023). The Northwestern region is currently experiencing humanitarian crises that have drawn the attention of many international and local agencies who specialize in healthcare, livelihood and educational support services. The humanitarian organizations operating in Northwest Nigeria exist in three clusters based on their classification which include: United Nations Organizations, International Non-governmental Organizations, and National Non-governmental Organizations. The total number of "humanitarian workers" in Northwest Nigeria is 45,534.

Population

The present study covered "humanitarian health workers" in the seven (7) states in Northwestern Nigeria. Thus, the population of "humanitarian health workers" in the non-governmental organizations with humanitarian health workers working in each of these states is 3,212. The distribution is shown in the table below.

Table 1: Showing Humanitarian Health Workers in Northwest Nigeria by States.

S/n	State	Number
1.	Kebbi	443
2.	Sokoto	347
3.	Zamfara	555
4.	Katsina	482
5.	Kano	456
6.	Jigawa	438
7.	Kaduna	491
	Total	**3,212**

Source: Field Work (2024)

Sample Size Determination

In order to determine the sample for the study, the researchers adopted the formula developed by Dillman (2000) to ascertain a representative sample for the study. Using the Dillman's Formula, the sample for this study was as calculated below:

$$n = \frac{[(N)(p)(1-p)]}{[(N-1)(B/C)^2+(p)(1-p)]}$$

Where N=population (3,212)

p=0.5 (proportion expected to answer in a certain way 50%)

B=.05 (acceptable level of sampling error)

C=1.96 (confidence interval)

Thus,

$$n= \frac{[(3212)(0.5)(1-0.5)]}{[(3212-1)(.05/1.96)^2 +(0.5)(1-0.5)}$$

$$n= \frac{[(3212)(0.5)(0.5)]}{[(3211)(0.0255)^2+(0.5)(0.5)}$$

$$n= \frac{803}{[(3211)(0.00065)+(0.25)}$$

$$n= \frac{803}{2.087+0.25}$$

$$n= \frac{803}{2.337}$$

n=343.603 ≈ 344.

Sampling Technique

This study used multi-stage sampling technique where census sampling technique was used to consider all the seven (7) states in Northwestern Nigeria for the study. At the second stage, the Eighteen (18) non-governmental organizations offering medical services across the seven (7) states were purposively chosen because they were the only non-governmental organizations offering health services. They were further proportionately sampled, where the number of health workers sampled from each non-governmental organization were determined in relation to their original population. Lastly, simple random sampling was used to determine from each organization, the humanitarian health workers who finally constituted the sample for the study. Below is the distribution of how the proportionate sampling was carried out.

Table 2: Showing the Proportions of Humanitarian Health Workers Sampled for the Study from each NGO.

S/n	Organization	Population	Sample
1.	**Jigawa**		
	Medecins Sans Frontieres	171	18
	Care International	103	11
	IMC	164	18
2.	**Kano**		
	ALIMA	149	16
	IRC	163	18

	IMC	144	15
3.	**Kebbi**		
	MSF	150	16
	Coopi	166	18
	PUI	127	13
4.	**Zamfara**		
	InterSOS	138	15
	Goal	146	15
	Plan	110	12
	MSF	161	17
5.	**Kaduna**		
	Search	120	13
	Save	219	24
	Plan	152	16
6.	**Katsina**		
	MDM	171	18
	Mercy	107	12
	Solidarity	204	22
7.	**Sokoto**		
	TDH	117	12
	FHI	118	13
	Action	112	12
	Total	**3,212**	**344**

Source: Field Work (2024)

Thus, the summation of the above resultant figures across all the non-governmental organizations and according to the seven (7) states, gave rise to the 344 humanitarian health workers used in the study.

Participants

The participants for this study were 344 humanitarian health workers comprising of 208 (60.5%) males and 136 (39.5%) females. Their ages ranged from 25-61years with a mean age of 39.29years (SD=10.83). In terms of their religion, 202 (58.7%) were Christians, 105 (30.5%) were Muslims while 37 (10.8%) were practicing other religions. As for their ethnic groups, 77 (22.4%) were Hausa, 91 (26.5%) were Yoruba, 67 (19.5%) were Igbo while 109 (31.6%) were from other ethnic groups. Concerning their educational qualifications, 37 (10.8%) had Diploma, 238 (69.1%) had HND/B.Sc while 69 (20.1%) had M.Sc/Ph.D. Considering their marital status, 149 (43.3%) were single, 118 (34.3%) were married, 50 (14.5%) were separated/divorced, while 27 (7.9%) were widowed. As for the categories of staff, 67 (19.5%) were International Staff while 277 (80.5%) were National Staff. In terms of work duration, 159 (46.2%) worked for 10years and below, 138 (40.1%) worked for 11-20years, while 47 (13.7%) worked for over 20years. Concerning their duty

stations, 37 (10.8%) were in Sokoto, 47 (13.7%) were in Kebbi, 59 (17.2%) were in Zamfara, 52 (15.1%) were in Katsina, 49 (14.2%) were in Kano, 47 (13.7%) were in Jigawa while 53 (15.3%) were in Kaduna. In terms of their designations, 35 (10.2%) were Medical Doctors, 101 (29.4%) were Psychologists/Counselors, 99 (28.8%) were Nurses/Midwives, 109 (31.6%) were Health Promoters.

