A SURVEY AMONG ESTONIAN RESIDENTS ONE MONTH AFTER THE RUSSIAN INVASION OF UKRAINE: RESILIENCE IS KEY

Kristjan Kask, PhD

Tallinn University
Associate Professor of Legal Psychology
Estonia

Valeri Murnikov, MA

valeri.murnikov@tlu.ee
Tallinn University
Visiting Researcher in Education Sciences
Estonia

Acknowledgements

The authors wish to thank Karel Kulbin from Tallinn University for helping prepare the survey.

Keywords: resilience, perceived stress, depression, anxiety, mental health, war in Ukraine, post-traumatic stress disorder

DOI: ...

ABSTRACT

The aim of our study was to investigate the relationship between resilience and symptoms of depression and anxiety, perceived stress, and post-traumatic stress in Estonia one month after the start of the war in Ukraine. The survey was responded to by 342 participants and included information about the study, a set of demographic questions as well as self-report scales. Resilience was negatively correlated with perceived stress, post-traumatic stress disorder, depression and anxiety. Perceived stress and post-traumatic stress symptoms were both positively correlated with depression and anxiety. Based on the results of the path analysis, higher resilience predicted less perceived stress, depression, anxiety, and post-traumatic stress. In addition, higher depression and anxiety scores predicted higher scores in perceived stress and post-traumatic stress. We can conclude that resilience plays an important role in predicting psychological distress, perceived stress, and post-traumatic stress.

INTRODUCTION

"War is one of the most devastating experiences humans may face and this experience is accompanied by many difficult struggles that often bring individuals to the limit of their abilities" (Kimhi, Kaim et al., 2023 p.1). The troops of the Russian Federation entered the Republic of Ukraine on 24 February 2022, the Independence Day of the Republic of Estonia. This invasion is still ongoing and is considered the most serious military conflict in Europe since 1945 (Kurapov et al., 2022).

This war has had an effect not only on Ukrainian people but also on European countries and communities concerning several aspects of life (Kimhi, Kaim et al., 2023). Millions of Ukrainians have been displaced, forced to leave or fled within Ukraine or its neighbouring countries (over six million globally). Almost 86,000 Ukrainian citizens entering Estonia have stated that they plan to stay in Estonia for a while. Temporary residence permits have been issued to almost 36,000 war refugees (by 19.12.2023, Ministry of the Interior, 2023). This might mean that Estonian residents have had closer contact with the refugees either via media representation or on an individual level.

During the COVID-19 pandemic, surveys about mental health increased considerably. In Estonia, studies have been conducted on the effects of the COVID pandemic on aspects of mental health among the general population (Kulbin et al., 2021; Kulbin & Kask, 2022; Reile et al., 2021; see also Laidra et al., 2023), athletes (Parm et al., 2021), and coaches (Kiens et al., 2023). However, other external factors might affect people's mental health as well. Studies have demonstrated that war exerts various adverse psychological effects on individuals, irrespective of their age, gender, or level of participation (Winter et al., 2015). Due to the proximity of Ukraine to Estonia, the war might influence aspects of mental health among

Estonian residents as well. As the COVID-19 pandemic demonstrated, large differences were seen in the way countries reacted and populations were affected (Abdalla et al., 2023). Thus, in the context of the war in Ukraine, in this paper, we focus on protective factors such as resilience as well as other aspects of mental health, such as psychological distress, perceived stress, and post-traumatic stress.

Resilience is an important mental skill that can be defined as "a dynamic process encompassing the capacity to maintain regular functioning through diverse challenges or to rebound through the use of facilitative resources" (Bryan, O'Shea, & MacIntyre, 2019, p. 77). In addition, an integral aspect often included in resilience definitions is the effective ability to confront diverse challenges and swiftly bounce back once the situation has ended (Métais et al., 2022). Bonanno et al. (2011) view individual resilience as a stable trajectory of healthy functioning after a highly adverse event. However, resilience can be seen on different levels – individual, group, or society. For example, in the current situation in Estonia, societal resilience has been analysed in terms of perceptions of socio-economic threats and wellbeing (Teperik, 2023).

