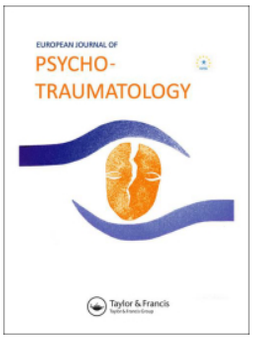

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Protective and risk factors for STS among mental health professionals serving war refugees in Lithuania and Pakistan

Momina Khalid Butt, Neringa Grigutytė and Jonas Eimontas

Department of Clinical Psychology, Institute of Psychology, Faculty of Philosophy, Vilnius University, Vilnius, Lithuania

ABSTRACT

Background: Secondary Traumatic Stress (STS) is a significant concern among mental health professionals working with traumatised populations, such as war refugees. However, limited research has explored the predictors of STS in different cultural contexts, particularly in Pakistan and Lithuania.

Objective: This study aimed to investigate the protective and risk factors for STS among mental health professionals working with war refugees in Pakistan and Lithuania. Specifically, the study examined the roles of social support, marital status, agreeableness, and negative emotionality in predicting STS.

Methods: A total of 120 mental health professionals from Lithuania and 111 from Pakistan participated in this cross-cultural study. Participants completed an online survey assessing demographic variables, STS symptoms, and the predictors of interest. The Secondary Traumatic Stress Scale (STSS), Big Five Inventory (BFI-2), and a social support scale were used to assess STS, agreeableness, and social support, respectively. Data was analysed using descriptive statistics, regression analyses, and ANOVA.

Results: Significant differences were found in the prevalence of STS between the two countries, with 65.2% of Pakistani participants reporting STS symptoms compared to 20% in Lithuania. In Pakistan, social support, marital status, and agreeableness emerged as protective factors, while negative emotionality and divorced marital status were identified as risk factors. In contrast, in Lithuania, only social support was found to significantly predict STS, with negative emotionality serving as a risk factor.

Conclusions: The findings underscore the importance of contextual factors in shaping the experience of STS among mental health professionals. While social support appears to act as a protective factor in both countries, other factors like marital status and personality traits (agreeableness) play varying roles depending on the cultural context. These insights provide valuable implications for developing targeted interventions to support mental health professionals working in refugee contexts, particularly in countries with differing socio-political landscapes.

ARTICLE HISTORY

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Secondary traumatic stress; mental health professionals; social support; agreeableness; negative emotionality

PALABRAS CLAVE

Estrés traumático secundario; profesionales de la salud mental; apoyo social; amabilidad; emocionalidad negativa

HIGHLIGHTS

- This study contrasts Pakistani and Lithuanian mental health practitioners working with war refugees, and how culture shape their experiences.
- Personality factors like agreeableness and social support help to protect professionals against stress caused by trauma.
- The conclusions call for interventions that are culturally tailored to maintain the emotional well-being of professionals providing psychological treatment to refugees.

Factores protectores y de riesgo de STS entre los profesionales de salud mental en servicio de refugiados de guerra en Lituania y Pakistán

Antecedentes: El Estrés Traumático Secundario (STS en su sigla en inglés) es una preocupación significativa entre los profesionales de la salud mental que se encuentran trabajando con poblaciones traumatizadas, tales como refugiados de guerra. Sin embargo, no muchas investigaciones han explorado los predictores de STS en diferentes contextos culturales, particularmente en Pakistán y Lituania.

Objetivo: Este estudio buscó investigar los factores protectores y de riesgo de STS entre profesionales de salud mental que estaban trabajando con refugiados de guerra en Pakistán y Lituania. Específicamente, el estudio examinó los roles del apoyo social, estado civil, amabilidad, y emocionalidad negativa en predecir el STS.

Método: Un total de 120 profesionales de salud mental de Lituania y 111 de Pakistán participaron en este estudio transcultural. Los participantes completaron una encuesta en línea evaluando variables demográficas, síntomas de STS, y los predictores de interés. Se usaron la Escala de Estrés Traumático Secundario (STSS en su sigla en inglés), el Inventario de los Cinco Grandes (BFI-2 en su sigla en inglés), y una escala de apoyo social para evaluar el STS, la amabilidad, y el apoyo social, respectivamente. Los datos fueron analizados usando estadísticos descriptivos, análisis de regresión, y ANOVA.