Instruments

This study used the Secondary Traumatic Stress Scale, Hardiness Scale and the Copenhagen Psychosocial Wellbeing Scale to collect data from the respondents.

Secondary Traumatic Stress Scale: Secondary traumatic stress was measured using the Secondary Traumatic Stress Scale developed by Bride et al. (2004). The scale has 17 items and is assessed using a 5-point Likert format of 0 (never) to 4 (very often). The scale has three dimensions; Intrusion (items 2, 3, 6, 10, 13), Avoidance (items 1, 5, 7, 9, 12, 14, 17) and Arousal (items 4, 8, 11, 15, 16). In this scale, all the items are directly scored and summed for the total score to be obtained. High scores on the items in this scale indicate high concentration of the subscale measured by those items. The authors reported a Cronbach's alpha of .90. The present study obtained an overall Cronbach's alpha coefficient of .87. The subscales; Intrusions, Avoidance and Arousal had .78, .73 and .86 respectively. Sample of items on the scale include: "It seemed as if I was reliving the trauma(s) experienced by my client(s)", "Thought about my work with clients when I didn't intend to".

Hardiness Scale: Hardiness was measured using the Hardiness Scale developed by Ferrara (2019). The scale has 42 items that are assessed using a 5-point Likert format of 1 (strongly disagree) to 5 (strongly agree). The scale has 3 dimensions; Challenge (items 1-14), Control (items 15-28) and Commitment (items 29-42). In this scale, items 2, 4, 7, 35, 36, and 40 are reverse-scored while the rest of the items are scored directly. High scores on the items in this scale indicate high concentration of the subscale measured by those items. The author reported an alpha coefficient of .73 for the overall scale, and .78, .81, .71 for the subscales; Challenge, Control and Commitment respectively. The present study obtained a reliability coefficient of .80 for the overall scale while the subscales; Challenge, Control and Commitment had .74, .75 and .77 respectively. Sample of items include; "I can control my anger and stress", "I feel that I am controlling my life".

Copenhagen Psychosocial Wellbeing Scale: Psychosocial wellbeing was measured using the Copenhagen Psychosocial Wellbeing Scale developed by Pejtersen et al. (2010). The scale has 30 items and is assessed using a 5-point Likert format of 0 (Never) to 4 (Always). The scale has 7 dimensions; Quality of Sleep (items 1-4), Burnout Tendency (items 5-8), Healthy Relationship (items 9-12), Depressive Symptoms (items 13-16), Social Interaction (items 17-20), Cognitive Stress (items 21-24), and Self-Efficacy (items 25-30). In this scale, items 1-3, 5-8, 13-16, 21-24 are reverse-scored while items 4, 9-12, 17-20, 25-30 are directly scored. High scores on the items in this scale indicate high concentration of the subscale measured by those items. The author reported an overall alpha coefficient of .89. The present study obtained a reliability coefficient of

.89 for the overall scale while the subscales had; Quality Sleep (α=.75), Burnout Tendency (α=.80), Health Relationship (α=.79), Depressive Symptoms (α=.78), Social Interaction (α=.83), Cognitive Stress (α=.83), Self-Efficacy (α=.85). Sample of items on the scale include; "How often have you had difficulty in taking decisions?", "Do you feel okay been in the midst of others?"

Procedure

This study was carried out among humanitarian health workers in Jigawa, Kano, Kebbi, Kaduna, Katsina, Sokoto and Zamfara states in Northwestern Nigeria. The researchers first sought the approval of each Non-Governmental Organization considered for the study and also requested for the total number of humanitarian health workers they each have. These approvals and data were also obtained. The researchers used the questionnaire for this study to create an online data collection sheet using google form which was administered to the targeted respondents (humanitarian health workers) via their emails. In the online questionnaire, the researchers assured the respondents of confidentiality, informed consent, safety, anonymity and non-deceptions. The researchers administered these online questionnaires with the support of a Human Resource Assistant from each organization considered in the study. The Human Resource Assistants were given proper orientation on ethics and their sole duty was to forward the online questionnaire link to the targeted health workers' emails. Each HR Assistant had a virtual session with the researcher where simple random sampling was done via secret balloting, to determine those whom the link will be sent to for their responses. After the online administration, the researchers followed-up every two days for one week, to ensure that the Human Resource Assistant constantly reminds the respondents to fill and submit their responses. At the end of the process, all the 344 responses representing 100% return rate were submitted online, into the researchers' google account. The researchers then downloaded them into Microsoft Excel, further refined and encoded the responses into Statistical Packages for Social Sciences (SPSS) and conducted the required analyses.

Data Analysis

The data collected in this study were analyzed using a combination of descriptive statistics and inferential statistics. The researcher described the attributes of the respondents using mean, standard deviation, frequencies and percentages. On the other hand, hypothesis one and two were tested using multiple linear regression. Hypothesis three was tested using Hayes Process Macro Moderation analysis hypothesis four was tested using standard multiple regression.