From an internal security point of view, for example, officials who have close contact with Ukrainian refugees might be influenced by their stories and traumatic reactions. Hearing the stories might lead the officials to experience secondary traumatic stress, which is a term describing the emotions and behaviours stemming from exposure to a traumatising event that occurred to someone else (Figley, 1995). Similar trends can be present in the public when reading consecutive news items about Ukraine; there can be a wish to not consume news evoking certain emotions (known as compassion fatigue; Sorenson et al., 2017). Therefore, it is important to be aware of the way people might behave and react (see Teperik, 2023). Resilient people can employ strategies that are not only essential in taking care of their mental health but also in a

larger context (at a community or country level, e.g. working for the safety of a country).

The transactional stress model (e.g. Ben-Zur, 2019; Lazarus & Folkman, 1984) states that a person's capacity to cope and adjust to changes in life is a result of interactions between a person and the environment. The capacity to manage stress hinges on whether an individual perceives that they possess the resources to alleviate or eliminate the source of stress. Cohen and colleagues (1983) discuss that a psychological state of perceived stress occurs when a situation in a person's life is processed as threatening or demanding and, at the same time, resources to cope with the situation are insufficient.

Psychological distress is viewed as an emotional disturbance that might impact the social functioning and day-to-day living of individuals (Wheaton, 2007). It is defined as emotional suffering to which the symptoms of anxiety and depression contribute and which may be associated with somatic symptoms (Drapeau et al., 2012; Mirowsky & Ross, 2002). It is known that depression has been widely associated with excessive stress (Hammen, 2005).

Post-traumatic stress disorder (PTSD) can develop after direct exposure to or witnessing a traumatic, life-threatening event (Eshel et al., 2023). PTSD is a condition marked by enduring distress following a traumatic event that includes actual or threatened death or injury. It manifests through the re-experiencing of traumatic events, avoidance symptoms, and negative alterations in cognition and arousal (Eshel et al., 2023). War traumas can be seen as risk factors for PTSD; therefore, post-traumatic stress might sometimes lead to PTSD (Eshel et al., 2023).

Since the start of the war in Ukraine, these constructs and their relationships have been examined in scientific literature. For example, a special issue concerning the war in Ukraine and its impact on mental health on a global level was recently published (Vintila et al., 2023), focusing on the mental health of the people in several European countries as well as that of asylum seekers and war refugees. Higher exposure to war and a higher sense of danger increase PTSD and distress symptoms, whereas higher well-being, higher individual resilience, being male, and being older decrease their level (Eshel et al., 2023). In their study, however, most respondents did not reach the critical level of PTSD or distress symptoms. The highest severity of stress, anxiety, and PTSD was observed among Ukrainian refugees (Lushchat et al., 2024). Resilience has been found to be linked with mental health in other studies with people from war zones such as Ukraine (Kimhi, Eshel et al., 2023) and Syria (Sharifian et al., 2023).

One study also involved Estonian participants. Kimhi, Kaim et al. (2023) conducted a web-based study from July to October 2022 in six participating countries (Ukraine, Lithuania, Poland, Slovakia, the Czech Republic, and Estonia), with approximately 1,000 participants per country. Hope was the best predictor of community and societal resilience in all countries. The level of sense of danger was highest among the Ukrainian respondents, while the Estonian respondents reported the lowest; the Ukrainian respondents reported the highest level of distress symptoms, while the Lithuanian and Estonian respondents reported the lowest; and the Estonian sample reported the lowest level of perceived threats.

Comparisons with the COVID-19 pandemic regarding mental health were also conducted. For example, Gottschick et al. (2023) conducted a survey in Germany from 4-21 March 2022 that was responded to by 4441 participants (who had responded to a similar survey in March 2021 during the period of the strongest COVID-19 pandemic-related restrictions in Germany). They found that the

population in Germany reacted to the Russo-Ukrainian war with substantial distress (anxiety was strongly increased), exceeding reactions during the strongest restrictions in the COVID-19 pandemic. Fear of the impact of war was associated with worse mental health.

