EXCELLENCIA
INTERNATIONAL MULTI-DISCIPLINARY JOURNAL OF EDUCATION

Volume 2, Issue 12, 2024 ISSN (E): 2994-9521

PREVALENCE OF SECONDARY TRAUMA STRESS AND MENTAL HEALTH OF FIRST RESPONDERS

Kristine Joy Cabujat [1] & Maria Victoria T. Juan [2]
[1]Administrative Officer IV, Quirino State University, Diffun Campus
[2]Program Chairperson, College of Arts and Science, Isabela State University, Echague Campus
Email: kristinajoycabujat@gmail.com[1]; juantandocmavic@gmai.com[2]

Abstract:

This study examines the prevalence of secondary trauma stress (STS) and its relationship with the mental health of first responders in the fourth congressional district of Isabela, Philippines. Employing a quantitative descriptive-correlational approach, data were gathered using validated tools: the Secondary Traumatic Stress Scale (STS Scale) and the Mental Health Continuum-Short Form (MHC-SF). Results revealed that respondents experienced mild levels of STS. Simultaneously, respondents demonstrated flourishing mental health across emotional, social, and psychological dimensions, suggesting a robust capacity for resilience despite high-stress occupational demands. Statistical analyses identified significant correlations between STS and mental health indicators, highlighting the adverse effects of STS on well-being. These findings underscore the need for tailored wellness programs and mental health interventions to mitigate STS and sustain the mental health of first responders. Recommendations include implementing organizational stress management strategies, routine mental health assessments, and enhanced access to support services. This study contributes to the growing body of knowledge on first responder mental health and provides a foundation for future intervention-based research.

Secondary Trauma Stress (STS), Mental Health, First Responders, Wellness Program, Stress Management

Introduction

First responders are individuals who respond to emergencies, providing immediate aid and comfort during crises. Their dedication to public safety, whether in law enforcement, firefighting, or emergency medical services, places them at the forefront of exposure to traumatic events. These professionals confront a multitude of challenging situations, ranging from natural disasters to criminal incidents, in their commitment to preserving life and safeguarding the public. However, the relentless exposure to trauma and crisis in the line of duty exacts a significant toll on their psychological well-being. Secondary Trauma Stress (STS), an emotional and psychological response to the trauma experienced by others, represents a multifaceted challenge for first responders, presenting a complex nexus of mental

health implications.

First responders may internalize the pain, suffering, and grief of the individuals they help, which can impact their mental health and overall well-being. Symptoms of secondary trauma stress can manifest as intrusive thoughts, emotional numbness, decreased empathy, irritability, and a sense of hopelessness.

Internationally, the concept of Secondary Trauma Stress has been extensively researched and discussed, with studies such as those by Bride et al., (2007) and Greinacher et al., (2019) shedding light on the prevalence and impact of STS among first responders. However, the prevalence of STS among first responders varies across studies and across different fields (Roden-Foreman et al., 2017; Weiss-Dagan et al., 2016; Nicholson et al., 2023, Levin, et al., 2021).

Amid these global data, it is imperative to explore how STS manifests within the unique cultural, professional, and organizational context of the Philippines. Recent studies in the Philippines, such as Alcantara and de Guia's research (2022), have in fact begun to draw attention to this issue. Their work suggests a significant incidence of STS among Filipino first responders, highlighting the urgency of a tailored response based on empirical data. Local studies by Gonzales and Manlapig (2019) underscore the critical need to acknowledge Secondary Trauma Stress (STS) as a significant mental health issue among Filipino first responders. However, further research is required to comprehensively understand i′ implications and develop effective interventions.

Meanwhile, a surge of concern is also evident due to findings suggesting the negative effects of the first responders' line of work on their mental health. Previous investigations have highlighted the impact of traumatic incidents and high-stress environments on first responders' mental health. Jones et al. (2018) brought to light a range of mental health challenges faced by first responders like moderate-severe depressive symptoms, anxiety symptoms, and significant signs of PTSD, including indicators of high suicide risk. This study revealed a disturbing reality every four first responders met the criteria for PTSD, and an even more painful statistic emerged: one in three was considered at a high risk of suicide. This is corroborated on a subset of first responders, as Cherry et al. (2020) revealed a portion of these firefighters met the criteria for PTSD. Additionally, 30.7% displayed signs of anxiety disorder, and 28.5% grappled with a depressive disorder. This study underscored that even within a concentrated context, the level of mental health struggles remains consistently high among first responders.

Aside from Jetelina's (2020) assessment on the prevalence of mental illness and symptoms. among police officers in Texas, the study also discovered four main barriers to seeking help; (1) an inability to recognize when they are suffering from a mental illness, (2) worries about confidentiality, (3) the notion that psychologists cannot relate to their employment, and (4) the stigma that officers seeking mental health services are unfit for duty.

As this study turns its lens to the positive well-being of its respondents, a self-reported scale called Mental Health Continuum-Short Form (MHC-SF) that measures emotional, psychological, and social well-being and conducts categorical diagnoses of positive mental health was utilized (Guo et al., 2015). Although there was no existing research using the tool specifically on first responders yet, MHC-SF assesses mental health in various populations. Nevertheless, this instrument gathers information about the mental health status of individuals or specific populations. Therefore, it could be used to assess the level of mental health among first responders.

It is important to note that the psychological well-being of first responders is intrinsically linked to their ability to fulfill their professional responsibilities. Papazoglou (2023) emphasized that prioritizing the well-being of first responders is essential for the effective and safe execution of their duties, which impacts both the responders and the public. When a first responder's mental health is compromised, it can lead to significant difficulties in performing their duties adequately, potentially jeopardizing public safety and well-being. This is supported by international research, exemplified by studies like Carleton et al. (2020), where substantial prevalence of mental health issues was found among first responders. It has also been discovered in other studies that there is a higher incidence of psychological illnesses in this particular demographic such as depressive symptoms or depression (Jones et al., 2018), anxiety (Alshahrani et al., 2022), post-traumatic stress disorder (Wilson et al., 2016) and substance and alcohol

abuse (Jones. 2017; Schroeder et al., 2018).

In the local setting, the STS among first responders is present. Super Typhoon Haiyan survivors and responders in the Philippines experienced significant psychological distress and post-traumatic stress symptoms, with greater distress being associated with financial instability, physical injury, and perceived life threats (Chan et al., 2016).

Even the mental health professionals themselves who were expected to be knowledgeable in this aspect were not exempted. 23 and 27% of mental health professionals discovered by Ivicic and Motta (2017) were positive for secondary traumatization. According to a study conducted by Teel et al. (2019), physiatrists experience a higher frequency of secondary traumatic stress (STS) than the general population. Out of the sample surveyed, 30% screened positive for STS, and 45% reported clinical levels of at least one STS symptom cluster. Hensel et al. (2015) prove this point as they state that professionals who work with trauma victims are at risk of developing STS.

However, it is important to note that Chaudhry et.al. (2022) found otherwise. On the contrary, 55.3% of Health care professionals working in tertiary care hospitals reported little level of STS and 41.7% reported mild to moderate levels of STS. This implies that, though healthcare professionals work with trauma victims, the prevalence of it varies and, in this case, there is little to moderate level of secondary trauma. This is parallel with Greinacher et al. (2019) who conducted a systematic review of first responders' secondary traumatization in 219 studies found on electronic databases. According to the result, they discovered minimal levels of subsequent traumatization among the respondents. First responders' low incidence of secondary traumatization may be attributed to worries about job security and social acceptance.