Resultados: Se encontraron diferencias significativas en la prevalencia de STS entre los dos países, con 65.2% de los participantes pakistaní que reportan síntomas de STS comparado con 20% de Lituania. En Pakistán, apoyo social, estado civil, y amabilidad surgieron como factores protectores, mientras que emocionalidad negativa y estado civil de divorciado fueron identificados como factores de riesgo. En contraste, en Lituania, se encontró solo el

CONTACT Momina Khalid Butt momina.butt@fsf.stud.vu.lt Department of Clinical Psychology, Institute of Psychology, Faculty of Philosophy, Vilnius University, Universiteto 9, Vilnius 01513, Lithuania

apoyo social como predictor significative de STS, con la emocionalidad negativa actuando como factor de riesgo.
Conclusiones: Los hallazgos subrayan la importancia de los factores contextuales en dar forma a la experiencia de STS entre los profesionales de la salud mental. Mientras el apoyo social aparece actuar como un factor protector en ambos países, otros factores como estado civil y características de personalidad (amabilidad) juegan roles variados dependiendo del contexto cultural. Estos hallazgos proveen implicaciones variables para el desarrollo de intervenciones específicas para apoyar a los profesionales de la salud mental trabajando en contextos de refugiados, particularmente en países con distintos paisajes socio políticos.

1. Introduction

The global refugee crisis is a new pandemic with more than 108 million people worldwide are forcibly displaced due to conflict (UNHCR, 2023). Refugees, having experienced significant trauma, often present with complex psychological needs, and mental health professionals working with these populations are at heightened risk for experiencing Secondary Traumatic Stress (STS) (Petravičiūtė et al., 2025).

Professionals experience STS because of indirect exposure to trauma. STS shares core symptoms with Post-Traumatic Stress Disorder (PTSD), such as intrusion, avoidance, and arousal, but it is distinct in that it arises from empathic engagement with trauma survivors rather than direct exposure. Unlike burnout, which is more diffuse and cumulative, STS has a specific clinical profile rooted in secondary exposure to trauma (Bride et al., 2007; Figley, 2002). The emotional impact of STS can include intrusive thoughts, emotional numbness, avoidance, and heightened arousal, all of which significantly affect psychological well-being (Lavee & Olson, 1991). Professionals may find themselves reliving the trauma described by their clients, feeling helpless, emotionally exhausted, or developing negative worldviews. STS can also impair empathy, reduce professional efficacy, and contribute to burnout, compassion fatigue, or even eventual withdrawal from the field.

While the symptoms of STS are universally recognised, the factors contributing to and mitigating these effects may differ based on cultural, social, and professional contexts (Newell & MacNeil, 2010). The development of STS is shaped not only by the frequency of exposure but also by emotional regulation capacity, perceived social support, and the broader systemic and institutional environment in which clinicians operate. Understanding STS is critical for mental health professionals who, while not the primary victims, serve as 'second victims' of trauma (Figley, 1995). Cultural frameworks influence how trauma is internalised, experienced, and expressed, highlighting the importance of investigating STS beyond Western-centric models (Bride et al., 2007).

STS has been conceptualised within broader frameworks of vicarious trauma and compassion fatigue. It is especially relevant for professionals in high-demand trauma-related roles, where repeated exposure to traumatic narratives may erode emotional boundaries and resilience. Research shows that unaddressed STS can lead to impaired clinical decision-making, reduced empathy, and long-term psychological harm (Branson, 2019). Despite its clinical relevance, STS remains under-researched in culturally diverse settings, particularly in low- and middle-income countries, where professional support structures and coping mechanisms may differ substantially. The prevalence of STS among mental health professionals varies across different regions. In a study conducted in the United States, approximately 30-40% of mental health professionals working with trauma survivors exhibit symptoms of STS (Newell & MacNeil, 2010; Salston & Figley, 2003). Similarly, in a meta-analysis conducted in China to study the prevalence of STS, 65% of the emergency hospital nurses were suffering from STS (Xu et al., 2024). In Europe, a study in Greece, which has faced significant refugee influxes in recent years, reported that 48% of mental health professionals working with refugees from Syria exhibited symptoms of STS (Mangoulia et al., 2015).

This study compares two countries: Pakistan and Lithuania, both of which have a refugee crisis, but differ significantly in their cultural, historical, and socio-political contexts. Pakistan has been hosting refugees for decades, primarily from Afghanistan. As of 2023, approximately 1.4 million Afghan refugees are registered in Pakistan (UNHCR, 2023). Conversely, Lithuania is a relatively recent host country for refugees, especially after the Russian invasion on Ukraine. As of 2023, approximately 70,000 Ukrainian refugees and 50,000 refugees from other conflict zones, including Syria, Iraq, and Afghanistan, have arrived in Lithuania (UNHCR, 2024). Although these countries differ, both struggle with the emotional and structural burden placed on mental health professionals supporting displaced populations. This cross-national comparison is not intended merely as a novelty, but as an inquiry into how systemic, cultural, and structural differences shape the experience and expression of STS.

This study investigates four key variables that may act as protective or risk factors for STS: social support,

marital status, agreeableness, and negative emotionality. Social support is a multifaceted concept that includes emotional and instrumental assistance from family, friends, colleagues, and broader social networks. It has long been recognised as a critical protective factor against psychological distress. With research showing that strong social support networks help reduce the impact of trauma exposure by providing emotional relief, resources, and a sense of security (Cieslak, Anderson, et al., 2013; Pearlman & Saakvitne, 1995). Mental health professionals with higher levels of perceived social support are better able to manage the emotional strain of trauma exposure, which in turn reduces their vulnerability to STS (De et al., 2009). Conversely, a lack of social support can exacerbate STS, leading to higher levels of emotional distress and burnout, as professionals may feel isolated or overwhelmed by the emotional challenges of their work (Cieslak, Shoji, et al., 2013).