Results

The hypotheses raised in this study were tested using regression analysis and Process Moderation analysis. The results are presented in the tables beneath:

Table 3: Summary of Multiple Regression showing the Influence of Secondary Traumatic Stress on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.532	.283	44.783	3,340		16.762	.000
	Intrusion					-.276	-5.833	.000
	Avoidance					-.712	-10.804	.000
	Arousal					-.475	-7.107	.000
Quality Sleep	Constant	.901	.811	487.376	3,340		-13.647	.000
	Intrusion					-.480	-19.743	.000
	Avoidance					-.352	-10.406	.000
	Arousal					-.428	-12.471	.000
Burnout	Constant	.626	.391	72.908	3,340		17.746	.000
	Intrusion					.065	1.498	.135
	Avoidance					.809	13.315	.000
	Arousal					.312	5.067	.000
Relationship	Constant	.903	.815	498.635	3,340		49.892	.000
	Intrusion					-.807	-33.525	.000
	Avoidance					-.581	-17.343	.000
	Arousal					-.907	-26.709	.000
Depression	Constant	.682	.466	98.785	3,340		4.177	.000
	Intrusion					.320	7.818	.000
	Avoidance					.712	12.504	.000
	Arousal					.968	16.777	.000
Sociality	Constant	.664	.441	89.441	3,340		7.908	.000
	Intrusion					-.208	-4.973	.000
	Avoidance					-.838	-14.399	.000
	Arousal					-.577	-9.786	.000
Cog. Stress	Constant	.979	.958	2575.151	3,340		2.297	.022
	Intrusion					.417	6.256	.000
	Avoidance					.299	8.282	.000
	Arousal					.270	8.387	.000
Self-Efficacy	Constant	.865	.748	336.795	3,340		7.096	.000
	Intrusion					-.563	-20.037	.000
	Avoidance					-.674	-17.256	.000
	Arousal					-.719	-18.159	.000

The result displayed in table 3 shows that secondary traumatic stress significantly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.283, F(3,340)=44.783, p<.001]. This means that secondary traumatic stress explained 28.3% of the variance in psychosocial wellbeing. The result further showed that intrusions (β=-.276, t=-5.833, p<.001) avoidance (β=-.712, t=-10.804, p<.001) and arousal (β=-.475, t=-7.107, p<.001) independently and inversely predicted psychosocial wellbeing. This implies that humanitarian health workers may be at risk of poor psychosocial wellbeing if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms. Thus, hypothesis one was supported.

As for the dimensions of psychosocial wellbeing, the result shows that secondary traumatic stress significantly influenced quality sleep among humanitarian health workers; [R^2=.811, F(3,340)=487.376, p<.001]. This means that secondary traumatic stress explained 81.1% of the variance in quality sleep. The result further showed that intrusions (β=-.480, t=-19.743, p<.001) avoidance (β=-.352, t=-10.406, p<.001) and arousal (β=-.428, t=-12.471, p<.001) independently and inversely predicted quality sleep. This implies that humanitarian health workers may be at risk of poor sleep quality if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms.

The result also shows that secondary traumatic stress significantly influenced burnout tendency among humanitarian health workers; [R^2=.391, F(3,340)=72.908, p<.001]. This means that secondary traumatic stress explained 39.1% of the variance in burnout tendency. The result further showed that only avoidance (β=.809, t=13.315, p<.001) and arousal (β=.312, t=5.067, p<.001) independently and positively predicted burnout tendency while intrusions (β=.065, t=1.498, p>.05) did not. This implies that humanitarian health workers who experience avoidance and arousal symptoms may be predisposed to job burnout, while those experiencing intrusions do not have a tendency for burnout.

The result shows that secondary traumatic stress significantly influenced healthy relationships among humanitarian health workers; [R^2=.815, F(3,340)=498.635, p<.001]. This means that secondary traumatic stress explained 81.5% of the variance in healthy relationships. The result further showed that intrusions (β=-.807, t=-33.525, p<.001) avoidance (β=-.581, t=-17.343, p<.001) and arousal (β=-.907, t=-26.709, p<.001) independently and inversely predicted healthy relationships. This implies that humanitarian health workers may be at risk of poor interpersonal relationships if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms.

The result also shows that secondary traumatic stress significantly influenced depressive symptoms among humanitarian health workers; [R^2=.466, F(3,340)=98.785, p<.001]. This means that secondary traumatic stress explained 46.6% of the variance in depressive symptoms. The result further showed that intrusions (β=.320, t=7.818, p<.001) avoidance (β=.712, t=12.504, p<.001) and arousal (β=.968, t=16.777, p<.001) independently and positively predicted depressive symptoms. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be at risk of depression.

The result also shows that secondary traumatic stress significantly influenced social interactions among humanitarian health workers; [R^2=.441, F(3,340)=89.441, p<.001]. This means that secondary traumatic stress explained 44.1% of the variance in social interactions. The result further showed that intrusions (β=-.208, t=-4.973, p<.001) avoidance (β=-.838, t=-14.399, p<.001) and arousal (β=-.577, t=-9.786, p<.001) independently and inversely predicted social interactions. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may as well have a low tendency to engage in social interactions with colleagues and other people.

The result also shows that secondary traumatic stress significantly influenced cognitive stress among humanitarian health workers; [R^2=.958, F(3,340)=2575.151, p<.001]. This means that secondary traumatic stress explained 95.8% of the variance in cognitive stress. The result further showed that intrusions (β=.417, t=6.256, p<.001) avoidance (β=.299, t=8.282, p<.001) and arousal (β=.270, t=8.387, p<.001) independently and positively predicted cognitive stress. This implies that humanitarian health workers who experience more intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be at risk of high cognitive stress.