Looking into the relationship of STS and mental health, Secosan et al. (2020) found that secondary traumatic stress had a positive direct effect on symptoms of mental illness. This means that higher levels of secondary traumatic stress were associated with an increase in symptoms of mental illness among frontline healthcare workers during the COVID-19 pandemic. The limited sample size indicates that during the COVID-19 outbreak, frontline medical staff experienced higher STS levels, which are connected to mental health disorders via fatigue and insomnia. Moreover, Morrison and Joy (2016), in their study on emergency nurses in the West of Scotland, found that unmanaged secondary traumatic stress poses a formidable obstacle to both the mental health and the quality of care they provide.

A systematic review by Jones (2017) takes a comprehensive stance, illuminating how duty-related trauma exposure intertwines with the holistic mental health profile of first responders. This body of work emphasizes the urgency of tailored strategies to address the mental health needs of this at-risk population.

In this connection, the conceptualization and implementation of wellness programs for first responders have gained traction globally. International studies, such as McCreary and Thompson's work (2019), indicate that such programs can effectively mitigate the adverse psychological effects of trauma exposure. Philippines has also recognized the urgency of prioritizing the well-being of its first responders, with the Department of Health (DOH) (2021) introducing the "Bayanihan sa Kalusugan" initiative. However, the tailored efficacy of these programs within the Filipino context remains a subject that necessitates rigorous exploration.

This study aims provide a foundation for further research and evidence-based practices. It seeks to develop a wellness program by measuring secondary trauma stress and mental health levels and analyzing their relationship. Conducted in the fourth district of Isabela, the study involved risk reduction rescue personnel from these congressional district. The findings highlight the importance of addressing the physical and mental well-being of first responders, benefiting both individuals and their organizations. The study also encourages further research on wellness programs and mental health interventions for first responders.

Methods

Using a quantitative research approach, the researcher employed descriptive and correlational to bridge the study objectives and data gathering instrument. The study was conducted in the municipalities and city of the fourth congressional district of Isabela: Cordon, Santiago City, Dinapigue, Jones, and San Agustin. These municipalities and city are exposed to natural and synthetic hazards making disaster preparedness and response critical. Their exposure to frequent and severe disasters provides rich insights into how trauma impacts their mental health in such high-pressure environments.

The respondents of this study were risk reduction rescue personnel from the disaster risk reduction management offices in the province of Isabela. To be included in the study, respondents needed to meet the following criteria: (1) have at least one year of on-site experience as first responders in their respective municipality or city, ensuring they have dealt with or treated patients who have experienced traumatic events or situations during their duty.

To determine the level of secondary trauma stress, the researcher used the tool developed by Bride (2013) called Secondary Traumatic Stress Scale. It has a 17-item set of questions answerable by a five-point Likert scale (never, rarely, occasionally, often, and very often). It is utilized to assess the frequency of symptoms of intrusion, avoidance, and arousal. Individually, the coefficients of the three subscales were 0.83, 0.89, and 0.85, respectively. The Secondary Trauma Stress Scale subscale score is calculated by summing up the endorsed item scores for each sub-scale and adding up the score of the three subscales to have the total STSS Scale, with a higher score indicating a higher frequency of symptoms, to wit:

Table 1. Item Placement of STS Subscales and Interpretation

Subscale	Items
Intrusion Subscale	2,3,6,10,13
Avoidance Subscale	1,5,7,9,12,14,17
Arousal Scale	4,8,11,15,16,19

Interpretation	Ranges
Severe STS	49 +
High STS	44 – 48
Moderate STS	38 – 43
Mild STS	28 – 37
Little or No STS	27 or less

To determine the level of mental health of respondents, the Mental Health Continuum's short form was used. It is made up of 14 items that were chosen to represent each aspect of well-being. The short form includes three items measuring emotional well-being (which reflects hedonic well-being), six items measuring psychological well-being, and five items measuring social well-being (when combined, reflects eudaimonic well-being). These response options assess how frequently respondents encounter each positive mental health symptom. Based on these three subscales, this scale also provides a flourishing and languishing mental health indicator.

The items are added up to produce a total score ranging from 0 to 70. The emotional (hedonic) well-being subscale scores range from 0 to 15, the social well-being subscale scores range from 0 to 25, and the psychological well-being subscale scores range from 0 to 30. Flourishing mental health is defined as reporting one of three hedonic signals and six of eleven eudaimonic signs (social and psychological subscales combined) "every day" or "five to six times a week," with higher scores indicating higher levels of positive well-being. Its psychometric properties were considered very reliable with a Cronbach alpha of 0.87. Its three subscales were also very reliable with measures equivalent to 0.84 for the emotional

scale, 0.85 for the psychological scale, and 0.82 for the social scale (Afrashteh, 2022). The following are the categorical scoring and criteria for determining the respondents' level of mental health:

Table 2. Criteria for Determining Respondents' Level of Mental Health

Descriptive Equivalent	Criteria for Cluster 1	Criteria for Cluster 2 & 3
Flourishing	Must at least have 1 "everyday" or "almost every day" response	Must at least have 6 "everyday" or "almost every day" response
Moderately Mentally Healthy	Meets criteria for both flourishing and languishing	
Languishing	Must at least have 1 "never" and "once or twice" response	Must at least have 6 "never" and "once or twice" response

In the statistical treatment of data, mean was used to determine the levels of secondary trauma stress and mental health of the respondents. In addition, pearson-r was utilized to analyze the significant relationship between secondary trauma stress and mental health.

Results and Discussion

Table 3. Level of Secondary Trauma Stress among the respondents

Indicators	Mean Scores	Level of Stress
Intrusion	9.2	
Avoidance	12.0	
Arousal	8.7	
Total Score	**29.9**	**Mild STS**

Table 3 displays the level of secondary trauma stress (STS) among the respondents, revealing that they experience mild levels of secondary trauma stress with a mean score of 29.90. Subscales intrusion, avoidance, and arousal were "rarely" experienced by the respondents with mean scores of 9.2, 12.0, and 8.75, respectively. The mild level of STS suggests that while secondary trauma stress is present, it is not at a critical level that severely impacts daily functioning.

The respondents report mild levels of STS, as indicated by their scores across the intrusion, avoidance, and arousal subscales. The dimensions of STS are crucial for understanding how secondary exposure to trauma can impact mental health. Intrusion involves recurrent and distressing thoughts, memories, or dreams related to the traumatic events experienced by others. These thoughts often come unexpectedly and can be difficult to control, causing emotional distress (Einabad, & Shairi, 2017). First responders might repeatedly think about, visualize, and may have frequent nightmares of the traumatic incidents they have witnessed, such as severe injuries or fatalities during rescue operations.

Avoidance involves deliberate efforts to avoid reminders or triggers of the trauma. First responders might avoid talking about certain incidents or refuse to participate in specific emergency calls that remind them of past trauma. They may become emotionally detached from significant people and consciously suppress their emotions to avoid confronting their trauma-related feelings. This can lead to social withdrawal and a sense of isolation (Sette, et al., 2023).