Marital status is another variable that has been linked to the experience of STS. Mental health professionals who are married or in stable relationships often benefit from increased emotional support from their partners, which can help buffer the negative effects of trauma exposure (Lee et al., 2018). Studies have suggested that individuals in supportive relationships may experience greater emotional resilience (Gloria & Steinhardt, 2016). In contrast, those who are single or divorced may face additional stress. The emotional toll of working with trauma survivors can be magnified for individuals who do not have a reliable personal support system, potentially leading to higher levels of STS (Galek et al., 2011).

Agreeableness, a personality trait characterised by empathy, cooperativeness, and a tendency to avoid conflict, is another key variable in the experience of STS. Individuals high in agreeableness are generally more attuned to the emotional needs of others while managing their own emotional responses to secondary trauma (Costa & McCrae, 1992). Research has shown that higher levels of agreeableness are associated with lower levels of STS, as agreeable individuals are better equipped to regulate their emotions and cope with the psychological demands of their work (Blasa, 2021). Conversely, professionals who are lower in agreeableness may struggle with emotional regulation, which could increase their susceptibility to STS (Măirean, 2014).

Negative emotionality refers to the tendency to experience negative emotions such as anxiety, sadness, and irritability more intensely than others. It is a well-established risk factor for STS, as individuals high in negative emotionality may internalise the trauma they witness (Kang et al., 2023). People with high negative emotionality are more likely to ruminate on distressing experiences, which can exacerbate their emotional responses to secondary trauma and increase their susceptibility to STS (Măirean, 2016). This trait makes it difficult for individuals to maintain emotional boundaries with their clients, potentially resulting in greater emotional toll and burnout (Ogińska-bulik & Michalska, 2023). In mental health professionals working with refugees, high negative emotionality can contribute to higher levels of psychological distress, as the emotional demands of the work may be harder to manage (Somoray et al., 2017).

The significance of this study lies not only in its cross-cultural comparison, but in its effort to explore the psychosocial and personality-related risk and protective factors for STS in two vastly different mental health systems. While most research on STS focuses on Western high-income countries, little is known about how STS manifests in lower-middle income countries like Pakistan, or in EU countries like Lithuania that are relatively new to refugee reception. The literature on STS remains underdeveloped in culturally diverse settings, and few studies have explored how systemic, relational, and emotional factors interact in the development of STS among clinicians in these environments.

By applying a culturally comparative approach, this study builds upon existing STS models (e.g. vicarious trauma, compassion fatigue) and examines how cultural norms, social support systems, and professional environments shape clinicians' vulnerability to STS. This study provides insight into how social structures, cultural norms, and professional systems may shape professional well-being across contexts. Moreover, a culturally grounded understanding of STS is essential for developing globally relevant interventions and support systems for trauma-exposed professionals.

The present study has three key aims:

1. To assess the prevalence and severity of STS among mental health professionals working with war refugees in Pakistan and Lithuania.
2. To examine how social support, marital status, agreeableness, and negative emotionality function as protective or risk factors for STS.
3. To explore how these relationships may differ across the distinct socio-cultural and professional contexts of Pakistan and Lithuania.

These aims were investigated using a cross-sectional design and guided by the following overarching research questions (a) What is the prevalence and severity of STS in both countries? (b) Which psychosocial and personality variables predict STS? (c) Do these predictors function similarly or differently across cultural contexts?

By addressing these questions, the study contributes to the theoretical foundation of STS by illustrating how culture, social structures, and personality intersect to influence its expression. The findings will also support the development of evidence-based, context-sensitive strategies for supporting mental health professionals exposed to refugee trauma.

2. Methodology

2.1. Participants

The participants in this study were mental health professionals, including psychologists, psychiatrists, and social workers, who were actively involved in providing support services to war refugees in Pakistan and Lithuania. A total of 111 mental health professionals from Pakistan and 123 from Lithuania participated in the study. In Lithuanian sample 3 participants stated that they do not work with war refugees directly therefore, they were excluded form analysis. The inclusion criteria required that participants were directly working with refugees and were willing to participate voluntarily. The demographic characteristics of the sample, including age, gender, education, and years of experience in working with refugees, are detailed in Table 1.

2.2. Procedure

Data collection was conducted using an online survey administered through Google Forms which was developed in both English and Lithuanian for participants in Pakistan and Lithuania, respectively. The survey was distributed to the mental health facilities, private clinics, non-governmental organisations, and refugee centres across both countries. Prior to completing the survey, participants were provided with informed consent containing all necessary information regarding the study's objectives, voluntary participation, and confidentiality. Participants were informed that their responses would be anonymous and used exclusively for research purposes. Ethical clearance for the study was obtained from the Ethical Committee on Research Ethics in the Field of Psychology at Vilnius University, Lithuania (Decision No. 17 / (1.13 E) 250000-KT-65). Additionally, permission to use the instruments was obtained from the respective authors.