The result also shows that secondary traumatic stress significantly influenced self-efficacy among humanitarian health workers; [R^2=.748, F(3,340)=336.795, p<.001]. This means that secondary traumatic stress explained 74.8% of the variance in self-efficacy. The result further showed that intrusions (β=-.563, t=-20.037, p<.001) avoidance (β=-.674, t=-17.256, p<.001) and arousal (β=-.719, t=-18.159, p<.001) independently and inversely predicted self-efficacy. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be poor in self-efficacy.

Over all, the result indicated that secondary traumatic stress influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; cognitive stress (95.8%), health relationship (81.5%), quality of sleep (81.1%), self-efficacy (74.8%), depressive symptoms (46.6%), social interaction (44.1%) and burnout tendency (39.1%).

Table 4: Summary of Multiple Regression showing the Influence of Hardiness on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.749	.562	145.252	3,340		19.021	.000
	Challenge					.217	5.846	.000
	Control					.599	15.882	.000
	Commitment					.588	15.755	.000
Quality Sleep	Constant	.751	.565	147.031	3,340		26.795	.000
	Challenge					.705	19.085	.000
	Control					.400	10.642	.000
	Commitment					.200	5.382	.000
Burnout	Constant	.650	.422	82.701	3,340		10.263	.000
	Challenge					-.286	-6.721	.000
	Control					-.325	-7.490	.000
	Commitment					-.560	-13.065	.000
Relationship	Constant	.707	.500	113.166	3,340		2.890	.004
	Challenge					.493	12.449	.000
	Control					.605	14.993	.000
	Commitment					.238	5.961	.000
Depression	Constant	.955	.911	1163.243	3,340		-6.461	.000
	Challenge					-.016	-.939	.348
	Control					-.715	-42.103	.000
	Commitment					-.832	-49.546	.000
Sociality	Constant	.765	.586	160.366	3,340		-8.815	.000
	Challenge					.016	.432	.666
	Control					.161	4.393	.000
	Commitment					.791	21.817	.000
Cog. Stress	Constant	.972	.944	1907.346	3,340		9.826	.000
	Challenge					-.501	-37.765	.000
	Control					-.401	-29.687	.000
	Commitment					-.806	-60.389	.000
Self-Efficacy	Constant	.907	.823	527.994	3,340		49.406	.000
	Challenge					.123	5.238	.000
	Control					.636	26.548	.000

Commitment	.540	22.788	.000

The result displayed in table 4 shows that hardiness significantly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.562, F(3,340)=145.252, p<.001]. This means that hardiness explained 56.2% of the variance in psychosocial wellbeing. The result further showed that challenge (β=.217, t=5.846, p<.001), control (β=.599, t=15.882, p<.001) and commitment (β=.588, t=15.755, p<.001) independently and positively predicted psychosocial wellbeing. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be more likely to experience high psychosocial wellbeing. Thus, hypothesis three was also supported.

As for the dimensions of psychosocial wellbeing, the result shows that hardiness significantly influenced quality sleep among humanitarian health workers; [R^2=.565, F(3,340)=147.031, p<.001]. This means that hardiness explained just 56.5% of the variance in quality sleep. The result further showed that challenge (β=.705, t=19.085, p<.001), control (β=.400, t=10.642, p<.001) and commitment (β=.200, t=5.382, p<.001) independently and positively predicted quality sleep. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be more likely to experience high quality of sleep.

The result also shows that hardiness significantly influenced burnout tendency among humanitarian health workers; [R^2=.422, F(3,340)=82.701, p<.001]. This means that hardiness explained 42.2% of the variance in burnout tendency. The result further showed that challenge (β=-.286, t=-6.721, p<.001), control (β=-.325, t=-7.490, p<.001) and commitment (β=-.560, t=-13.065, p<.001) independently and negatively predicted burnout tendency. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be more likely to have low burnout tendency.

The result shows that hardiness significantly influenced healthy relationships among humanitarian health workers; [R^2=.500, F(3,340)=113.166, p<.001]. This means that hardiness explained 50% of the variance in healthy relationships. The result further showed that challenge (β=.493, t=12.449, p<.001), control (β=.605, t=14.993, p<.001) and commitment (β=.238, t=5.961, p<.001) independently and positively predicted healthy relationships. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be more likely to experience healthy relationships.

The result shows that hardiness significantly influenced depressive symptoms among humanitarian health workers; [R^2=.911, F(3,340)=1163.243, p<.001]. This means that hardiness explained 91.1% of the variance in depressive symptoms. The result further showed that control (β=-.715, t=-42.103, p<.001) and commitment (β=-.832, t=-49.546, p<.001) independently and negatively predicted depressive symptoms while challenge (β=-.016, t=-.939, p>.05) did not. This

implies that humanitarian health workers who have the ability to develop control of events around them and be committed to their set goals will be less likely to experience depressive symptoms while on the other hand, the ability to face challenges did not have implications for depressive symptoms.

The result also shows that hardiness significantly influenced social interactions among humanitarian health workers; [R^2=.586, F(3,340)=160.366, p<.001]. This means that hardiness explained 58.6% of the variance in social interactions. The result further showed that control (β=.161, t=4.393, p<.001) and commitment (β=.791, t=21.817, p<.001) independently and positively predicted social interaction while challenge (β=.016, t=.432, p>.05) did not. This implies that humanitarian health workers who have the ability to develop control of events around them and be committed to their set goals will be more likely to interact socially with people while on the other hand, the ability to face challenges did not have implications for social interaction.