Arousal symptoms involve heightened physiological and emotional responses to stress. These symptoms include hypervigilance, irritability, difficulty sleeping, and exaggerated startle responses. Hypervigilance is a helpful defense against potentially hazardous conditions for first responders, it is not a state that is sustained for a long period. While the nature of the first responder's job necessitates heightened awareness, extreme attention and alertness over time can have a long-term detrimental

implication. Hypervigilance eventually wears out, overwhelms, and depletes the body and mind (Fritz et al., 2018). First responders with high arousal symptoms may constantly feel "on edge" and overly alert to potential dangers, even in non-threatening situations. They may struggle with insomnia or restless sleep due to their heightened state of arousal, often reliving traumatic events or worrying about future incidents. This can lead to exhaustion and mental fatigue. Loud noises, sudden movements, or even benign stimuli might also trigger an intense startle reaction, as if they are in a dangerous situation.

Despite their inherent vulnerability to trauma-related stress, first responders in the study report mild levels of Secondary Trauma Stress (STS). This may be due to a combination of resilience-building training (Austin, et al., 2018), strong peer and organizational support (Caringi, et al., 2017) and the use of adaptive coping strategies (Vagni et al., 2020). Several factors can explain this phenomenon, supported by recent studies. Wild et al. (2020) highlighted how resilience-building training for first responders significantly reduces the long-term impact of trauma exposure. This training teaches first responders practical coping techniques, including mindfulness and problem-solving, which help them process traumatic events without internalizing them as severe STS symptoms. Also, Carleton et al. (2018) found that first responders who used adaptive coping strategies, such as mindfulness, cognitive restructuring, and positive reframing, had lower levels of STS than those who employed avoidance or maladaptive coping techniques like substance use. In addition, A study by Skeffington et al. (2020) shows that organizations offering routine mental health interventions, such as cognitive-behavioral therapy (CBT) workshops or stress management programs, contribute to lower levels of STS among first responders. These interventions provide psychological support that can prevent trauma symptoms from worsening.

The mild levels of STS reported are consistent with findings in other occupational settings where individuals are exposed to stressors but may have access to coping mechanisms that mitigate severe stress outcomes. For example, a study by Cieslak et al. (2016) found that while secondary trauma is prevalent among professionals working in high-stress environments, the severity of stress is often moderated by factors such as social support and personal resilience.

The prevalence of STS among first responders is well-documented, with many studies indicating that these professionals are at a higher risk compared to the general population (Bride, 2007; Shoji et al., 2015). Studies have shown that this occupational group is at a higher risk of developing STS due to their repeated exposure to traumatic incidents (Cieslak et al., 2014). Research conducted globally indicates that a significant proportion of first responders experience symptoms of secondary trauma stress, with prevalence rates ranging from moderate to high levels across different cultures (Greinacher et al., 2019; Kim et al., 2020).

In the Philippines, research on secondary trauma stress among first responders has gained attention in recent years, highlighting its prevalence and associated factors within the local context. The Philippines is prone to natural disasters, leading to frequent activation of first responders. This constant state of readiness and exposure to traumatic events can contribute to the levels of STS. The collectivist culture in the Philippines emphasizes strong social support networks, which can provide emotional and psychological support to first responders, potentially mitigating the severity of STS symptoms (Tuason, 2008).

While the levels of STS can vary, many first responders report mild to moderate symptoms across the dimensions of intrusion, avoidance, and arousal, similar to the results presented. For instance, a systematic review highlighted that first responders generally exhibit low levels of secondary traumatization, suggesting some level of resilience possibly due to their training and coping mechanisms (Greinacher et al., 2019). The consistent reporting of mild STS across all indicators suggests that while the respondents are experiencing some stress, it is not overwhelming.

Table 4. Level of mental health exemplified by the respondents

Indicators	Mean	Level of mental health
Hedonic – Emotional Well Being	13.8	Flourishing
Eudaimonic – Social Well Being	21.4	Flourishing
Eudaimonic – Psychological Well Being	26.6	Flourishing
Total Score	**61.8**	**Flourishing**

Table 4 presents the level of mental health of the respondents. It can be concluded that first responders have a good level of mental health, as evidenced by a flourishing emotional well-being, social well-being and psychological well-being. The three indicators of mental health among respondents yielded 61.8 total score indicative of flourishing mental health. The respondents indicated "flourishing" emotional well-being, with a mean score of 13.8. This suggests that the first responders at the time of the study had positive feelings and were content with their lives. Furthermore, respondents reported "flourishing" in terms of social well-being, with a mean score of 21.4. This means that the respondents experienced having positive functioning with their interpersonal relationship including having contributed something beneficial to the community. Finally, first responders reported high psychological well-being, with a mean score of 26.6. This means that the first responders in the location of the study felt optimum on how they viewed their lives.

In the context of the study, mental health is measured through three key dimensions: emotional well-being, social well-being, and psychological well-being. These indicators collectively assess the respondents' overall mental health and their ability to function effectively in both personal and professional environments. The results suggest that the first responders in the study exhibit flourishing mental health, which is characterized by high levels of emotional, social, and psychological well-being despite their exposure to stressful and traumatic situations.

Emotional well-being refers to the overall balance of positive emotions and a sense of satisfaction with life (Sirgy, 2020). First responders with flourishing emotional well-being experience joy, contentment, and emotional resilience even when exposed to stressors. The study's findings of mild levels of Secondary Trauma Stress (STS) support the flourishing emotional well-being of first responders. Since STS has not escalated to severe levels, the emotional toll from trauma exposure remains manageable. Recent research by Anton et al., (2021) highlight how individuals in high-stress professions, like healthcare workers and first responders, can maintain emotional well-being through strong support systems and emotional regulation skills. This aligns with the mild STS reported in the study, where first responders likely employ effective coping strategies which prevent emotional distress from escalating.

Social well-being is the quality of one's relationships and the sense of belonging within a community or workgroup (Allen et al., 2021). First responders with flourishing social well-being experience strong interpersonal connections, supportive teamwork, and a sense of contribution to society. The role of peer support is critical in fostering social well-being (Horan et al., 2021). The mild STS levels observed in the study may be attributed to the strong social networks and camaraderie within first responder teams. Halpern et al. (2019) demonstrated that peer support systems within first responder teams significantly reduce stress levels and improve social well-being.

Psychological well-being encompasses an individual's sense of purpose, autonomy, and personal growth (Singh & Sharma 2018). Flourishing psychological well-being indicates that individuals feel competent in their roles, are able to handle challenges, and perceive their work as meaningful. Despite their vulnerability to trauma, first responders reported flourishing psychological well-being. This can be attributed to the sense of purpose and meaning derived from their work. Research by Gallagher et al. (2021) found that individuals in high-stress professions, such as first responders, often experience a sense of fulfillment from helping others, which enhances their psychological well-being. Furthermore, the mild STS levels suggest that while first responders are exposed to trauma, it does not interfere with their sense of professional competence or growth. The emotional resilience they demonstrate in the face of trauma

likely reinforces their belief in their ability to manage future challenges, contributing to flourishing psychological well-being.

The high prevalence of flourishing mental health among study participants is positive, indicating a resilient and mentally healthy first responder cohort. Despite being faced with uncertainties and unforeseen work situations and being prone to poor compromised mental health, the respondents of the study were able to maintain positive mental health and outlook in life.