The survey was conducted over a three-month period, and participants were encouraged to complete the survey at their convenience. A non-probability sampling technique, specifically convenience, purposive, and snowball sampling, was used to recruit professionals. This approach ensured that the sample consisted of individuals directly involved in the provision of mental health support to war refugees.

Table 1. Demographic characteristics of the sample.

Country	Lithuania ($N = 120$)	Pakistan ($N = 111$)
Characteristics		
Age – *M* (SD)	42.5 (12.7)	34.77 (9.22)
Weekly hours of working with refugees – *M* (SD)	14.9 (15.5)	26.28 (13.04)
Sex *n* (%)		
Female	109 (90.8)	55 (49.5)
Male	11 (9.2)	56 (50.5)
Level of education *n* (%)		
Secondary	5 (4.5)	5 (4.5)
Vocational	4 (3.3)	10 (9)
Higher	111 (92.5)	96 (93.2)
Occupation *n* (%)		
Psychiatrist	0 (0)	18 (16.1)
Psychotherapists	9 (7.5)	3 (2.7)
Psychologists	28 (23.3)	42 (37.5)
Social workers	28 (23.3)	32 (28.6)
Volunteers	55 (45.9)	17 (15.3)
Experience of working with refugees *n* (%)		
< 1 year	37 (30.8)	6 (6.18)
1–2 years	77 (64.2)	11 (11.3)
2–3 years	6 (5)	15 (15.4)
3–4 years	0 (0)	21 (19.1)
> 5 years	0 (0)	58 (52.25)

Note: *M*: mean; SD: standard deviation.

3. Instruments

3.1. Demographic variables

Participants were asked to provide personal demographic information, including their gender, age, marital status, profession, years of experience working with war refugees, and their weekly hours spent providing services to refugees (Table 1). These variables helped contextualise the analysis of the relationship between individual characteristics and STS.

3.2. Secondary traumatic stress scale (STSS)

Secondary traumatic stress symptoms were measured using the Secondary Traumatic Stress Scale (STSS) was developed (Bride et al., 2004). This 17-item scale captures symptoms of intrusion, avoidance, and arousal mirroring DSM-IV PTSD criteria experienced due to indirect exposure to trauma through work with traumatised clients. Participants rated each item on a scale from 1 (never) to 5 (very often), referring to experiences over the past 7 days.

The STSS was used in this study as the primary instrument for measuring STS, as it provides a more comprehensive and clinically grounded assessment. Scoring follows standard cutoffs: Score 27 or less indicate little or No STS, score 28–37 = mild, score 38–43 = moderate STS, 44-48 = high STS, and score 49+ = severe STS (Bride et al., 2004).

The STSS has been validated in diverse contexts and was chosen for its clinical specificity. Although no formal cultural adaptation was conducted, the English version was used among professionals in Pakistan as English is the primary language of professional and academic training in psychology and psychiatry in Pakistan. The STSS demonstrated excellent internal consistency in this study (Cronbach's alpha = 0.95), with high reliability on its subscales: Intrusion ($\alpha = 0.86$), Avoidance ($\alpha = 0.88$), and Arousal ($\alpha = 0.88$) (Harrington, 2012).

The Lithuanian version of the STSS was used, which had been developed through translation from

the original English version by Grigutytė, Povilaitytė, and Paškevičiūtė in 2023. The Lithuanian version showed high internal consistency, with Cronbach's alpha coefficients of 0.93 for the overall scale, and 0.82, 0.83, and 0.83 for the subscales.

3.3. Big five inventory-2 (BFI-2)

To assess agreeableness and negative emotionality, the Big Five Inventory-2 (BFI-2) was used (Soto & John, 2017). The scale uses a 5-point Likert scale ranging from 1 (Disagree strongly) to 5 (Agree strongly). The English version of BFI was used in Pakistan, with reliability of Cronbach's alpha of 0.71. This decision was based on the participants' professional fluency in English, as English is the primary language of psychological education and clinical documentation in Pakistan. All participants were practicing mental health professionals with sufficient English proficiency to reliably complete standardised instruments in English.

In Lithuania, the Lithuanian version of the Big Five Inventory-2 (BFI-2), translated and validated by Rasa Barkauskienė and Alfredas Laurinavičius (Vilnius University) for the International Situations Project (Lee et al., 2020), was used with permission. It has Cronbach's alpha of 0.71.

3.4. Social support evaluation scale

Social support was assessed using a 5-item self-constructed scale in English and Lithuanian Languages designed to measure participants' perceived level of social support. An example item was: 'I have someone to share my problems and worries with.' Participants rated each item on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The scale demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.90 in this sample.

