War trauma exposed refugees and posttraumatic stress disorder: The moderating role of trait resilience

War trauma exposed refugees and posttraumatic stress disorder: The moderating role of trait resilience.

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Running head: Trait resilience moderates the effect of war related trauma on PTSD

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1. Introduction

Refugees and asylum seekers are a particularly at-risk target group for developing post-traumatic stress disorder (PTSD) as they are often exposed to multiple traumatic events that fulfil stressor criteria for PTSD according to the Diagnostic Statistical Manual of Mental Disorders [1,2]. While prevalence rates may vary among different target populations, the literature is replete with evidence showing a dose response relation between the number and severity of experienced traumatic events and risk for PTSD development or comorbid psychopathology [3-5]. Given that war and oppression are the primary events responsible for creating refugees and asylum seekers [6] it is not surprising that most of the studies have focused on pre-migration, war related trauma experiences and PTSD in this particularly vulnerable population. However, it has also been consistently pointed out that besides such pre-migration traumatic experiences, refugees and asylum seekers also face numerous challenges in the post-migration environment (i.e., refugee camp, settlement country) [7-13]. Examples relate to conditions and duration of living in unsafe environments, crowded and impoverished refugee camps, challenges in meeting basic survival needs (inadequate access to food, water, shelter, health care), inability to pursue income-generating activities and isolation from family and traditional social supports. These more chronic stressors may negatively impact mental health and contribute to PTSD development over and above the traumatic events experienced in the pre migration context of persecution [14-18]. Specifically, Braun-Lewensohn & Al-Sayed [19] found that the amount of time spent in the refugee camp and exposure to war situations both contributed to the explained variance in the different psychological problems of refugee camp residents and those that had more recently arrived were in better condition and reported fewer psychological problems.

While conditions under which exposure to traumatic events and duration of living in a refugee camp may lead to PTSD are yet to be uncovered, research shows that individual

characteristics like trait resilience and coping style may play a buffering role [20-23] putatively accounting for the variance in PTSD incidence in different refugee populations.

Resilience is defined as the ability to adapt to challenging life circumstances and maintain mental health despite exposure to experiences of significant adversity [24, 25]. Research shows that resilient individuals are less likely to develop PTSD symptoms following a traumatic event [26-28] There is growing consensus that although resilience and coping are closely related, they are conceptually distinct constructs [29] in that resilience influences how individual appraises his/her capacity to respond to an event, whereas coping refers to the strategies employed following the appraisal of a stressful encounter [30]. Coping refers to the ability of enacting behavioral and cognitive strategies aimed at contrasting adverse aspects of one's environment, and to down regulate or avoid internal threats induced by stress or trauma [31].While, positive coping strategies reflect attempts to actively modify perceptions of the stressor or its qualities (i.e., by engaging in problem solving and cognitive reappraisal), negative coping on the other hand involves actions and thought processes that are aimed at avoiding direct engagement with the stressor (i.e., wishful thinking and social withdrawal) [32]. In order to contrast negative effects of stress or trauma, a more active coping style (i.e., engagement) is considered a more constructive and adaptive strategy, whereas avoidant coping (i.e., disengagement) on the other hand is considered as less adaptive and associated with increased levels of PTSD [33].

To the best of our knowledge, no study has systematically examined the role of individual traits in the relationship between pre-migration trauma and chronic stressors of refugee life with PTSD and psychopathology, in refugees and asylum seekers. The aim of the present study was examining the impact of exposure to war related trauma and duration of living in refugee camps on PTSD symptoms and psychiatric morbidity and assessing the moderating role of trait resilience and coping style. We hypothesized that both pre-migration war related stressors and duration of living in refugee camp would be associated with significant levels of PTSD. Furthermore, based on

research suggesting that being resilient and engaging with a problem attempting to solve it will better serve someone in coping with such stressors, as opposed to isolating oneself and avoiding the situation [34-36] we hypothesized that individuals with higher levels of resilience and with an engagement coping style, would experience a lesser impact of war related trauma and duration of living in refugee camp on PTSD symptoms.

2. Methods

2.1 Participants

This is a cross sectional study involving a sample of asylum seekers and refugees from Middle Eastern countries. Participants were recruited between June - December 2017 at the National Reception Center for Refugees (NRC) in Tirana, Albania with the assistance of the Refugee and Migrant Services (RMSA) local organization. Inclusion criteria were being 18 years or older, having endured some form of persecution and trauma, and absence of a psychotic disorder that would impede accurate responding. All residents of the NRC at the time of data collection that fulfilled the selection criteria were approached and informed about the study objectives and were invited to participate in the study. Participants were assured that their participation in study was on voluntary basis only and that nonparticipation would not affect their current situation in any way. They were also free to withdraw at any moment without any consequence. From a total number of 120 adult refugees and asylum seekers residing at the NRC, Tirana at the time of data collection, 119 fulfilled the selection criteria and 83 (70%) agreed to participate in the study. Verbal informed consent was obtained. The protocol complied with the Declaration of Helsinki II and ethical approval was obtained by the joint Ethical Review Committee of the RMSA and the NRC (dated January 21st, 2017).