As it is important to monitor mental health in different countries in response to such grave external changes in our environment, in this survey, which we conducted a month after the war started, we wished to explore resilience as well as its associations with psychological distress, perceived stress and post-traumatic stress. Previous research has indicated that higher resilience is strongly associated with lower stress reactions (Kiens et al., 2023; also see Gottschick et al., 2023). Therefore, we expected higher resilience to be associated with and a good predictor of lower perceived stress, post-traumatic stress and psychological distress (operationalised as symptoms of depression and anxiety).

1. METHOD

1.1. SAMPLE

The survey was responded to by 342 participants (308 female), with a mean age of 40 (*SD* = 12, range 18 to 76). Regarding marital status, 90 (26%) were single, 116 (35%) were married, 24 (7%) were divorced, 90 (26%) were in an open relationship, 18 (5%) in a civil partnership, and 4 (1%) widowed. In terms of education, 6 (2%) had graduated basic school, 70 (21%) vocational school or high school, and 266 (77%) higher education. The native language for 339 (99%) participants was Estonian; for three participants, Russian.

1.2. PROCEDURE

The web-based survey created in the GoogleForms environment was distributed in Estonian to potential participants through Tallinn University's homepage and social media channels. The data collection wave in a convenience sample was conducted from 25 March to 18 April 2022. The survey included information about the study, a set of demographic, health and wellness questions, and a set of self-reported scales about mental health and well-being. The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Tallinn University, Estonia.

1.3. INSTRUMENTS

Emotional State Questionnaire-2 (EST-Q2; Ööpik et al. 2006). The EST-Q2 is a self-report questionnaire for assessing symptoms of depression and anxiety and symptoms related to depression and anxiety. The questionnaire consists of 28 items rated on a 5-point Likert scale (1 = not at all; 5 = all the time) in six subscales: depression (cut-off point >11), anxiety (>11), agoraphobia/panic (>6), social anxiety (>3), fatigue (>6), and insomnia (>5). In this study, we focus only on the subscales of depression and anxiety. The EST-Q2 reflects symptoms of depressive and anxiety disorders according to the ICD-10 and the DSM-IV during the past month. The internal consistency of the scales is α = .69-.88 (Ööpik et al., 2006).

Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS is a self-report measure designed to assess the degree to which individuals appraise experiences as difficult to manage and overwhelming. Participants are asked to indicate on a five-point scale (0 = never; 4 = very often) how often they felt or thought a certain way during the last four weeks (e.g. 'How often did you feel unable to control the important things in life?'). We used the shortened version of this scale consisting of 10 items rated on a 5-point Likert scale (0 =

never; 4 = very often; for items 4, 5, 7 and 8, the scale is reversed). The PSS total score was obtained by summing the scale items. This scale has demonstrated good internal reliability in English (α = .84-.86, Cohen et al., 1983) and in Estonian (α = .89, Kulbin et al., 2021).

PTSD Checklist Civilian version (PCL-C; Weathers et al. 1993). The PCL-C is a self-report rating scale for assessing post-traumatic stress disorder (PTSD). The PCL-C consists of 17 items that correspond to the DSM-IV symptoms of PTSD. Respondents are instructed to indicate how much they have been bothered by each symptom in the past month using a 5-point Likert scale (1 = not at all; 5 = extremely). Internal consistency is good in English with Cronbach's α = .97 (Weathers et al., 1993) and also in Estonian (α = .93) (Kulbin et al., 2021).

Brief resilience scale (BRS; Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008). The BRS is a 6-item scale to determine whether it is possible to reliably assess resilience as bouncing back from stress, whether it is related to resilience resources, and whether it is related to important health outcomes. Items 1, 3, and 5 are positively worded, and items 2, 4, and 6 are negatively worded. The BRS is scored by reverse coding items 2, 4, and 6 and finding the mean of the six items. It is asked to indicate the extent to which a person agrees with each of the following statements by using the following scale from 1 = strongly disagree to 5 = strongly agree. Internal consistency is good in English, with Cronbach's alpha ranging from .80-.91 in four different samples (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) and also in Estonian (α = .87) (Kiens, Kask, & Jõgi, 2023).