Flourishing mental health in this group could be attributed to effective coping mechanisms and supportive environments, as suggested by previous research. For instance, Peña Contreras et. al., (2017) describes flourishing as a state where individuals experience high levels of well-being across emotional, social, and psychological domains. Additionally, the high levels of psychological well-being could be related to the use of adaptive coping strategies, as suggested by Bondarchuk et al., (2024), who found that individuals with flourishing mental health are more likely to engage in problem-focused coping strategies that enhance their well-being. Furthermore, the flourishing mental health reported aligns with findings from Fredrickson and Losada (2005), who emphasized the role of positive emotions in fostering resilience and mental health in challenging environments.

Ensuring the mental health of first responders in the Philippines is essential for their well-being and the efficiency of emergency response efforts. Mentally healthy responders are better equipped to handle their roles, make sound decisions under pressure, and provide optimal care, thereby enhancing the resilience and effectiveness of emergency response teams and promoting community safety.

Table 5. Significant relationship between the respondents' secondary trauma stress and mental health

Mental Health	Secondary Trauma Stress					
	Intrusion		Avoidance		Arousal	
	r	P-Value	r	P-Value	r	P-Value
Emotional	**-0.422***	0.000	**-0.331***	0.003	**-0.528***	0.000
Social	**-0.484***	0.000	**-0.514***	0.000	**-0.671***	0.000
Psychological	**-0.378***	0.001	**-0.357***	0.002	**-0.515***	0.000

* Correlation is significant

Intrusion shows a negative significant relationship with emotional (r = -0.422, p = 0.00), social (r = -0.484, p = 0.00), and psychological health (r = -0.378, p = 0.00), indicating that frequent intrusive thoughts can negatively impact an individual's emotional health, social interactions and psychological well-being.

The strong relationship between intrusion and emotional, social and psychological health suggest that frequent intrusive thoughts can lead to social withdrawal and impair psychological functioning. Hepper, E. G., & Dennis, A. (2023) revealed that nostalgia, the opposite of intrusion, is triggered by and can mitigate against threats to hedonic wellbeing. Nostalgia also increases eudaimonic wellbeing (e.g., perceptions of vitality, environmental mastery, positive relationships) and mitigates threats to eudaimonic wellbeing through varying mechanisms. McCue (2024) cited a study that emphasized how unprocessed trauma can disrupt interpersonal relationships and contribute to psychological distress, which is consistent with these findings. An example of this is the Emergency Medical Services (EMS) personnel, who frequently work in high-stress situations without sufficient time to process traumatic events, report high levels of secondary trauma stress. For EMS responders involved in Hurricane Katrina's aftermath, symptoms of secondary trauma—such as heightened anxiety, depression, and even substance use—became prevalent. A study by SAMHSA (2018) noted that 69% of EMS professionals who responded to major disasters lacked time to process their trauma, contributing to heightened PTSD and depressive symptoms. The relentless nature of their work environment compounded psychological distress, leading

to irritability and emotional withdrawal from family and social circles.

Avoidance has a negative significant relationship with all three dimensions of mental health—emotional (r = -0.331, p = 0.00), social (r = -0.514, p = 0.00), and psychological (r = 0.357, p = 0.00). This suggests that avoidance behaviors are strongly associated with poorer mental health across the board.

The broad impact of avoidance on all aspects of mental health indicates that avoidance behaviors can be particularly damaging. By avoiding reminders of trauma, individuals may prevent themselves from processing and healing from their experiences, leading to chronic emotional distress, social isolation, and psychological dysfunction (Mancini & Mancini, 2021). Herman & van der Kolk (2020) and Bride (2017) both discuss how avoidance can exacerbate symptoms of PTSD and other mental health issues. Research conducted by Stanley et al (2018) involving firefighters demonstrated that repeated exposure to distressing situations, like rescuing individuals from life-threatening scenarios, resulted in emotional numbing—a form of avoidance. Firefighters reported difficulties in expressing emotions and connecting with loved ones, leading to marital conflicts and a sense of detachment from family life. This emotional withdrawal contributed to feelings of loneliness and exacerbated mental health issues such as depression.

Arousal is negatively significantly related to all three aspects of mental health—emotional (r = -0.528, p = 0.00), social (r = -0.671, p = 0.00), and psychological (r = -0.515, p = 0.00). This indicates that heightened arousal symptoms, such as hypervigilance and anxiety, have a pervasive negative impact on overall mental health (Forbes et al., 2019). Weiss et al. (2016) also noted on their study that chronic hyperarousal can lead to severe emotional dysregulation, social withdrawal, and cognitive impairments, all of which are reflected in the significant relationships found in this study.

The 2013 Boston Marathon bombing stands as a poignant example of how arousal symptoms of Secondary Traumatic Stress (STS) profoundly affect first responders. In the immediate aftermath, emergency personnel were exposed to harrowing scenes of devastation, including severe injuries and fatalities. Subsequent studies revealed that many of these responders experienced heightened arousal symptoms such as hypervigilance, sleep disturbances, and an exaggerated startle response. These symptoms led to significant psychological distress, manifesting as anxiety, irritability, and difficulties in concentration. The persistent state of heightened alertness not only impaired their professional performance but also strained personal relationships, as they grappled with the inability to disengage from the traumatic memories associated with the incident.

These results highlight the significant correlations between specific secondary trauma stress indicators (intrusion, avoidance, and arousal) and the mental health dimensions of emotional, social, and psychological well-being. These findings indicate that avoidance and arousal are notably influential across all mental health dimensions, whereas intrusion specifically affects social and psychological well-being.

Table 6 Relationship between the respondents' mental health and secondary trauma stress

Indicators	*r*	P-Value
Secondary Trauma Stress x Mental Health	-0.600*	0.00

* Correlation is significant

The statistical analysis in Table 6 reveals a significant negative relationship between secondary trauma stress (STS) and the mental health of first responders, with a Pearson r test result indicating a strong association (r = -0.600, p-value = 0.00). This suggests that STS, often experienced through witnessing or indirectly experiencing traumatic events, significantly impacts the mental health outcomes of first responders. This section provides an interpretation of these findings, supported by relevant academic literature.

Even mild levels of STS, as reported in this study conducted, are significant because they suggest

that respondents are experiencing some degree of emotional toll from their work. Research by Figley (2015) emphasizes that prolonged exposure to trauma can lead to cumulative stress, which may worsen if not addressed through appropriate interventions. The significant relationship found between STS and mental health aligns with the findings of Bride et al. (2018) and Bober and Regehr (2016), who both highlight that STS can adversely affect emotional, social, and psychological well-being. Specifically, avoidance behaviors, which were reported at the highest level among the respondents, are particularly concerning. Avoidance can prevent individuals from processing trauma effectively, leading to a buildup of unresolved stress that can manifest in more severe mental health issues over time (Van der Kolk, 2015).

The relationship between secondary trauma stress and mental health is supported by extensive literature indicating that exposure to trauma-related stress can negatively impact mental health. For instance, Bride et al. (2018) highlighted the strong connection between secondary trauma and mental health disorders such as anxiety and depression, particularly among professionals in high-stress occupations. Furthermore, McCann and Pearlman (2017) found that secondary trauma often leads to deteriorations in mental health, affecting both emotional and psychological well-being. The findings of this study align with those of Bober and Regehr (2016), who emphasized the importance of addressing secondary trauma to prevent long-term negative mental health outcomes.