2.2. Measures

Trained interpreters (of Farsi and Arabic) were used for interviewing participants whose primary language was other than English. All measures used in this study were translated and back translated by accredited translators in accordance with gold standard translation practices [37]. Discrepancies were rectified jointly by the research team and independent bilingual individuals who were experienced in working with health-related questionnaires.

2.2.1 Socio-demographic information

Semi structured interviews were conducted to gather sociodemographic information, a short narrative of participant's history of persecution, the history and duration of life in exile and in refugee camps as well as whether participants had received any psychosocial support or psychotherapy treatment (see Supplementary material S1).

2.2.2 Harvard trauma questionnaire (HTQ)

Pre-migration war related trauma was measured with the HTQ part I [38] which is the most commonly used instrument for measuring trauma history among refugee populations [39, for a review see 40]. The HTQ part I subscale is a trauma event list yielding 43 items indexing exposure to traumatic events in first person or through witnessing or hearing about experiences of other people. An overall war related trauma exposure was calculated based on the sum of the traumatic events experienced and/or witnessed by each participant.

Presence of PTSD symptoms was measured through HTQ part IV, which includes a list of symptoms that correspond to DSM-IV-R [41] criteria for posttraumatic stress disorder (PTSD). The answers yield a score with a cutoff point of 2.5 for differentiating between clinical and non-clinical presence of PTSD symptoms.

2.2.3 General Health Questionnaire (GHQ-12)

Psychiatric morbidity was assessed with the GHQ-12 [42].) which is one of the most widely used self-report screening tests for non-psychotic psychological illness [43] and has been found as a

valid instrument for psychiatric screening in Middle East populations population [44]. We used a threshold of 3 above which probability of clinical caseness is considered as suggested by Goldberg [45].

2.2.4 The Coping Strategies Inventory–Short Form (CSI–SF)

Coping style was measured with the CSI–SF [46] which is considered as one of the best measures of coping for adults [for a review see 47]. The CSI-SF is a 16-item scale that generates two overall coping factors, Engagement and Disengagement, and four secondary factors: Problem Engagement, Problem Disengagement, Emotion Engagement, and Emotion Disengagement. It has showed good internal consistency (average α =.91) and has been used extensively in refugee research.

2.2.5 The Brief Resilience Scale (BRS)

We used the BRS [48] to measure trait resilience. It is a 6-item self-report scale with a 5-point response scale ranging from 1 (strongly disagree) to 5 (strongly agree). A higher score indicates a higher degree of resilience. The scores load into one factor, and it has showed good internal consistency (α ranging from .80 to .91). A literature review of resilience measurement scales listed BRS among the top four scales with the best psychometric ratings [49].

2.3 Data analysis

Descriptive statistics were computed, and ANOVAs were performed to test for group differences using SPSS (v.24). Associations between PTSD, psychiatric morbidity, trait resilience and coping strategies were assessed by computing Pearson r coefficients. The moderation effects were examined using Model 1 in PROCESS [50], model 1, 5000 bootstrap resampling). We performed a series of moderation analysis with pre migration war related trauma exposure and

duration of living in refugee camp set as predictor (X), respectively, PTSD symptoms was set as outcome (Y) and trait resilience and coping style were set as moderator (M), respectively.

3. Results

3.1 Sample

Table 1 lists the socio-demographic and clinical characteristics of the entire sample and separately for the PTSD and non-PTSD group. A total of 83 participants (7 females; age range between 31 and 65 years) participated in the study. The majority of participants were male (n = 76, 91.6 %) and originally from Middle Eastern countries (n = 81, 97.6%). Participants in this study had experienced a mean of 13.8 (SD= 8.5) types of traumatic events, whether by witnessing other or in first person (see Table 1). Figure 2 shows the typology and incidence of traumatic event exposure for the entire sample. The number of years spent in exile and living in refugee camps was 23.6 (SD = 7.6) and nearly half of the sample (n = 35, 44.9%) had received some kind of psychosocial support in the form of lay problem solving counselling or psychological first aid.

3.2 Prevalence of PTSD and psychiatric morbidity

Of the entire sample 32.5% reached the threshold for clinical presence of PTSD and 38.8 % for psychiatric morbidity. No socio-demographic variables were significantly associated with PTSD symptoms or psychopathology. As expected, pre-migration war related trauma ($F(1,82) = 24.118$, $p < 0.001$) and duration of living in refugee camp ($F(2,81) = 2.511$, $p = 0.008$) were associated with high levels of PTSD (see Table 1).