1.4. STATISTICAL ANALYSES

To examine the associations between constructs, SPSS 27.0 was used for Pearson's correlations. Path analysis was used for testing

the structural relations between measures. The PSS, PCL-C, and EST-Q2 depression and anxiety subscales were set as outcome variables predicted by the BRS. All possible (residual) correlations were allowed to be estimated in the path model. The pathj module from the statistical platform jamovi (The jamovi project, 2023; R Core Team, 2022; Galliucci, 2021) was used for path analysis. Results yielding $p<.05$ were considered statistically significant.

2. RESULTS

Descriptive statistics along with the internal consistencies of the scales are presented in Table 1.

Table 1. Means, standard deviations, and percentages above cut-off point and Cronbach's alpha of the scales across three waves (n=342)

SCALE	M	SD	PROPORTION OVER CUT-OFF POINT (%)	CRONBACH'S α
PCL-C	37.66	14.74		.938
PSS	27.12	6.30		.828
BRS	18.90	5.30		.914
EST-Q2 subscales				
Depression	11.60	7.17	49	.900
Anxiety	10.89	5.66	43	.881

First, our aim was to ensure the consistency of results across diverse socio-demographic factors. We sought to investigate that no differences in outcomes would emerge among various social and demographic variables, including gender, education, and age. There was no difference between male and female participants in any constructs (see Table 2). There were statistically significant correlations between age and mental health constructs and between

those constructs and education. However, relationships between variables were low; none of the correlations exceeded a higher value than .288 (ranging from .135 to .288), indicating that covariation between variables was present in fewer than eight per cent of cases.

Table 2. Differences between male and female participants across scales

		M	SD	t	df	p
Depression	Male	11.52	7.77	-0.038	339	0.97
	Female	11.6	7.08			
Anxiety	Male	9.67	6.07	-1.28	339	0.20
	Female	11.0	5.61			
BRS	Male	20.45	5.23	1.77	339	0.08
	Female	18.7	5.30			
PCL-C	Male	34.85	15.07	-1.12	339	0.26
	Female	37.9	14.62			
PSS	Male	26.85	7.11	-0.24	339	0.81
	Female	27.1	6.21			

Second, associations between mental health constructs were analysed (see Table 3). The EST-Q2 depression subscale was correlated with anxiety (r = .711, p<.01). This indicates that respondents who showed more depression symptoms also showed more anxiety symptoms, and *vice versa*. The BRS was negatively correlated with the PSS (r = -.57, p<.01, PCL r = -.66, p<.01) and the EST-Q2 subscales (r-s = -.58-.66, p<.01). These relationships suggest that those individuals who show higher resilience perceive less stress and fewer symptoms of post-traumatic stress, depression, and anxiety. The PSS was positively correlated with the EST-Q2 subscales (r-s = .68-.72, p<.01). The PCL-C was positively correlated with the EST-Q2 subscales (r-s = .75-.80, p<.01).

Next, the effect of the BRS on the PSS, PCL-C and EST-Q2 depression and anxiety subscales was estimated in path analysis (see

Figure 1). The BRS appeared as a significant predictor of all outcomes. The higher the participants' resilience, the lower the PSS (β = -.14, p<.001) and PCL (β = -.17, p<.01) scores. Resilience was also a strong predictor for EST-Q2 depression (β = -.66, p<.001) and anxiety (β = -.59, p<.001) scores. In the current model, in addition to the BRS, the EST-Q2 depression and anxiety scales significantly predicted PSS and PCL-C scores. Specifically, the higher the depression score, the higher the PSS (β = .30, p<.001) and PCL-C (β = .49, p<.001) scores. Similarly, the higher the anxiety score, the higher the PSS (β =.44, p<.001) and PCL-C (β= .34, p<.001) scores.