The result also shows that hardiness significantly influenced cognitive stress among humanitarian health workers; [R^2=.944, F(3,340)=1907.346, p<.001]. This means that hardiness explained 94.4% of the variance in cognitive stress. The result further showed that challenge (β=-.501, t=-37.765, p<.001), control (β=-.401, t=-29.687, p<.001) and commitment (β=-.806, t=-60.389, p<.001) independently and negatively predicted cognitive stress. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be less likely to experience cognitive stress.

The result also shows that hardiness significantly influenced self-efficacy among humanitarian health workers; [R^2=.823, F(3,340)=527.994, p<.001]. This means that hardiness explained 82.3% of the variance in self-efficacy. The result further showed that challenge (β=.123, t=5.238, p<.001), control (β=.636, t=26.548, p<.001) and commitment (β=.540, t=22.788, p<.001) independently and positively predicted self-efficacy. This implies that humanitarian health workers who have the ability to face challenges, develop control of events around them and be committed to their set goals will be more likely to have high self-efficacy.

Over all, the result indicated that hardiness influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; cognitive stress (94.4%), depressive symptoms (91.1%), self-efficacy (82.3%), social interaction (58.6%), quality of sleep (56.5%), health relationship (50%) and burnout tendency (42.2%).

Table 5: Hayes Process Macro Analysis showing the Moderating Role of Hardiness in Secondary Traumatic Stress and Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Variables	R	R^2	F	df	ß	t	Sig.	LLCI	ULCI
Constant	.934	.872	771.002	3,340		519.490	.000	85.740	86.391
Secondary Traumatic Stress					-.751	-27.846	.000	-.804	-.698
Hardiness					.838	35.103	.000	.791	.885
Int_1(X*W)					-.172	-45.189	.000	-.180	-.165

The result displayed in table 5 shows that hardiness significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers; [R^2=.872, F(3,340)=771.002, Int_1(X*W) (β=-.172, t=-45.189, LLCI=-.180, ULCI=-.165]. The result further indicated that secondary traumatic stress (ß=-.751, t=-27.846, LLCI=-.804, ULCI=-.698) had a significant negative influence on psychosocial wellbeing while hardiness (ß=.838, t=35.103, LLCI=.791, ULCI=.885) positively influenced psychosocial wellbeing. This result implies that humanitarian health workers who are facing secondary traumatic stress but also have hardiness skills, can still experience some level of psychosocial wellbeing. This is because hardiness skills can neutralize the negative impact of traumatic stress on wellbeing. Thus, hypothesis five was also supported.

Table 6: Summary of Standard Multiple Regression showing the Joint Influence of Secondary Traumatic Stress and Hardiness on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.569	.324	54.341	2,341		16.045	.000
	Secondary Traumatic Stress					-.615	-10.534	.000
	Hardiness					.047	.927	.355
Quality Sleep	Constant	.971	.943	1872.343	2,341		27.942	.000
	Secondary Traumatic Stress					-.945	-55.737	.000
	Hardiness					.268	18.340	.000
Burnout	Constant	.677	.458	95.705	2,341		6.778	.000
	Secondary Traumatic Stress					.874	16.729	.000
	Hardiness					-.313	-6.960	.000
Relationship	Constant	.915	.840	596.111	2,341		9.444	.000
	Secondary Traumatic Stress					-.792	-27.929	.000
	Hardiness					.800	32.743	.000

Depression	Constant	.285	.081	10.007	2,341		4.177	.000
	Secondary Traumatic Stress					.005	.068	.946
	Hardiness					-.074	-1.256	.210
Sociality	Constant	.611	.374	67.673	2,341		-1.453	.147
	Secondary Traumatic Stress					-.654	-11.652	.000
	Hardiness					.574	11.873	.000
Cog. Stress	Constant	.505	.255	38.889	2,341		-2.712	.007
	Secondary Traumatic Stress					.144	2.348	.019
	Hardiness					-.088	-1.663	.097
Self-Efficacy	Constant	.983	.967	3349.050	2,341		116.351	.000
	Secondary Traumatic Stress					-.273	-21.228	.000
	Hardiness					.694	62.751	.000

The result displayed in table 6 shows that secondary traumatic stress and hardiness jointly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.324, F(2,341)=54.341, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 32.4% of the variance in psychosocial wellbeing. Thus, hypothesis six was also supported. As for the dimensions of psychosocial wellbeing, the result shows that secondary traumatic stress and hardiness jointly influenced quality sleep among humanitarian health workers; [R^2=.943, F(2,341)=1872.343, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 94.3% of the variance in quality sleep. The result also shows that secondary traumatic stress and hardiness jointly influenced burnout tendency among humanitarian health workers; [R^2=.458, F(2,341)=95.705, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 45.8% of the variance in burnout tendency.