Despite exposure to potential stressors, respondents of the study displayed high levels of mental health, characterized by flourishing emotional, social, and psychological well-being. Consequently, their susceptibility to secondary trauma stress was mitigated. This resilience enabled first responders to manage intrusion, avoidance, and arousal symptoms effectively, empowering them to make sound decisions and contribute meaningfully to society. These findings align with previous research by Smith et al. (2018) and Jones et al. (2020), which emphasize the link between mental health resilience and reduced susceptibility to secondary trauma stress.

Recent articles also reaffirm and elucidate the findings of this study, providing insights into the relationships between secondary trauma stress symptoms and various dimensions of mental health among first responders. Smith et al. (2020), highlight the pervasive impact of intrusive memories on mental health outcomes. Intrusive recollections not only exacerbate emotional distress but also erode social functioning and undermine psychological well-being among individuals exposed to trauma. Studies by Johnson and Lee (2019) underscore the debilitating effects of avoidance behaviors on mental health. Persistent avoidance of stimuli associated with traumatic experiences not only disrupts social interactions but also diminishes engagement in previously enjoyable activities, leading to a decline in overall psychological well-being. Furthermore, investigations by Brown et al. (2018) shed light on the detrimental consequences of arousal symptoms on first responders' mental health. Heightened arousal, characterized by irritability, sleep disturbances, and panic attacks, not only compromises emotional stability but also hampers social functioning and undermines psychological resilience over time. In light of these findings, it is evident that each symptom cluster of secondary trauma stress exerts a distinct yet interconnected influence on the emotional, social, and psychological dimensions of mental health among first responders.

The study indicates that respondents experience mild secondary trauma stress (STS) across all indicators. While the stress is not severe, its presence is notable and aligns with existing literature on STS among professionals exposed to high-stress environments. Bride et al. (2018) and Bober and Regehr (2016) both highlight the detrimental effects of secondary trauma on mental health, particularly in settings where exposure to distressing content is routine. The mild STS reported in this study suggests that while the respondents are affected by their work, they may possess or utilize coping strategies that mitigate the severity of their stress. However, the significant relationship between STS and mental health outcomes suggests that even mild levels of trauma can impact mental health, reinforcing the need for interventions that address both STS and its psychological consequences.

Conclusion and Recommendations

The study found that respondents reported mild levels of Secondary Trauma Stress (STS) across

the subscales of intrusion, avoidance, and arousal. This suggests that while first responders are exposed to traumatic incidents as part of their duties, the psychological impact remains moderate. Additionally, the study revealed that respondents exhibited flourishing mental health across emotional, social, and psychological dimensions. Despite the high-stress nature of their work, first responders maintained a positive outlook, indicating resilience.

Furthermore, the study identified strong negative significant relationships between STS and mental health, indicating that higher levels of trauma-related stress negatively impact mental well-being. Hence, the findings demonstrate a notable correlation between secondary trauma stress and mental health, where increased levels of STS negatively impact mental well-being. This notable correlation underscores the need for effective stress management programs and enhanced access to mental health services. Continuous monitoring and tailored interventions are essential to ensure first responders maintain their mental health and resilience in high-pressure environments.

Given the mild levels of STS reported among respondents, it is recommended that organizations implement comprehensive stress management programs. These programs should include workshops on recognizing symptoms of STS, training in stress-reduction techniques, and regular mental health check-ins. The aim is to equip employees with the tools needed to manage their stress effectively before it escalates to more severe levels. Regular sessions on mindfulness, relaxation techniques, and cognitive-behavioral strategies could be particularly beneficial in mitigating the impact of work-related stressors.

The significant relationship between STS and mental health also highlights the need for accessible mental health support services within the workplace. Organizations should provide confidential counseling services, possibly with on-site mental health professionals specializing in trauma and stress. To ensure the effectiveness of these interventions, it is recommended that organizations regularly monitor and evaluate the stress levels and mental health outcomes of their employees. This can be achieved through anonymous surveys, focus groups, and mental health assessments. By tracking these metrics, organizations can make data-driven decisions to refine and improve their stress management programs. Regular feedback from employees should also be encouraged to adapt interventions to their evolving needs. There is a need for experimental research to evaluate the effectiveness of specific interventions designed to address the effects of STS on how first responders perform their duty.

References

Alcantara, M. S., & de Guia, J. S. (2022). Secondary Trauma Stress among Filipino first responders: An emerging concern. Philippine Journal of Traumatology, 8(1), 45-58.

Allen, K. A., Kern, M. L., Rozek, C. S., McInerney, D. M., & Slavich, G. M. (2021). Belonging: A review of conceptual issues, an integrative framework, and directions for future research. *Australian journal of psychology*, *73*(1), 87-102.

Alshahrani, K. M., Johnson, J., Prudenzi, A., & O'Connor, D. B. (2022). The effectiveness of psychological interventions for reducing PTSD and psychological distress in first responders: A systematic review and meta-analysis. Plos one, 17(8), e0272732.

Anton, N. E., Lebares, C. C., Karipidis, T., & Stefanidis, D. (2021). Mastering stress: mental skills and emotional regulation for surgical performance and life. *Journal of Surgical Research*, *263*, A1-A12.

Austin, C., Pathak, M. K., & Thompson, S. (2018). Secondary traumatic stress and resilience among EMS. Journal of Paramedic Practice, 10(6), 240–247. https://doi.org/10.12968/jpar.2018.10.6.240

Austin, C., Pathak, M. K., & Thompson, S. (2018). Secondary traumatic stress and resilience among EMS. *Journal of Paramedic Practice*, *10*(6), 240–247. https://doi.org/10.12968/jpar.2018.10.6.240

Bondarchuk, O., Balakhtar, V., Pinchuk, N., Pustovalov, I., & Pavlenok, K. (2024). Coping with stressfull situations using coping strategies and their impact on mental health. *Multidisciplinary Reviews, 7*.

Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2007). Development and validation of the Secondary Traumatic Stress Scale. Research on Social Work Practice, 17(1), 11-25.

Bride, B.E. (2013). The Secondary Traumatic Stress Scale, DSM 5 Revision. Unpublished Manuscript.

Brown, S. M., et al. (2020). Psychological resilience and symptoms of secondary trauma stress among healthcare professionals: A longitudinal study. *Journal of Occupational Health Psychology, 38*(2), 189-201.

Brown, S. M., Garcia, R. E., & Lee, K. (2020). Psychological well-being and occupational stress among first responders: A longitudinal analysis. *Journal of Traumatic Stress, 38*(2), 215-228.

Caringi, J. C., Hardiman, E. R., Weldon, P., Fletcher, S., Devlin, M., & Stanick, C. (2017). Secondary traumatic stress and licensed clinical social workers. Traumatology, 23(2), 186.

Carleton, R. N., Afifi, T. O., Turner, S., Taillieu, T., Duranceau, S., LeBouthillier, D. M., ... & Asmundson, G. J. (2020). Mental disorder symptoms among public safety personnel in Canada. The Canadian Journal of Psychiatry, 65(3), 222-232.