Table 3. Associations between scales and subscales (n=342)

	DEPRESSION	ANXIETY	PSS	PCL-C
Anxiety	.711**			
PSS	.681**	.708**		
PCL-C	.803**	.746**	.659**	
BRS	-.663**	-.578**	-.574**	-.656**

*Note. ** = p < .01.*

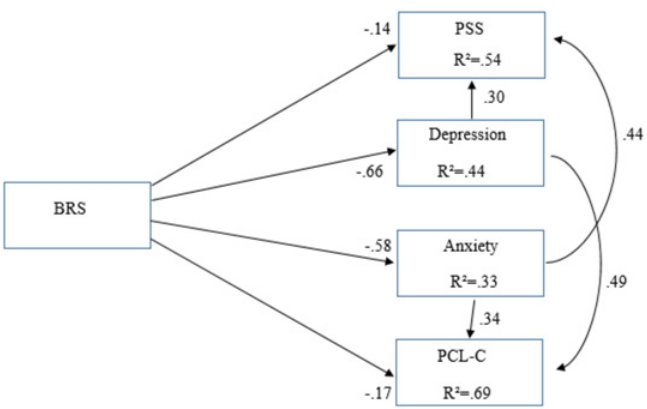

Figure 1. Graphic display of estimated path analysis mode (only significant associations are displayed)

3. DISCUSSION

In this study, we aimed to explore how resilience as a coping trait is related to individuals' psychological distress, perceived stress, and post-traumatic stress. We found that individuals with higher resilience experienced less psychological distress, such as traits of depression and anxiety, as well as less perceived stress and post-traumatic stress. These results support previous findings in studies that have used similar constructs (Kiens et al., 2023; Eshel et al., 2023; Gottschick et al., 2023). Eshel et al. (2023) also found that lower resilience predicted higher anxiety and depressive symptoms as well as PTSD. Kiens et al. (2023) also found that lower resilience predicted higher PSS and EST-Q2 depression and anxiety scores. Thus, our results align with previous findings that resilience as a coping ability mediates individuals' psychological distress and stress.

Furthermore, the path analysis indicated that resilience was the best predictor of depression, anxiety, perceived stress, and post-traumatic stress. In addition, symptoms of depression and anxiety predicted significantly higher perceived and post-traumatic stress. The relationship between psychological distress and perceived and post-traumatic stress outlines the importance of resilience as an ability to cope with negative mental states (see also Eshel et al., 2023).

Resilience has been shown to be an important psychological phenomenon for coping with psychological distress and other mental challenges. In recent years, this construct has been studied in the context of COVID-19 as a mechanism that helps cope with crises (Kulbin et al., 2021; Kulbin & Kask, 2022; Reile et al., 2021; see also Laidra et al., 2023). Previously, studies have addressed the similarities in the importance of resilience between the COVID-19 crisis and the war crisis (see e.g. Kimhi, Kaim et al., 2023). It has been shown that similar reactions occur in the population in both COVID and war conflict situations. Previous studies have shown

that in the Estonian population, resilience was an important coping mechanism in overcoming psychological distress and various mental health challenges during the COVID pandemic (Kulbin et al., 2021; Kulbin & Kask, 2022; Reile et al., 2021; see also Laidra et al., 2023). Considering the similar reaction to the COVID pandemic and the war conflict, resilience as a construct creates the opportunity to compare the impact of COVID-19 and the war on the Estonian population.

Resilience, as an important coping mechanism, has been studied in the context of the armed conflict in Ukraine. Since the onset of the war in Ukraine, studies have addressed the impact of the conflict on resilience and distress factors. For example, Kimhi, Kaim et al. (2023) analysed the relationship between distress factors and resilience in the Ukrainian population compared to Israelis. The study showed that resilience was an important psychological phenomenon related to lower distress and higher hope in the Ukrainian population. One of the interesting findings was that the Ukrainian population during the war showed higher resilience than Israelis. The authors argued that higher resilience could be associated with the perception of the war. Specifically, this difference might suggest that higher resilience could be associated with the fact that Ukrainians perceive the war as a fight for independence and the survival of the nation as a whole. This suggestion aligns with the results of the current study as the Estonian population can relate to this kind of perception of a war conflict based on similar historical processes and aggressor.

Therefore, it is important to support resilience in individuals and society overall regardless of whether there is direct armed conflict. Factors that build resilience can be learned, such as open-mindedness and mental flexibility when facing fears, decisiveness, effective problem-solving skills, optimism, and social support (Everly & Lating, 2019).