The result also shows that secondary traumatic stress and hardiness jointly influenced healthy relationships among humanitarian health workers; [R^2=.840, F(2,341)=596.111, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 84% of the variance in healthy relationships. The result also shows that secondary traumatic stress and hardiness jointly influenced depressive symptoms among humanitarian health workers; [R^2=.081, F(2,341)=10.007, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 8.1% of the variance in depressive symptoms. The result also shows that secondary traumatic stress and hardiness jointly influenced social interactions among humanitarian health workers; [R^2=.374, F(2,341)=67.673, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 37.4% of the variance in social interactions. The result also shows that secondary traumatic stress and hardiness jointly influenced cognitive stress among humanitarian health workers; [R^2=.255, F(2,341)=38.889, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 25.5% of the variance in cognitive stress. The result shows that

secondary traumatic stress and hardiness jointly influenced self-efficacy among humanitarian health workers; [R^2=.967, F(2,341)=3349.050, p<.001]. This means that secondary traumatic stress and hardiness jointly explained 96.7% of the variance in self-efficacy.

Over all, the result indicated that secondary traumatic stress and hardiness jointly influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; self-efficacy (96.7%), quality of sleep (94.3%), health relationship (84%), burnout tendency (45.8%), social interaction (37.4%), cognitive stress (25.5%) and depressive symptoms (8.1%).

Discussion

Hypothesis one was tested to find out if secondary traumatic stress significantly influenced psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that secondary traumatic stress negatively influenced psychosocial wellbeing among humanitarian health workers. Secondary traumatic stress is characterized by intrusive thoughts, avoidance behaviours and hypersensitivity. It is therefore, not strange for these symptoms to affect the quality of sleep, burnout tendency, relationships, cognitive stress, depressive symptoms, social interaction and self-efficacy of humanitarian health workers. Therefore, this finding agrees with Carnall et al. (2022) found that posttraumatic stress disorder was associated with depression and anxiety which are the risk factors for poor psychosocial wellbeing among rail workers. Other consonant studies by Radstaak et al. (2022) and Hunter (2021) found that vicarious trauma significantly affected the level of wellness experienced by counselors in humanitarian context. Bock et al. (2020) found that nurses experiencing secondary traumatic symptoms reported higher depression and anxiety scores compared to nurses without secondary trauma experience, and to nurses with secondary trauma experience but without secondary traumatic stress symptoms. It is indeed not strange, that all the reviewed studies agreed that secondary traumatic stress affects psychosocial wellbeing.

Hypothesis two was tested to find out if hardiness significantly influenced psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that hardiness positively influenced psychosocial wellbeing among humanitarian health workers. Among humanitarian worker, hardiness skills are very critical to survive the stressful nature of emergency support services. This finding thus implies that psychologically hardy humanitarian health workers will need relatively little support for them to function optimally compared to their less hardy counterparts who may experience poor psychosocial wellbeing in the form of poor sleep quality, depressive symptoms, poor self-efficacy, burnout tendency, unhealthy relationships and reduced social interactions. This finding this agrees with Hasanvand et al. (2024) found a positive relationship between mental health and psychological hardiness. A more encompassing study by Davoudimoghaddam et al. (2018) found that the hardiness skills enhanced both personal and social adjustment among women. Another study by Jotwani (2018) also found a significant negative correlation between hardiness and psychological distress among humanitarian workers. This

finding is likely and it is not surprising to see that all the reviewed studies have finding tallying in same direction in terms of the influence of hardiness on psychosocial wellbeing.

Hypothesis three was tested to find out if hardiness will significantly moderate between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that hardiness significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers. Hardiness is a protective factor for stress and other demanding circumstances. Therefore, it is not strange that the present study found hardiness to neutralize the influence of secondary traumatic stress on psychosocial wellbeing. This implies that humanitarian health workers will need more training on developing hardiness skills since their job requires them to be constantly in contact with secondary trauma. This finding thus agrees with Wen and Goh (2023) who revealed that hardiness moderated the relationship between economic stress and mental health. Earlier studies by Abbasi et al. (2020) found hardiness to be a moderator in the relationship between negative life events and coping self-efficacy. Other studies (Vagni et al., 2020; Cieslak et al., 2020) have produced opposing findings. They found that hardiness had mediating effects on stress and wellbeing. Similarly, Bekesiene et al. (2023) found that hardiness had moderate mediating roles between perceived traumatic stress and social wellbeing.

Hypothesis four was tested to find out if secondary traumatic stress and hardiness will jointly influence psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that secondary traumatic stress and hardiness jointly influenced psychosocial wellbeing among humanitarian health workers. This finding lacks the support of previous studies but is likely because if secondary traumatic stress and hardiness predicted psychosocial wellbeing on independent basis, then it is possible for these two factors to produce a significant joint influence on psychosocial wellbeing among humanitarian health workers.

Recommendations

In line with the finding derived from the present study, the researchers recommends the following measures:

i. Every non-governmental organization should ensure that their team is composed of a staff psychologist whose duty will be to support humanitarian health workers (such as doctors, nurses, psychologists and counselors) who may present with issues related to poor sleep quality, burnout tendency, unhealthy relationships, poor social interactions and perceived self-inefficacy due to constant exposure to secondary trauma.
ii. Staff counselors/psychologists are by this study, encouraged to adopted evidence-based interventions such as Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) to support humanitarian health workers facing psychosocial difficulties in emergency contexts. A vital component of TF-CBT which is termed “Relapse Prevention” plays a critical role in developing hardiness traits among clients.

iii. In the same vein, since hardiness was established to neutralize the impact of secondary traumatic stress on psychosocial wellbeing, clinical psychologists are hereby called to design hardiness training programmes for humanitarian health workers. The training should cover strategies in which staff can develop the skills to face challenges, develop control of events around them and emphasize commitment to goals.