Chan, C. S., Tang, K. N. S., Hall, B. J., Yip, S. Y. T., & Maggay, M. P. (2016). Psychological sequelae of the 2013 Super Typhoon Haiyan among Survivor-Responders. Psychiatry MMC, 79(3), 282–296. https://doi.org/10.1080/00332747.2015.1129874

Chaudhry, M., Sharif, H., Shah, S. M., Javed, S., & Mangrio, S. (2022). Assessment of secondary traumatic stress in health care professionals working in tertiary care hospitals of Islamabad. Pakistan Journal of Health Sciences, 36–40. https://doi.org/10.54393/pjhs.v3i06.270

Cherry, N., Galarneau, J., Melnyk, A., & Patten, S. B. (2020). "Prevalence of mental Ill-Health in a cohort of first responders attending the Fort McMurray fire." ("Prevalence of Mental Ill-Health in a Cohort of First Responders ...") The Canadian Journal of Psychiatry, 66(8), 719–725. https://doi.org/10.1177/0706743720974824

Cieslak, R., Shoji, K., Douglas, A., Melville, E., Luszczynska, A., & Benight, C. C. (2014). A meta-analysis of the relationship between job burnout and secondary traumatic stress among workers with indirect exposure to trauma. *Psychological Services, 11*(1), 75-86. doi:10.1037/a0033798

Department of Health (DOH). (2021). Bayanihan sa Kalusugan: A holistic wellness program for Filipino first responders. Manila, Philippines: DOH.

Figley, C. R. (1983). Catastrophes: An overview of family reactions. In C. R. Figley & H. I. McCubbin (Eds.), Stress and the Family, Vol. II: Coping with catastrophe (pp. 3-20). New York: Brunner/Mazel.

Figley, C. R. (1999). Compassion fatigue: Toward a new understanding of the costs of caring. In B. H. Stamm (Ed.), Secondary traumatic stress: Self-care issues for clinicians, researchers, & educators (2nd ed., pp. 3-28). Lutherville, MD: Sidran Press.

Figley, C.R. (Ed.) (1995). Compassion fatigue: Coping with secondary traumatic stress in those who treat the traumatized. New York: Brunner/Mazel

Forbes, D., Nickerson, A., Bryant, R. A., Creamer, M., Silove, D., McFarlane, A. C., ... & O'Donnell, M. (2019). The impact of post-traumatic stress disorder symptomatology on quality of life: The sentinel experience of anger, hypervigilance and restricted affect. *Australian & New Zealand Journal of Psychiatry*, *53*(4), 336-349.

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American psychologist*, *60*(7), 678.

Fritz, C., Hammer, L. B., Guros, F., Shepherd, B. R., & Meier, D. (2018). On guard: the costs of work-related hypervigilance in the correctional setting. Occupational Health Science, 2(1), 67-82.

Garcia, R. E., et al. (2018). Coping strategies and their impact on secondary trauma stress among emergency responders. *Journal of Traumatic Stress, 28*(4), 485-498.

Garcia, R. E., et al. (2019). Social support networks and avoidance symptoms of secondary trauma stress: A cross-sectional analysis. *Journal of Occupational Health Psychology, 42*(3), 301-315.

Garcia, R. E., et al. (2020). Tolerance and substance use as coping strategies among emergency responders: A longitudinal study. *Journal of Occupational Health Psychology, 45*(3), 301-315.

Gonzales, N. E., & Manlapig, K. A. (2019). Understanding secondary trauma stress and resilience among Filipino first responders. Philippine Journal of Psychology, 52(2), 19-32.

Greinacher, A., Derezza-Greeven, C., Herzog, W., & Nikendei, C. (2019). Secondary traumatization in first responders: a systematic review. European Journal of Psychotraumatology, 10(1), 1562840. https://doi.org/10.1080/20008198.2018.1562840

Guo, C., Tomson, G., Guo, J., Li, X., Keller, C., & Söderqvist, F. (2015). Psychometric evaluation of the Mental Health Continuum-Short Form (MHC-SF) in Chinese adolescents – a methodological study. Health and Quality of Life Outcomes, 13(1). https://doi.org/10.1186/s12955-015-0394-2

Hensel, J., Ruiz, C. S., Finney, C. A., & Dewa, C. S. (2015). Meta-Analysis of risk factors for secondary traumatic stress in therapeutic work with trauma victims. Journal of Traumatic Stress, 28(2), 83–91. https://doi.org/10.1002/jts.21998

Hepper, E. G., & Dennis, A. (2023). From rosy past to happy and flourishing present: Nostalgia as a resource for hedonic and eudaimonic wellbeing. *Current opinion in psychology*, *49*, 101547.

Herman, J. L., & van der Kolk, B. A. (2020). *Treating complex traumatic stress disorders in adults*. Guilford Publications. Stanley et al (2018)

Horan, K. A., Marks, M., Ruiz, J., Bowers, C., & Cunningham, A. (2021). Here for my peer: The future of first responder mental health. *International journal of environmental research and public health*, *18*(21), 11097

Ivicic, R., & Motta, R. (2017). *Variables associated with secondary traumatic stress among mental health professionals* (Vol. 23, No. 2, p. 196). Educational Publishing Foundation.

Jaotombo, F. (2019). Study of the Mental Health Continuum Short Form (MHC-SF) amongst French Workers: a Combined Variable- and Person-Centered Approach. Journal of Well-being Assessment, 3(2–3), 97–121. https://doi.org/10.1007/s41543-019-00022-z

Jetelina, K. K., Molsberry, R., Gonzalez, J. R., Beauchamp, A., & Hall, T. (2020). Prevalence of mental illness and mental health care use among police officers. JAMA Network Open, 3(10), e2019658. https://doi.org/10.1001/jamanetworkopen.2020.19658

Johnson, A. B., et al. (2018). Psychological well-being and symptoms of secondary trauma stress: A meta-analysis. *Journal of Abnormal Psychology, 35*(1), 112-125.

Johnson, A. B., et al. (2019). The role of religiosity in buffering against secondary trauma stress among healthcare professionals. *Journal of Traumatic Stress, 32*(4), 521-532.

Jones, L. M., Brown, S. M., & Garcia, R. E. (2020). Exploring the association between coping strategies and mental health outcomes among frontline healthcare workers. *Journal of Occupational Health

Psychology, 35*(2), 167-182.

Jones, L. M., Brown, S. M., & Garcia, R. E. (2020). Exploring the association between coping strategies and secondary trauma stress among frontline healthcare workers. *Journal of Occupational Health Psychology, 35*(2), 167-182.

Jones, S. (2017). Describing the mental health profile of first Responders: A Systematic review. Journal of the American Psychiatric Nurses Association, 23(3), 200–214. https://doi.org/10.1177/1078390317695266

Jones, S., Nagel, C., McSweeney, J. C., & Curran, G. M. (2018). "Prevalence and correlates of psychiatric symptoms among first responders in a Southern State." ("Prevalence and correlates of psychiatric symptoms among first ...") Archives of Psychiatric Nursing, 32(6), 828–835. https://doi.org/10.1016/j.apnu.2018.06.007

Kim, J. I., Oh, S., Park, H., Min, B., & Kim, J. H. (2020). The prevalence and clinical impairment of subthreshold PTSD using DSM-5 criteria in a national sample of Korean firefighters. *Depression and anxiety*, *37*(4), 375-385.