As a limitation of the study, it can be pointed out that our sample size was small, so we have to be cautious in generalising the results. In addition, although in some previous studies, gender and age have been important predictors of stress reactions (e.g. Kiens et al., 2023), we did not include these variables in our analysis since there was no statistical relationship between gender and our constructs and the correlations between our constructs and age and education level were not strong enough. The absence of a relationship between gender and the constructs is related to the sample. In our study, the majority of the respondents were women (308 out of 342 responders). There is no clear explanation for this disproportion in gender within the sample. Data for the current study was collected through social media, thus it can be only suggested that women had a greater interest in participating in the current study than men. However, this cannot be controlled since the method of data collection does not allow us to track channels and their impact on participation.

Observing the proportion of respondents who exceed the cut-off scores of the EST-Q2 depression and anxiety subscales (which means that a clinician should evaluate them further regarding symptoms of depression and anxiety disorders), we see that 49% exceed the cut-off score for depression and 43% for anxiety. Although direct comparisons cannot be made, when comparing these results to similar scores from the first year of the COVID-19 pandemic from Kulbin et al. (2021), for depression, these scores were between 22 and 24% and for anxiety 18 and 26%. This comparison indicates that the symptoms of these conditions accumulate over time (bearing in mind that, worldwide, the COVID-19 pandemic started roughly two years before the Ukrainian war in February 2022). Thus, we can attribute the increase to the start of the war in Ukraine.

Although Kimhi, Kaim et al. (2023) found that Estonian respondents reported the lowest level of distress symptoms and perceived threats, Estonian residents might have had direct or indirect

contact with Ukrainian refugees. Given the current geopolitical environment, resilience is important not only on a community or society level (Teperik, 2023) but also on an individual level as many Ukrainian refugees have fled to Estonia either temporarily or more permanently.

CONCLUSIONS

Like Kimhi, Kaim et al. (2023), this survey closely examined resilience and aspects of mental health, such as psychological distress, perceived stress, and post-traumatic stress, among Estonian residents. Higher resilience predicts lower depression and anxiety as well as perceived and post-traumatic stress. Our results demonstrate that strengthening resilience is an important factor in coping better with changes in our external environment. In the context of the war in Ukraine, certain skills can be practised and applied to everyday behaviour to strengthen resilience. It is paramount to promote these practices on an individual and a broader level, such as community or country. It is also important to repeatedly monitor aspects of mental health among Estonian residents. As the COVID-19 pandemic demonstrated, changes in our environment are associated with changes in our mental health (Kulbin et al., 2021; 2022); therefore, it is important to target changes in people's mental health in a timely manner.

Contacts:

Kristjan Kask, PhD

E-mail: kask@tlu.ee

Tallinn University

Valeri Murnikov, MA

E-mail: valeri.murnikov@tlu.ee

Tallinn University

REFERENCES AND SOURCES

Abdalla, S. M., Koya, S. F., Rosenberg, S. B., et al. (2023). Pandemic stressors and mental health indicators in eight countries. Social Psychiatry & Psychiatric Epidemiology. [www] DOI: https://doi.org/10.1007/s00127-023-02541-w

Bonanno, G. A., Westphal, M., Mancini, A. D. (2011). Resilience to loss and potential trauma, Annual Review of Clinical Psychology, 7, pp. 511-535. [www] DOI: https://doi.org/10.1146/annurev-clinpsy-032210-104526

Ben-Zur, H. (2019). Transactional model of stress and coping, in V. Zeigler-Hill and T. Shackelford (eds.) Encyclopedia of personality and individual differences. Cham: Springer, pp. 1-4.

Bryan, C., O'Shea, D., MacIntyre, T. (2019). Stressing the relevance of resilience: A systematic review of resilience across the domains of sport and work. International Review of Sport and Exercise Psychology, 12, pp. 70-111. [www] DOI: https://doi.org/10.1080/1750984X.2017.1381140

Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, pp. 385-396.

Drapeau, A, Marchand, A, Beaulieu-Prévost, D. (2012). Epidemiology of psychological distress, in: L. L'Abate (ed.) Mental illnesses – Understanding, prediction, and control. Tech Janeza Trdine, pp. 105-137.