Contributions to Knowledge

The innovative nature of this research cannot be over-emphasized. The study has unveiled numerous facts and findings that are relevant in multidimensional ways:

i. This study further avails credent evidence for the UNOCHA and other NGOs operating in Northwestern Nigeria to design their emergency interventions programmes with due consideration to safeguarding the psychological and social wellbeing of humanitarian health workers (such as doctors, nurses, psychologists etc.) who are in constant face-off with secondary trauma and thus at high risk of mental health problems.
ii. The study also equips clinical psychologists working as Staff Psychologists or Stress Counsellors on the eminent psychosocial needs of humanitarian health workers and the effective measures to provide suiting support to these workers.

REFERENCES

Abbasi, M., Ghadampour, E., Hojati, M. & Senobar, A. (2020). Moderating effects of hardiness and optimism on negative life events and coping self-efficacy in first-year undergraduate students. *Annals of Psychology, 36*(3), 451-456.

Ager, A., Pasha, E., Yu, G., Duke, T., Eriksson, C. & Cardozo, B. L. (2022). Stress, mental health, and burnout in national humanitarian aid workers in Gulu, Northern Uganda. *Journal of Traumatic Stress*, *25*, 713-720.

Alexandra, F., Margarida-Gaspar de, M., Carlos, G. & Fabio-Botelho, G. (2022). Interpersonal problems, resilience, self-regulation and depression on a non-clinical female population - A cross-sectional study. *Psychological and Behavioural Science International Journal, 19*(3), 556-571.

Alonazi, O., Alshowkan, A. & Shdaifat, E. (2023). The relationship between psychological resilience and professional quality of life among mental health nurses: a cross-sectional study. *BMC Nursing, 3*(1), 13-24.

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders, fifth edition (DSM–5).* Washington, DC: Author.

American Psychological Association (2018). *The road to resilience*. Washington, DC: American Psychological Association.

American Psychological Association (2017). *The Road to Resilience*. http://www.apa.org/help center/road-resilience.aspx.

Bagereka, P., Ameli, R., Sinaii, N., Vocci, M. C. & Berger, A. (2023). Psychosocial-spiritual well-being is related to resilience and mindfulness in patients with severe and/or life-limiting medical illness. *BMC Palliative Care, 2*, 1-8.

Bekesiene, S., Smaliukien, R. & Kanapeckait, R. (2023). The relationship between psychological hardiness and military performance by reservists: a moderation effect of perceived stress and resilience. *Healthcare, 11*, 12-24.

Bock, C., Heitland, I., Zimmermann, T., Winter, L. & Kahl, K. G. (2020). Secondary traumatic stress, mental state, and work ability in nurses—results of a psychological risk assessment at a University Hospital. *Frontiers of Psychiatry, 11*, 298-310.

Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*, *14*, 27–35.

Carnall, L. A., Mason, O., O'Sullivan, M., & Patton, R. (2022). Psychosocial hazards, posttraumatic stress disorder, complex posttraumatic stress disorder, depression, and anxiety in the U.K. rail industry: A cross-sectional study. *Journal of Traumatic Stress*, *35,* 1460–1471.

Cieslak, R., Widerszal-Bazyl, M. & Luszczynska-Cieslak, A. (2020). The moderating role of hardiness and social support in the relation between job stressors and well-being: a lesson from a clerical women sample. *International Journal of Occupational Safety and Ergonomics, 6*(2), 257-292.

Connorton, E., Perry, M. J., Hemenway, D. & Miller, M. (2022). Humanitarian relief workers and trauma-related mental illness. *Epidemiologic Reviews, 34*(1), 145–155.

Davoudimoghaddam, B., Raheb, G., Hosseinzadeh, S. & Teymouri, R. (2018). The effect of hardiness on personal and social adjustment of female-headed Households. *World Family Medicine, 16*(2), 236-242.

Delahaij, R., Gaillard, A. W. & Van-Dam, K. (2020). Hardiness and the response to stressful situations: investigating mediating processes. *Personality and Individual Differences, 49*(5), 386-390.

Dillman, D. A. (2000). *Mail and Internet Survey: the tailored design method*. Brisbane: Willey.

Ejiofor, P. F. (2022). Beyond ungoverned spaces: connecting the dots between relative deprivation, banditry, and violence in Nigeria. *African Security, 1*, 1-31.

Eriksson, C. B., Lopes-Cardozo, B., Foy, D. W., Sabin, M., Ager, A., Snider, L. & Gotway Crawford, C. (2023). Predeployment mental health and trauma exposure of expatriate humanitarian aid workers: Risk and resilience factors. *Traumatology*, *19*, 41-48.

Eschleman, K. J., Bowling, N. A., & Alarcon, G. M. (2020). A meta-analytic examination of hardiness. *International Journal of Stress Management*, *17*(4), 277–307.

Ferrara, S. (2019). An initial development of a hardiness scale. *Educational Specialist*, *3*, 144-167.

Hasanvand, B., Arya, A. & Dogaheh, E. (2024). Prediction of psychological hardiness based on mental health and emotional intelligence in students. *Practice in Clinical Psychology, 2*(4), 255-261.