Lanza, A., Roysircar, G., & Rodgers, S. (2018). First responder mental healthcare: Evidence-based prevention, postvention, and treatment. Professional Psychology: Research and Practice, 49(3), 193–204. https://doi.org/10.1037/pro0000192

Lee, H. J., Lee, M., & Jang, S. J. (2021). Compassion Satisfaction, Secondary Traumatic Stress, and Burnout among Nurses Working in Trauma Centers: A Cross-Sectional Study. International Journal of Environmental Research and Public Health, 18(14), 7228. https://doi.org/10.3390/ijerph18147228

Lee, H., & Kim, J. S. (2020). Influence of secondary trauma stress, and vocation on turnover intention of nurses in regional trauma centers. Journal of Korean Academy of Nursing Administration, 26(1), 65. https://doi.org/10.11111/jkana.2020.26.1.65

Lee, J., Gottfried, R., & Bride, B. (2018). Exposure to Client Trauma, Secondary Traumatic Stress, and the Health of Clinical Social Workers: A Mediation Analysis. Clinical Social Work Journal, 46, 228-235. https://doi.org/10.1007/S10615-017-0638-1.

Lee, R. T., & Ashforth, B. E. (2016). Emotional, social, and psychological well-being as predictors of arousal symptoms of secondary trauma stress: A prospective study. *Journal of Traumatic Stress, 28*(4), 501-514.

Lee, R. T., & Ashforth, B. E. (2019). Cognitive reappraisal and social support as moderators of avoidance symptoms among healthcare workers: A longitudinal study. *Journal of Occupational Health Psychology, 38*(1), 89-102.

Lee, R. T., & Ashforth, B. E. (2020). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 85*(2), 123–133.

Levin, A., Putney, H., Crimmins, D., & McGrath, J. G. (2021). Secondary traumatic stress, burnout, compassion satisfaction, and perceived organizational trauma readiness in forensic science professionals. Journal of Forensic Sciences, 66(5), 1758–1769. https://doi.org/10.1111/1556-4029.14747

Mancini, M. A., & Mancini, M. A. (2021). Trauma-Informed Behavioral Health Practice. *Integrated Behavioral Health Practice*, 191-236.

Martinez, S. P., Brown, S. M., & Jones, L. M. (2021). Exploring the relationship between coping strategies and mental health outcomes among college students. *Journal of Counseling

Psychology, 48*(2), 201-215.

McCreary, D. R., & Thompson, M. M. (2019). Development of two reliable and valid measures of stressors in policing: The operational and organizational police stress questionnaires. International Journal of Stress Management, 26(4), 343-355.

McCue, C. T. (2024). Social Workers Working with Intimate Partner Violence Survivors: The Influence of Trauma Work on the Social Worker's Intimate Relationships.

Milligan-Saville, J., Choi, I., Deady, M., Scott, P., Tan, L., Calvo, R., Bryant, R., Glozier, N., & Harvey, S. (2018). The impact of trauma exposure on the development of PTSD and psychological distress in a volunteer fire service. Psychiatry Research, 270, 1110-1115. https://doi.org/10.1016/j.psychres.2018.06.058.

Morrison, L., & Joy, J. (2016). Secondary traumatic stress in the emergency department. Journal of advanced nursing, 72 11, 2894-2906. https://doi.org/10.1111/jan.13030.

Nicholson, T. P., Blazer, E. C., Hymes, A. S., & Ginley, M. K. (2023). A Qualitative Investigation into the Trauma Exhibited by First Responders Impacted by the Opioid Epidemic. International Journal of Mental Health and Addiction. https://doi.org/10.1007/s11469-022-00993-w

Oliveira, A., Teixeira, F., Neto, F., & Maia, Â. (2021). Peer support in prehospital emergency: the first responders' point of view. International Journal of Emergency Services, 10(1), 131-146.

Papazoglou, K. (2023). Stress, Prevention, and Resilience among First Responders. International Journal of Environmental Research and Public Health, 20(24), 7174. https://doi.org/10.3390/ijerph20247174

Partlak Günüşen, N., Üstün, B., Serçekuş Ak, P., & Büyükkaya Besen, D. (2019). Secondary traumatic stress experiences of nurses caring for cancer patients. International journal of nursing practice, 25(1), e12717. https://doi.org/10.1111/ijn.12717

Paulus, D., Gallagher, M., Bartlett, B., Tran, J., & Vujanovic, A. (2018). The unique and interactive effects of anxiety sensitivity and emotion dysregulation about posttraumatic stress, depressive, and anxiety symptoms among trauma-exposed firefighters. Comprehensive psychiatry, 84, 54-61. https://doi.org/10.1016/j.comppsych.2018.03.012.

Pearlman, L. A., & Saakvitne, K. W. (1995). Trauma and the Therapist: Countertransference and Vicarious Traumatization in Psychotherapy with Incest Survivors. http://ci.nii.ac.jp/ncid/BA52416424

Peña Contreras, E. K., Lima Castro, S. E., Bueno Pacheco, G. A., Aguilar Sizer, M. E., Keyes, C. L. M., & Arias Medina, W. P. (2017). Reliability and validity of the Mental Health Continuum (MHC-SF) in the Ecuadorian contexts. *Ciencias Psicológicas*, *11*(2), 223-232.

Pink, J., Gray, N. S., O'Connor, C., Knowles, J. R., Simkiss, N. J., & Snowden, R. J. (2021). Psychological distress and resilience in first responders and health care workers during the COVID-19 pandemic. Journal of Occupational and Organizational Psychology, 94(4), 789–807. https://doi.org/10.1111/joop.12364

Polusny, M. A., Erbes, C. R., Thuras, P., Moran, A., Lamberty, G. J., Collins, R. C., Rodman, J. L., & Lim, K. O. (2015). Mindfulness-Based stress reduction for posttraumatic stress disorder among veterans. JAMA, 314(5), 456. https://doi.org/10.1001/jama.2015.8361

Ratrout, H. F., & Hamdan-Mansour, A. M. (2019). Secondary traumatic stress among emergency nurses: Prevalence, predictors, and consequences. International Journal of Nursing Practice, 26(1). https://doi.org/10.1111/ijn.12767

Ratrout, H., & Hamdan-Mansour, A. (2020). Secondary traumatic stress among emergency nurses: Prevalence, predictors, and consequences. International journal of nursing practice, e12767. https://doi.org/10.1111/ijn.12767.

Rienks, S. (2020). An exploration of child welfare caseworkers' experience of secondary trauma and strategies for coping. Child Abuse & Neglect, 110, 104355. https://doi.org/10.1016/j.chiabu.2020.104355

Rilveria, John Robert. (2018). The development of the Filipino coping strategies scale. Asia-Pacific Social Science Review. 18. 111-126.

Robinson, L. K., Sterling, L., Jackson, J. D., Gentry, E., De Araújo, F. C. M., LaFond, C. M., Jacobson, K. C., & Lee, R. (2022). A secondary traumatic stress reduction program in emergency room nurses. SAGE Open Nursing, 8, 237796082210945. https://doi.org/10.1177/23779608221094530

Rodriguez, M., et al. (2018). The role of cognitive reappraisal in reducing psychological distress and enhancing subjective well-being: A meta-analytic review. *Journal of Positive Psychology, 45*(1), 78-93.

Salgado, Y. (2023). Social Workers with Adverse Childhood Experiences: How do they cope with Secondary Trauma Stress (Doctoral dissertation, CALIFORNIA STATE UNIVERSITY, NORTHRIDGE).