3.5. Marital status

Marital status was assessed as a demographic variable through a single multiple-choice question, with response options including 'Married,' 'Unmarried,' 'Divorced,' 'Widowed,' and 'In a relationship.'

3.6. Data analysis

Data collected in this study were analysed using SPSS (Version 25). Descriptive statistics, including means and standard deviations, were calculated for demographic variables and primary study variables. To assess differences in STS prevalence between Pakistan and Lithuania, independent samples t-tests and chi-square tests were conducted. Regression analyses were performed to evaluate the influence of social support, marital status, agreeableness, and negative emotionality on STS in both countries. A one-way ANOVA was employed to examine the effect of marital status on STS scores, with post-hoc comparisons conducted using Tukey's Honestly Significant Difference (HSD) test to explore group differences. Effect sizes were calculated for significant results to gauge their practical significance. For ANOVA results, Eta-squared (η^2) was computed, and for regression analyses, standardised beta coefficients (β) were interpreted as indicators of effect size. Cohen's d was not computed for t-tests due to the categorical distribution and unequal group sizes. Assumptions of normality and homoscedasticity were assessed, and missing data were handled using listwise deletion.

4. Results

The results of this study are presented through key analyses aimed at understanding the factors influencing STS among mental health professionals in Pakistan and Lithuania.

4.1. Prevalence and severity of STS in Lithuania and Pakistan

A comparison of the prevalence of STS was conducted between participants from Lithuania and Pakistan. In the Lithuanian sample, 20% ($n = 24$) of participants reported experiencing STS, while the remaining 80% ($n = 96$) did not. In contrast, the Pakistani sample exhibited a significantly higher prevalence, with 65.2% ($n = 73$) indicating symptoms of STS, and only 34.8% ($n = 38$) not reporting symptoms.

One relevant factor that may account for this difference is the variation in years of experience working with refugees. This difference was statistically significant ($\chi^2 = 41.25$, $p < .001$). As shown in Table 3, the majority of Lithuanian professionals had recently started working with refugee populations of 64.2% had 1–2 years of experience, and 30.8% had less than one year. In contrast, over half (52.25%) of Pakistani professionals had more than five years of experience, and only 6.18% had less than one year. These findings reflect the distinct historical contexts of refugee influx and service provision in each country.

4.2. Severity of STS symptoms in Pakistan and Lithuania

In addition to binary prevalence, STS severity levels were analysed to provide a more nuanced understanding of participants' psychological burden across both countries. In the Pakistani sample, symptom severity was more widely distributed, with notable proportions experiencing moderate, high, and severe STS. In contrast, the Lithuanian sample demonstrated a concentration of participants in the 'little to no STS' and

'mild STS' categories, indicating a lower overall emotional burden. The detailed breakdown is presented in Table 2.

This distribution underscores the elevated levels of psychological strain among Pakistani professionals. The severity spread suggests that STS should be viewed not merely as a categorical diagnosis but as a spectrum, with higher concentrations of distress among professionals operating in high-demand, under-resourced environments.

5. Comparison of demographic variables between Pakistan and Lithuania

5.1. Chi-Square analysis of demographic variables

A Chi-Square test of independence was conducted to assess whether there were significant differences between Pakistan and Lithuania in terms of demographic characteristics. The following variables were examined: gender, level of education, occupation, and years of experience working with refugees. Results showed significant differences in gender, occupation, and experience working with refugees, while no significant difference was found in the level of education (Table 3).

5.2. ANOVA for demographic variables between Pakistan and Lithuania

A One-Way ANOVA was conducted to compare the age and weekly working hours between participants from Pakistan and Lithuania. Significant differences were found in both age ($F(1, 233) = 18.800$, $p < .001$) and weekly working hours ($F(1, 232) = 73.963$, $p < .001$), suggesting country-specific differences in these variables (Table 4).

6. Protective factors against STS in Pakistan and Lithuania

6.1. Social support as a protective factor against STS

To explore the relationship between social support and STS, a linear regression was conducted. In Pakistan, social support significantly predicted STS scores. The regression analysis revealed a significant negative relationship between social support and STS ($B = -0.543$, $\beta = -0.810$, $p < .001$), indicating that lower levels of social support were associated with higher STS scores. In Lithuania, a similar negative relationship was found ($B = -0.650$, $\beta = -0.267$, $p = .002$), suggesting that higher levels of social support are linked to lower STS scores in both countries, though the effect was stronger in Pakistan as presented in Table 5.

Table 2. Severity of STS symptoms among participants in Pakistan and Lithuania.

STS Severity Level	Pakistan ($n = 111$)	%	Lithuania ($n = 120$)	%
Little to no STS	42	37.8	96	80%
Mild STS	31	27.9	17	14.1%
Moderate STS	15	13.5	2	1.6%
High STS	14	12.6	3	2.5%
Severe	9	8.1	2	1.6

Note: %: percentage.

Table 3. Chi-square analysis of demographic variables between Pakistan and Lithuania.