Hu, T., Zhang, D., & Wang, J. (2018). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences, 76*, 18–27.

Hunter, E. (2021). Relationship between wellness, resilience, and vicarious trauma among clinical mental health counselors serving interpersonal violence survivors. *Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy Counselor Education and Supervision Walden University.*

Ifeagwazi, M. C., Eke, O. H., Chukwuorji, J. C. & Omeh, E. O. (2021). Social support, religious commitment, hardiness and psychological well-being of psychiatric patients' caregivers: A Nigerian Study. *Journal of Clinical Medical Imagery, 5*(11), 1-5.

Jachens, L. (2019). Humanitarian aid workers' mental health and duty of care. *Europe's Journal of Psychology, 15*(4), 650–655.

Jones, N., Baird. S., Abu-Hamad, B., Bhutta, Z. A., Oakley, E. & Shah, M. (2022). Compounding inequalities: Adolescent psychosocial wellbeing and resilience among

refugee and host communities in Jordan during the COVID-19 pandemic. *PLoS ONE, 17*(2), 261-273.

Jotwani, J. (2018). Hardiness and psychological distress among university students studying in Madhya Pradesh. *The International Journal of Indian Psychology, 3*(2), 51-59.

Lai, D., Ou, X., Lee, V., Yan, E., Li, J., Liu, E. & Wenqing-Yu, M. S. (2023). Exposure to violence in social unrest, resilience, and mental health of older people in Hong Kong. *American Journal of Geriatric Psychiatry, 31*(12), 1091−1099.

Lopes-Cardozo, B., Crawford, C. G., Eriksson, C., Zhu, J., Sabin, M., Ager, A. & Olff, M. (2022). Psychological distress, depression, anxiety, and burnout among international humanitarian aid workers: a longitudinal study. *PloS One*, *7*(9), 44-48.

Lopes-Cardozo, B., Crawford, C., Petit, P., Ghitis, F., Sivilli, T. I., Scholte, W. F. & Eriksson, C. (2023). Factors affecting mental health of local staff working in the Vanni Region, Sri Lanka. *Psychological Trauma: Theory, Research, Practice and Policy, 5*(6), 581–590.

Motan, I. (2022). Distinguishing Anxiety and Depression: Hardiness. *Unpublished master thesis submitted to the Middle East Technical University, Ankara, Turkey*. https://tez.yok.gov.tr/UlusalTezMerkezi/

Oyewole, S., Aina, F. & Ojo, S. J. (2023). *Wing over flies: air campaigns against armed banditry in North West Nigeria*. Royal prints, Lagos.

Pejtersen, J. H., Kristensen, T., Borg, V. & Bjorner, J. (2010). The second version of the Copenhagen Psychosocial Questionnaire (COPSOQ II). *Scandinavian Journal of Public Health, 38*(3), 8–24.

Platania, S., Gruttadauria, S. V. & Morando, M. (2022). Dispositional resilience as mediator in psychological stress on healthcare workers: A multi-group analysis of frontline and non-frontline workers. *European Journal of Investigative Health Psychology and Education, 12*, 1285–1299.

Radstaak, M., Huning, L., Lamers, S., & Bohlmeijer, E. T. (2022). Examining well-being in posttraumatic stress disorder treatment: An explorative study. *Journal of Traumatic Stress*, *35,* 914–925.

Reynaud, E., Guedj, E., Souville, M., Trousselard, M., Zendjidjian, X., El-Khoury-Malhame, M. & Khalfa, S. (2023). Relationship between emotional experience and resilience: An fMRI study in fire-fighters. *Neuropsychologia*, *51*(5), 845–849.

Rivera-Picon, C., Benavente-Cuesta, M. H., Quevedo-Aguado, M. P. & Rodríguez-Munoz, P. M. (2022). Differences in resilience, psychological wellbeing and coping strategies between HIV Patients and Diabetics. *Healthcare*, *10*, 266-271.

Strohmeier, H. & Scholte, W. F. (2018). Trauma-related mental health problems among national humanitarian staff: a systematic review of the literature. *European Journal of Psychotraumatology, 6*(1), 28-41.

Tseliou, F. & Ashfield-Watt, P. (2022). The association between resilience resources, contextual factors and mental health status: a national population-based study. *BMC Public Health, 2*(1)*,* 1-13.

Vagni, M., Maiorano, T., Giostra, V. & Pajardi, D. (2020). Hardiness and coping strategies as mediators of stress and secondary trauma in emergency workers during the COVID-19 pandemic. *Sustainability, 12*, 7561-7583.

Wen, J. & Goh, E. (2023). The moderating role of trajectories of family hardiness in the relationship between trajectories of economic hardship and mental health of mothers and children. *Current Psychology, 42*, 29012–29022.

Yabilsu-Guyuk, S., Igbokwe, D., Obidiran, O., Umar, N. Gono, B., Akoji-Umaru, R. & Jande, D. (2022). Prevalence of vicarious trauma among humanitarian aid workers in Nigeria. *Conference paper presented at the Nigerian Association of Clinical Psychologists (NACP) National Conference 2022.*

Yi, H., Zhiqun, L., Juan, Z., Jiapei, Y., Huan, X. & Huan, W. (2022). Validity and Reliability of the Secondary Traumatic Stress Scale—Chinese Version. *Frontiers in Surgery, 9*(1), 46-57.