Insert Table 1 and Figure 1 near here

3.3 Variables correlated with PTSD

Table 2 shows associations between PTSD, psychiatric morbidity, trait resilience and coping strategies in the entire sample and separately for PTSD and no PTSD symptoms group. As expected, there was a significant correlation between PTSD, psychiatric morbidity, coping style and trait resilience: Disengagement coping style was significantly and positively correlated with clinical PTSD levels as well as psychiatric morbidity: we found significant positive correlations between GHQ and Emotion Focused Disengagement ($r = .345$, $p = .002$) and Disengagement Focus subscales ($r = .321$, $p = .004$). Conversely, Engagement focused coping style were significantly and positively associated with no / low-level PTSD (see Table 2). Resilience was positively and significantly related with Problem focused Engagement ($r = .325$, $p = .017$) and Engagement focused coping ($r = .285$, $p = .039$).

Insert Table 2 and Figure 2 near here

3.4 Moderators of relation between stressor exposure and PTSD

Given that both war related trauma and duration of living in refugee camp were significantly associated with PTSD, we performed a series of moderation analysis with both these variables set as predictor variables, PTSD set as outcome and trait resilience and coping style as moderator variables.

The analysis with duration of living in refugee camp set as predictor (X), PTSD set as outcome (Y) and trait resilience and coping style set as moderators (M) did not yield any significant results. Then we performed the same analysis with war related trauma set as predictor (X), PTSD was set as outcome (Y), and trait resilience was set as moderator (M). Only the analysis with trait resilience as moderator offered significant results. The full model was significant: $R2 = 0.26$, MSE

= 0.547, F(3,79)= 9.6357, p < .0001 (see Figure 2). Findings indicated that the interaction variable (War related trauma × Resilience) was significant: b = − 0.256, *SE* = 0.011, t = -2 .396, *p* = 0.02, 95% CI [− .046, − .004], as were the respective slopes: for low resilience levels, b = 0.047, *SE* = .0121, t = 3.941, p < 0.001 95 % CI [0.023, 0.072] and high resilience levels, albeit this latter was at the threshold levels of significance, b = 0.022, *SE* = 0.011, t = 1.987. p = 0.50, 95 % CI [0.00, 0.044]. Therefore, resilience level can moderate the relationship between pre-migration war related trauma exposure and PTSD. Figure 2 further shows that the slope of the low resilience levels was higher than that of high resilience level which implies that the role of pre-migration war related trauma in developing PTSD likely became weaker in high resilience individuals.

4. Discussion

The aim of the present study was to examine the impact of exposure to war related premigration trauma and duration of living as a refugee on PTSD and psychiatric morbidity in a sample of trauma affected refugees and asylum seekers, while also assessing the role of trait resilience and coping style. As expected, the higher the exposure to war related trauma events and the longer the time spent in refugee camps, the higher the levels of reported PTSD. This confirms evidence from more recent approaches showing that both pre-migration and post migration stressors related to refugee life contribute to PTSD development [14-18].

Our participants reported extensive exposure to multiple war related traumatic events prior to migration and quite long duration of living in refugee camps, and we found an incidence of 32.5% for clinical levels of PTSD and 38.8 % for psychiatric morbidity. Our findings are in line with the vast majority of research investigating the prevalence of PTSD and psychological disorders in populations exposed to high rates of war related traumatic events (prevalence estimates range between 10% and 40%) [2, 51] as well as with evidence that these elevated rates of psychological disorders persist even years after displacement, both in refugee camp and countries of settlement

contexts [52-54] Nevertheless, factors that might account for the variance in prevalence rates could be linked with individual traits like resilience and coping style. This was confirmed by the strong correlation between resilience trait and coping style with PTSD: more specifically, Disengagement focused coping style was positively and significantly correlated with clinical levels of PTSD whereas Engagement focused coping was significantly and positively related with no/low levels of PTSD. This is in line with our expectations and literature showing a more constructive and adaptive function of engagement coping style in face of adversity, whereas coping by disengagement and avoidance on the other hand is considered as less adaptive and associated with increased levels of PTSD [20, 23].

Although we anticipated that both resilience and coping style would moderate the effects of premigration trauma and post migration stressors on PTSD, our hypothesis were partially confirmed. In particular, only the moderating effect of resilience on the impact of war related pre migration trauma on PTSD symptoms was demonstrated by our results. This could be related to the fact that resilience and coping style are independent constructs and resilience reflects not only one's appraisal of the challenging situation but also the beliefs in one's capacity to react and overcome such life adversities, which seems to be an important fact in contrasting negative effects of trauma exposure [30, 48, 49]. Our findings suggest that highly resilient individuals experience a weaker effect of war related trauma exposure on PTSD symptoms development. This is in line with trait accounts of resilience and PTSD suggesting that the higher the individual's capacity to adapt to life's adversities, the lower the probability that they present clinically significant PTSD symptoms [22, 55].