Eshel, Y., Kimhi, S., Marciano, H., Adini, B. (2023). Predictors of PTSD and psychological distress symptoms of Ukraine civilians during war. Disaster Medicine and Public Health Preparedness, 17: e429. [www] DOI: https://doi.org/10.1017/dmp.2023.69

Everly, G. S., Lating, J. M. (2019). Resilience: The final frontier. In G. S. Everly and J. M. Lating (eds.). A clinical guide to the treatment of the human stress response, pp. 175-187. Springer: New York, NY.

Figley, C. (1995). Compassion fatigue as secondary traumatic stress disorder. In C. Figley (ed.). Compassion fatigue. Coping with secondary traumatic stress disorder in those who treat the traumatized, pp. 22-50. Bruner/Mazel.

Gallucci, M. (2021). PATHj: jamovi Path Analysis. [jamovi module]. [www] https://pathj.github.io/

Gottschick, C., Diexer, S., Massag J., et al. (2023). Mental health in Germany in the first weeks of the Russo-Ukrainian war. BJPsych Open, 9: e66. [www] DOI: https://doi.org/10.1192/bjo.2023.21

Hammen, C. (2005). Stress and depression. Annual Review of Clinical Psychology, 1, pp. 293-319. [www] DOI: https://doi.org/10.1146/annurev.clinpsy.1.102803.143938

Kiens, K., Kask, K., Jõgi, A. (2023). Mental health aspects among Estonian coaches: The relationship of resilience and social support with emotional state, perceived stress. International Sport Coaching Journal. [www] DOI: https://doi.org/10.1123/iscj.2022-0065

Kimhi, S., Kaim, A., Bankauskaite, D., Baran, M., Baran, T., Eshel, Y., Dumbadze, S., Gabashvili, M., Kaniasty, K., Koubova, A., Marciano, H., Matkeviciene, R., Teperik, D., Adini, B. (2023). A full-scale Russian invasion of Ukraine in 2022: Resilience and coping within and beyond Ukraine. Applied Psychology: Health and Well-Being, pp. 1-19. [www] DOI: https://doi.org/10.1111/aphw.12466

Kimhi, S., Eshel, Y., Marciano, H., Adini, B. (2023). Impact of the war in Ukraine on resilience, protective, and vulnerability factors. Frontiers Public Health, 11:1053940. [www] DOI: 10.3389/fpubh.2023.1053940

Kulbin, K., Kask, K., Uriko, K. (2021). Depression, anxiety, perceived and post-traumatic stress, and the use of alcohol during the COVID-19 pandemic in Estonia from spring to autumn in 2020: A longitudinal study. Trames, 25, pp. 279-294. [www] DOI: https://doi.org/10.3176/tr.2021.3.01

Kulbin, K., Kask, K. (2022). Associations between depression symptoms and leisure behavior during the COVID-19 state of emergency. Leisure Sciences. [www] DOI: https://doi.org/10.1080/01490400.2022.2036275

Kurapov, A., Pavlenko, V., Drozdov, A., Bezliudna, V., Reznik, A., Isralowitz, R. (2022). Toward an understanding of the Russian-Ukrainian war impact on university students and personnel. Journal of Loss and Trauma, pp. 1-8.

Laidra, K., Reile, R., Havik, M., Leinsalu, M., Murd, C., Tulviste, J., Tamson, M., Akkermann, K., Kreegipuu, K., Sultson, H., Ainsaar, M., Uusberg, A., Rahno, J., Panov, L., Leetmaa, K., Aasa, A., Veidebaum, T., Lehto, K., Konstabel, K. (2023). Estonian National Mental Health Study: Design and methods for a registry-linked longitudinal survey. Brain and Behavior, e3106. [www] DOI: https://doi.org/10.1002/brb3.3106

Lazarus, R. S., Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

Lushchak, O., et al. (2024). Prevalence of stress, anxiety, and symptoms of post-traumatic stress disorder among Ukrainians after the first year of Russian invasion: a nationwide cross-sectional study. The Lancet Regional Health – Europe, 36: 100773. [www] DOI: https://doi.org/10.1016/j.lanepe.2023.100773

Métais, C., Burel, N., Gillham, J. E., Tarquinio, C., Martin-Krumm, C. (2022). An integrative review of the recent literature on human resilience: From concepts, theories, and discussions towards a complex understanding. *Europe's Journal of Psychology*, 18, pp. 98-119. [www] DOI: https://doi.org/10.5964/ejop.2251

Ministry of the Interior. (2023). Statistika Ukraina sõjapõgenike kohta. [www] https://www.siseministeerium.ee/statistika-ukraina-sojapogenike-kohta [Viewed on 6.01.2024].