Variable	χ^2	df	p
Gender	47.11	1	<.001
Level of Education	0.17	2	.920
Occupation	47.11	4	<.001
Experience of Working with Refugees	41.25	4	<.001

Note: χ^2: Chi-Square statistic; df: degrees of freedom; p: p-value. A significant result is indicated by $p < .001$. No significant difference was found in the level of education between participants from Pakistan and Lithuania.

Table 4. One-way ANOVA for age and weekly working hours between Pakistan and Lithuania.

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F	p
Between Groups	2430.170	1	2430.170	18.800	<.001
Within Groups	30119.379	233	129.268		
Total	32549.549	234			

Note: $F(1, 233) = 18.800$, $p < .001$. The result suggests a significant difference between the countries in age and weekly working hours.

6.2. Marital status as a protective factor against STS

A one-way ANOVA was conducted to examine the effect of marital status on STS scores. In Pakistan, a significant effect was found, $F(4, 107) = 9.746$, $p < .001$, with post-hoc tests showing that married individuals reported significantly lower STS scores than divorced individuals ($p < .001$). Conversely, marital status did not significantly predict STS scores in Lithuania, $F(4, 123) = 0.558$, $p = .693$, suggesting that the influence of marital status on STS is specific to the Pakistani sample. See Table 6.

6.3. Post-Hoc comparisons for STS by marital status in Pakistani sample

To explore which marital status groups differed significantly in their STS scores, we performed post-hoc

Table 5. Regression analysis predicting STS from social support.

Country	B	SE(B)	β	t	p
Pakistan	−0.543	0.037	−0.810	−14.492	<.001
Lithuania	−0.650	0.209	−0.267	−3.108	.002

Note: B: unstandardised beta; β: standardised regression weight; *$p < .05$, **$p < .01$ (two-tailed). Social support significantly predicts STS scores in both countries, with a stronger effect in Pakistan ($\beta = -0.810$, $p < .001$).

Table 6. ANOVA: the effect of marital status on STS.

Country	Source	Sum of squares	*df*	Mean Square	*F*	*p*
Pakistan	Between Groups	5812.448	4	1453.112	9.746	<.001
	Within Groups	15953.266	107	149.096		
	Total	21765.714	111			
Lithuania	Between Groups	112.34	4	28.09	0.56	.693
	Within Groups	10667.88	123	86.73		
	Total	11780.22	127			

Note: *$p < .05$, **$p < .01$ (two-tailed). In Pakistan, marital status significantly affects STS scores ($F(4, 107) = 9.746$, $p < .001$), with married individuals reporting lower STS scores. In contrast, no significant effect was found in Lithuania ($F(4, 123) = 0.558$, $p = .693$).

Table 7. Post-Hoc comparisons for STS by marital status in Pakistani sample.

Comparison	Mean Difference	Std. Error	*p*
Married vs. Divorced	−15.30	4.32	<.001
Married vs. Unmarried	−6.80	4.20	.021
Divorced vs. Unmarried	8.50	3.60	.141
In a Relationship vs. Divorced	−8.00	5.05	.299

Note: Married individuals report significantly lower STS scores compared to divorced individuals ($p < .001$).

Table 8. Effect sizes for marital status and STS in Pakistani sample.

Effect size	Point Estimate	95% Confidence Interval
Eta-squared (η^2)	0.267	[0.113, 0.373]

Note: The Eta-squared value of 0.267 suggests a large effect of marital status on STS scores.

Table 9. Regression analysis predicting STS from agreeableness.

Country	*B*	SE(B)	*β*	*t*	*p*
Pakistan	−0.681	0.188	−0.271	−3.612	<.001
Lithuania	−0.044	0.198	−0.044	−0.222	.670

Note: Agreeableness significantly predicts STS scores in Pakistan ($\beta = -0.271$, $p < .001$), suggesting a protective role, but did not significantly predict STS scores in Lithuania ($\beta = -0.044$, $p = .670$), indicating that agreeableness is not a protective factor in Lithuania.

tests using Tukey's HSD. The results indicated that married individuals had significantly lower STS scores compared to divorced individuals ($p < .001$). Divorced individuals had the highest STS scores, and other groups (e.g. unmarried, in a relationship) reported intermediate levels of STS as observed in Table 7.

6.4. Effect sizes for marital status and STS in Pakistani sample

To further understand the strength of the relationship between marital status and STS scores, we calculated the effect size. The Eta-squared value of 0.267 indicates a large effect, meaning that marital status explains 26.7% of the variance in STS scores as indicated in Table 8.

6.5. Agreeableness as a protective factor against STS in Pakistan and Lithuania

A regression analysis was conducted to examine the role of agreeableness in predicting STS scores. In Pakistan, agreeableness significantly predicted lower STS scores ($\beta = -0.271$, $p < .001$), suggesting that individuals with higher levels of agreeableness are less likely to experience STS. However, in Lithuania, agreeableness did not significantly predict STS scores ($\beta = -0.044$, $p = .670$), indicating that its protective role is specific to the Pakistani sample (Table 9).