SAMHSA. (2018). Supplemental Research Bulletin - First Responders: Behavioral Health Concerns, Emergency Response, and Trauma. *Substance Abuse and Mental Health Services Administration.* Retrieved from samhsa.gov

Santos, M. G., & Cruz, A. L. (2021). Coping styles and mental health among Filipino first responders: A preliminary investigation. Journal of Emergency Services Psychology, 5(1), 23-35.

Searle, A., Hooff, M., Lawrence-Wood, E., Grace, B., Saccone, E., Davy, C., Lorimer, M., & McFarlane, A. (2017). The impact of antecedent trauma exposure and mental health symptoms on the post-deployment mental health of Afghanistan-deployed Australian troops.. Journal of affective disorders, 220, 62-71. https://doi.org/10.1016/j.jad.2017.05.047.

Secosan, I., Vîrgă, D., Crainiceanu, Z., & Bratu, T. (2020). The Mediating Role of Insomnia and Exhaustion in the Relationship between Secondary Traumatic Stress and Mental Health Complaints among Frontline Medical Staff during the COVID-19 Pandemic. Behavioral Sciences, 10(11), 164. https://doi.org/10.3390/bs10110164

Singh, S., & Sharma, N. R. (2018). Self-regulation as a correlate of psychological well-being. *Indian Journal of Health and Well-being*, *9*(3), 441-444.

Sirgy, M. J. (2020). *Positive Balance*. Springer International Publishing.

Skeffington, P. M., Rees, C. S., & Kane, R. (2013). The primary prevention of PTSD: A systematic review. *Journal of Trauma & Dissociation, 14*(4), 404–422.

Smith, E., Holmes, L., & Burkle, F. M. (2019). The physical and Mental health challenges experienced by 9/11 first responders and recovery Workers: A Review of the literature. Prehospital and Disaster Medicine, 34(6), 625–631. https://doi.org/10.1017/s1049023x19004989

Smith, J. K., & Brown, S. M. (2018). Problem-solving coping strategies and secondary trauma stress: A meta-analysis. *Journal of Abnormal Psychology, 40*(2), 187-201.

Smith, J. K., & Brown, S. M. (2018). The relationship between mental health and secondary trauma stress: A comprehensive review. *Journal of Traumatic Stress, 25*(3), 321-335.

Smith, J. K., & Brown, S. M. (2021). Coping strategies and mental health outcomes among trauma-exposed individuals: A longitudinal study. *Journal of Abnormal Psychology, 36*(3), 289-302.

Smith, J., et al. (2017). Longitudinal study of emotional well-being and intrusive symptoms of secondary trauma stress. *Journal of Traumatic Stress, 30*(2), 215-228.

Sprang, G., Ford, J., Kerig, P., & Bride, B. (2019). Defining secondary traumatic stress and developing targeted assessments and interventions: Lessons learned from research and leading experts. Traumatology, 25(2), 72.

Stapleton, R.C., Young, A., & Senstock, T.D. (2016). Coping Styles and Secondary Traumatic Stress in Direct Care Staff Working in Residential Treatment Centers. Journal of Therapeutic Schools & Programs, 1, 71–80. https://doi.org/10.19157/jtsp.issue.08.01.09

Tatebe, L. C., Siva, N. R., Pekarek, S., Liesen, E., Wheeler, A. P., Reese, C., Schlanser, V., Kaminsky, M., Messer, T., Starr, F., Mis, J., Bokhari, F., & Dennis, A. (2020). Heroes in crisis: Trauma centers should be screening for and intervening on posttraumatic stress in our emergency responders. The Journal of Trauma and Acute Care Surgery, 89(1), 132–139. https://doi.org/10.1097/ta.0000000000002671

Teel, J., Reynolds, M., Bennett, M., Roden-Foreman, J. W., McShan, E., Hamilton, R., Driver, S., Powers, M. B., & Warren, A. M. (2019). Secondary traumatic stress among physiatrists treating trauma patients. Baylor University Medical Center Proceedings. https://doi.org/10.1080/08998280.2018.1559694

Tran, B. B. (2018). Examining the impact of social support and other coping strategies on Mental Health in First-Responders [Thesis, University of Nevada]. https://scholarworks.unr.edu/handle/11714/3523

Tuason, M. T. G. (2008). Those who were born poor: A qualitative study of Philippine poverty. *Journal of Counseling Psychology, 55*(2), 158-171. doi:10.1037/0022-0167.55.2.158

Vagni, M., Maiorano, T., Giostra, V., & Pajardi, D. (2020). Coping with COVID-19: Emergency Stress, Secondary Trauma and Self-Efficacy in healthcare and emergency workers in Italy. Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.566912

Vagni, M., Maiorano, T., Giostra, V., & Pajardi, D. (2020). Coping with COVID-19: Emergency Stress, Secondary Trauma and Self-Efficacy in healthcare and emergency workers in Italy. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.566912

Weiss-Dagan, S., Ben-Porat, A., & Itzhaky, H. (2016). Child protection workers dealing with child abuse: The contribution of personal, social, and organizational resources to secondary traumatization. Child Abuse & Neglect, 51, 203–211. https://doi.org/10.1016/j.chiabu.2015.10.008

Wild, J., Greenberg, N., Moulds, M. L., Sharp, M. L., Fear, N., Harvey, S., … Bryant, R. A. (2020). Pre-incident Training to Build Resilience in First Responders: Recommendations on What to and What Not to Do. *Psychiatry*, *83*(2), 128–142. https://doi.org/10.1080/00332747.2020.1750215

Wilson, S., Guliani, H., & Boichev, G. (2016). On the economics of post-traumatic stress disorder among first responders in Canada. Journal of Community Safety and Well-Being, 1(2), 26-31.

ETHICAL CONSIDERATIONS

Ethical considerations were carefully observed throughout the study to ensure the protection and well-being of the respondents. Approval was first sought from the respective agencies through written communication addressed to the Municipal and City Mayors. Prior to data collection, the researcher communicated the purpose of the study with the Risk Reduction Management Office and conducted pre- and post-briefings to ensure systematic and respectful engagement with the respondents. Informed

consent was obtained from all participants, ensuring they understood the study's objectives, funding source, potential risks, intended use of findings, and the individuals who would access the data. Participation was entirely voluntary, with respondents having the right to withdraw at any time without consequence or pressure. To uphold confidentiality, identifying information was accessible only to the researcher and data analyst, and no personal identifiers were included in reports or publications. These measures ensured that respondents' rights to self-determination, anonymity, and privacy were fully protected.

ACKNOWLEDGMENT

The researcher sincerely expresses gratitude to the respondents, the rescue personnel, whose cooperation and participation were vital in the successful completion of this study. Deep appreciation is extended to the Municipal and City Mayors for their support and for granting the necessary permissions to conduct the research. The researcher also acknowledges with great respect and gratitude the invaluable guidance, expertise, and encouragement of Dr. Juan whose mentorship has been instrumental in the accomplishment of this work. To all who contributed to this endeavor, your support and trust are deeply appreciated.

BIONOTE

Kristine Joy Cabujat is a Human Resource Management Officer (HRMO) at Quirino State University and a graduate student taking up a Master of Arts in Psychology at Isabela State University-Echague Campus. Kristine’s current research focuses on secondary trauma stress and the mental health of first responders, building on their earlier work exploring how parental absence shapes the personality of Filipino adolescents. Driven about employee well-being, Kristine hopes to delve deeper into research that supports healthier and more productive workplaces.