Mirowsky, J., Ross, C.E. (2002). Selecting outcomes for the sociology of mental health: issues of measurement and dimensionality. Journal of Health and Social Behavior, 43, pp. 152-170.

Parm, Ü., Aluoja, A., Tomingas, T., Tamm, A.- L. (2021). Impact of the COVID-19 pandemic on Estonian elite athletes: Survey on mental health characteristics, training conditions, competition possibilities, and perception of supportiveness. International Journal of Environmental Research and Public Health, 18, 4317. [www] DOI: https://doi.org/10.3390/ijerph18084317

Reile, R., Kullamaa, L., Hallik, R., Innos, K., Kukk, M., Laidra, K., Vorobjov, S. (2021). Perceived stress during the first wave of COVID-19 outbreak: results from nationwide cross-sectional study in Estonia. Frontiers in Public Health (9), pp. 1-6. [www] DOI: https://doi.org/10.3389/fpubh.2021.564706

Sharifian, M. S., Hoot, J. L., Shibly, O., Reyhanian, A. (2023). Trauma, burnout, and resilience of Syrian primary teachers working in a war zone. Journal of Research in Childhood Education, 37, pp. 115-135. [www] DOI: https://doi.org/10.1080/02568543.2022.2076267

Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. International Journal of Behavioral Medicine, 15, pp. 194-200. [www] DOI: https://doi.org/10.1080/10705500802222972

Sorenson, C., Bolick, B., Wright, K., Hamilton, R. (2017). An evolutionary concept analysis of compassion fatigue. Journal of Nursing Scholarship, 49, pp. 557-563. [www] DOI: https://doi.org/10.1111/jnu.12312

R Core Team. (2022). R: A Language and environment for statistical computing. (Version 4.1) [Computer software, www]. https://cran.r-project.org. (R packages retrieved from CRAN snapshot 2023-04-07).

Teperik, D. (2023). The glass of societal resilience – Half empty or half full? Perceptions of socio-economic threats and wellbeing in Estonia. International Centre for Defence and Security. [www] https://icds.ee/wp-content/uploads/dlm_uploads/2023/09/ICDS_Analysis_The_Glass_of_Societal_Resilience_Dmitri_Teperik_September_2023-2.pdf [Viewed on 3.01.2024].

The jamovi project. (2023). *jamovi*. (Version 2.4) [Computer Software, www] https://www.jamovi.org

UNHCR. (2023). Refugees fleeing Ukraine. Technical report. [www] https://data2.unhcr.org/en/situations/ukraine [Viewed on 25.01.2024].

Vintilă, M., Kalaitzaki, A., Turliuc, M.N., Goian, C., Tudorel, O.I. (2023). Editorial: The war in Ukraine: Impact on mental health on a global level. Frontiers in Psychology, 14: 1226184. [www] DOI: https://doi.org/10.3389/fpsyg.2023.1226184

Weathers, F.W., Litz, B.T., Herman, D.S., Huska, J.A., Keane, T.M. (1993). The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility. In: Proceedings of the Annual Conference of the International Society for Traumatic Stress Studies; San Antonio, Texas.

Wheaton, B. (2007). The twain meet: distress, disorder and the continuing conundrum of categories (comment on Horwitz). Health, 11, pp. 303-319.

Winter, D. A., Brown, R., Goins, S., Mason, C. (2015). Trauma, survival, and resilience in war zones: The psychological impact of war in Sierra Leone and beyond. New York: Routledge.

Ööpik, P., Aluoja, A., Kalda, R., Maaroos, H. (2006). Screening for depression in primary care. Family Practice, 23, pp. 693-698. [www] DOI: https://doi.org/10.1093/fampra/cml052