Table 10. Regression analysis predicting STS from negative emotionality.

Country	*B*	SE(B)	*β*	*t*	*p*
Pakistan	1.068	0.200	0.528	5.327	<.001
Lithuania	0.322	0.151	0.218	2.130	.035

Note: The results indicate that negative emotionality significantly predicts STS scores in both Pakistan ($\beta = 0.528$, $p < .001$) and Lithuania ($\beta = 0.218$, $p = .035$), suggesting that higher negative emotionality is a risk factor for STS in both countries.

7. Risk factors against STS in Pakistan and Lithuania

7.1. Negative emotionality as a risk factor against STS

A Regression analysis revealed that negative emotionality significantly predicted higher STS scores in both Pakistan ($\beta = 0.528$, $p < .001$) and Lithuania ($\beta = 0.218$, $p = .035$). This suggests that individuals with higher levels of negative emotionality are at greater risk for experiencing STS in both countries as represented in Table 10.

8. Discussion

8.1. Prevalence of STS in Lithuania and Pakistan

This study provides a comprehensive exploration of protective and risk factors for STS among mental health professionals working with war refugees in Pakistan and Lithuania. The observed difference in STS prevalence between Pakistan (65.2%) and Lithuania (20%) is striking. This disparity may be attributed to many factors. Pakistan, with a population of over 250 million, has significantly fewer active psychologists than Lithuania. According to WHO updated 2025 data, Pakistan has only 0.19 psychiatrists per 100,000 inhabitants, one of the lowest numbers in the world (World Health Organization [WHO],

2025). The limited number of mental health professionals in Pakistan means that those working in the field have a higher caseload which exacerbate the cumulative effects of trauma exposure. To examine whether individual-level exposure explains this disparity, we conducted supplementary regression analyses using weekly hours spent working with refugees as a predictor of STS. Results revealed no significant relationship between work hours and STS in either Pakistan ($\beta = 0.072$, $p = .436$) or Lithuania ($\beta = 0.056$, $p = .540$). These findings suggest that the quantity of hours worked alone does not account for the differences in STS. Instead, elevated stress levels in Pakistan likely reflect systemic challenges, including caseload intensity, inadequate mental health infrastructure, and limited organisational support. This distinction highlights the need to consider not only individual workload but also the broader professional context when assessing STS risk.

In contrast, Lithuania's relatively smaller population and a greater number of active psychologists result in a more manageable workload. Lithuania had 18.45 psychiatrists per 100,000 population in the year 2019 (World Health Organization [WHO], 2019). In 2020, Lithuania appointed 692 new mental health professionals, and in 2021, another 692 were appointed (Statista, 2023) further strengthening its support system for professionals working with refugees. These prevalence patterns reflect the study's first aim to assess the prevalence and severity of STS in both countries and show how national context, rather than individual exposure, may play a decisive role in STS vulnerability.

8.2. Social support as a protective factor against STS

The role of social support in buffering STS has been extensively documented in trauma related research (Figley, 2002; Hamama et al., 2019; Pearlman & Saakvitne, 1995). In this study, both countries showed that greater social support was associated with lower levels of STS. However, the strength of this relationship differed between the two countries.

In Lithuania, social support is particularly salient in mitigating STS. Mental health professionals who have access to social support are better able to cope with the emotional and psychological challenges associated with their work (Hyman, 2004). This finding highlights the importance of fostering supportive environments within healthcare systems, where both formal and informal networks can help mitigate the negative effects of trauma exposure (Khorasani et al., 2019).

In contrast, social support in Pakistan, while predictive of lower STS levels, is generally reported to be weaker. The cumulative pressures of hosting millions of refugees, political instability, and socio-economic hardships may reduce the availability of reliable social support systems (Ali et al., 2022). The countries with economic instability leave professionals more isolated, further contributing to the risk of STS (McFarlane, 2010).

These results support the study's second aim, which was to examine how psychosocial factors like social support predict STS. Our findings confirm prior research but extend it by showing that the strength of this protective factor is not universal; it is modulated by cultural and structural context.

8.3. Marital status and STS

Marital status emerged as a significant protective factor in Pakistan. This finding aligns with previous research indicating that stable familial relationships can offer emotional and psychological support, buffering the stress associated with working in high-risk environments (Lavee & Olson, 1991; Oliva et al., 2009). The support that spouses provide allow professionals to better manage the psychological strain of working with trauma survivors, acting as a protective factor against vicarious trauma (Richardson, 2021). However, divorced individuals in Pakistan report significantly higher STS. This can be due to the emotional strain of divorce, which may exacerbate depression, anxiety and other mental health issues (Davoudi-Kiakalayeh et al., 2017; Richards et al., 1997) but also to a relative lack of social support, greater relational vulnerability, and potential financial stress following marital separation. These interrelated stressors may compound emotional burdens, reducing one's capacity to cope effectively with secondary trauma.

However, this effect was not observed in Lithuania, where marital status did not predict STS. This could reflect the more individualistic nature of Lithuanian society, where professionals rely more on peer support, professional networks, or personal coping strategies rather than on familial relationships (Mockaitis, 2001; Snaebjornsson et al., 2017).

This country-specific difference reflects the study's third aim to explore how predictors of STS function differently across socio-cultural settings. In this case, marital status appears to be a culturally mediated protective factor, suggesting that emotional resilience is deeply embedded in social norms and relational structures.

8.4. Agreeableness as a protective factor in Pakistan

Interestingly, agreeableness was identified as a protective factor in Pakistan, where higher levels of agreeableness were associated with lower levels of STS. This suggests that individuals who are more

empathetic, cooperative, and compassionate may be better able to manage the emotional and psychological toll of working with trauma survivors. Previous research has highlighted that agreeable individuals tend to possess stronger social bonds and coping mechanisms, which could provide a buffer against the negative effects of vicarious trauma (Bakhshi et al., 2021). In Pakistan, where the professional environment is likely to be more chaotic and resource-limited, agreeableness could promote better interpersonal relationships and enhanced coping strategies, ultimately reducing STS.

However, this effect was not found in Lithuania, again emphasising that personality traits function within cultural ecosystems. This supports the notion that interventions targeting personality-based resilience may need cultural tailoring to be effective.

8.5. Negative emotionality as a risk factor for STS in Pakistan and Lithuania

Both Pakistan and Lithuania identified negative emotionality as a significant risk factor for STS. In both countries, individuals with higher levels of negative emotionality such as emotional instability, anxiety, and neuroticism were more likely to experience higher levels of STS. This finding is consistent with the broader literature, which emphasises that individuals with higher levels of negative emotionality are more vulnerable to stress and emotional strain (Chung et al., 2003). In high-stress environments such as those involving trauma work, negative emotionality can exacerbate the psychological burden, making professionals more susceptible to secondary trauma (Aust et al., 2024). This finding supports the second aim of our study and reinforces the idea that emotional vulnerability is a cross-cultural risk factor. However, the magnitude of its effect still varied, again suggesting that personality traits do not act in isolation but interact with social and cultural contexts.

8.6. Theoretical and cultural implications

Collectively, these findings contribute to a more nuanced understanding of STS by emphasising that its predictors and severity are context dependent. They refined the theoretical foundation of STS by showing that both personality traits and protective social factors must be examined in light of cultural and structural conditions. For example, while social support is beneficial in both contexts, its perceived availability and buffering strength vary greatly. Similarly, the divergent impact of marital status and agreeableness between countries suggests that emotional resilience mechanisms are deeply embedded in relational and cultural norms.

This cross-national study underscores the importance of developing culturally grounded STS frameworks and context-specific interventions. It shifts the conversation from universal risk/protective factors to culturally modulated ones, opening new avenues for localised training, supervision, and mental health system reform in trauma-exposed service settings.

8.7. Limitations and future research

Despite the valuable insights offered by this study, there are several limitations that should be considered. The cross-sectional design of the study restricts the ability to draw causal conclusions. Longitudinal studies are needed to explore the temporal relationship between social support, marital status, and STS. Additionally, the sample used in this study is not representative of the broader population of mental healthcare workers providing voluntary help to refugees. The use of convenience sampling and snowball sampling may have introduced selection bias, limiting the generalizability of the findings to other mental health professionals in different contexts or regions.

Future research should explore additional variables such as professional coping strategies, organisational support, and individual resilience factors that may contribute to reducing STS in mental health professionals working with trauma survivors.

9. Conclusion

This study examined how social support, marital status, agreeableness, and negative emotionality predict STS among mental health professionals in Pakistan and Lithuania. The findings confirm that while some risk and protective factors are shared across cultures, others like marital status and agreeableness function differently depending on socio-cultural context. By highlighting these variations, the study contributes to a more culturally nuanced understanding of STS. It shows that predictors of STS are not universally applicable, but shaped by relational norms, institutional systems, and emotional coping frameworks. These insights emphasise the need for context-sensitive interventions that address both individual vulnerabilities and systemic challenges. Supporting mental health professionals requires tailoring policies and practices to local realities, particularly in trauma-heavy environments. Future research should build on this cross-cultural perspective to develop targeted strategies for STS prevention and support.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data supporting the findings of this study are not publicly available due to ethical restrictions. Participants were assured confidentiality and anonymity, and the Ethical Committee of the institute approved the study on the condition that the dataset would not be shared publicly. However, the data may be made available upon reasonable request to the corresponding author, subject to approval by the research ethics committee and in compliance with data protection regulations. It will be made sure that data processing procedures will be in line with those of the European Union and Lithuanian data protection legislation.

ORCID

Momina Khalid Butt http://orcid.org/0000-0002-7406-0052

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