Our study is not exempt of limitations. First, our sample was composed of asylum seekers and refugees residing in the NRC, and the convenience sampling and the cross-sectional design might limit the interpretation of our results. Secondly, we only measured duration of living in refugee camp and the variability in camp conditions might have somehow influenced our results.

Furthermore, a potential overlap between PTSD symptoms and specific modes of coping, could have obscure some of the results: for example, social withdrawal an aspect of emotion disengagement, is also a PTSD symptom. Also, the possibility that cultural differences in the understanding of the psychological constructs assessed may have influenced participants responses cannot be completely ruled out. The sample size of the various nationalities did not allow for a meaningful differentiation in accounting for the various cultural backgrounds. We do not exclude that other factors as sense of coherence, attachment, etc., could play a role in mitigating impact of stressor exposure on presence of PTSD symptoms. Therefore, our results should be interpreted with caution and their generalizability should be further tested by means of cross-cultural studies. Finally, the modest sample size and lack of a control group may have obscured some potentially important associations. Further research with larger and a more gender balanced sample, and using a case control design is needed to more fully explore these important associations.

Despite these limitations, our findings highlight the importance of understanding the interplay between trauma exposure and resilience traits. Our results contribute to our understanding of the relationship between trauma and resilience, shedding light on the ways their interaction may affect presence of PTSD symptoms. Future research should help delineate typologies of trauma profiles that might help identify which patterns of coping and resilience variables are most appropriate for different individuals under which traumatic conditions, allowing a more nuanced approach to intervention as well. Our findings support the notion that resilience-based interventions, targeting adults who have been exposed to especially high levels of war related trauma may help bolster resilient functioning and enhance chances that individuals present less PTSD symptoms [55-57]. Such efforts are certainly needed to optimize treatment of this disadvantaged and highly distressed population.

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References

[1] 5th ed. Arlington: American Psychiatric Association; 2013. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders.

[2] J. Sareen, Posttraumatic Stress Disorder in Adults: Impact, Comorbidity, Risk Factors, and Treatment. The Canadian Journal of Psychiatry, (2014), 59(9):460–467.

[3] M. Fazel, J. Wheeler, J. Danesh, Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. Lancet (2005), 365, 1309–1314.

[4] R.F. Mollica, K. McInnes, T. Pham, M.C. Fawzi, E. Murphy, L. Lin, The dose-effect relationships between torture and psychiatric symptoms in Vietnamese ex-political detainees and a comparison group. J. Nerv. Ment. Dis. (1998), 186, 543–553.

[5] Z. Steel, D. Silove, T. Phan, A. Bauman, Long-term effect of psychological trauma on the mental health of Vietnamese refugees resettled in Australia: A population-based study. Lancet (2002), 360, 1056–1062.

[6] United Nations High Commissioner for Refugees (UNHCR). Global Trends: Forced Displacement in 2016. 2017. Available online:http://www.unhcr.org/statistics/unhcrstats/5943e8a34/globaltrends-forceddisplacement-2016.html (accessed on 15 March 2018)

[7] H. Johnson, A. Thompson, The development and maintenance of post-traumatic stress disorder (PTSD) in civilian adult survivors of war trauma and torture: a review. Clin Psychol Rev. (2008), 28(1):36-47. doi: 10.1016/j.cpr.2007.01.017.

[8] E.G. Karam, M.J. Friedman, E.D. Hill, R.C. Kessler, K.A. McLaughlin, M. Petukhova, L. Sampson, V. Shahly, et al. Cumulative traumas and risk thresholds: 12-month PTSD in the World Mental Health (WMH) Surveys. Depression and Anxiety. (2014), 31(2):130–42.

[9] K.E. Miller, A. Rasmussen, 'War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks', Social Science & Medicine. (2010) doi.org/10.1016/j.socscimed.2009.09.029.

[10] Z. Steel, D. Silove, K. Bird, P. McGorry, P. Mohan, Pathways from war trauma to posttraumatic stress symptoms among Tamil asylum seekers, refugees, and immigrants. J. Trauma. Stress (1999), 12, 421–435.

[11] K.E. Miller, M. Kulkarni, H. Kushner, Beyond trauma-focused psychiatric epidemiology: bridging research and practice with war-affected populations. American Journal of Orthopsychiatry, (2006), 76, 409–422.

[12] K.E. Miller, S.M. Weine, A. Ramic, N. Brkic, Z.D. Bjedic, A. Smajkic, E. Boskailo, G. Worthington, The relative contribution of war experiences and exile-related stressors to levels of psychological distress among Bosnian refugees. J. Trauma. Stress (2002),15(5):377-87.

[13] K.E. Miller, L.M. Rasco, An ecological framework for addressing the mental health needs of refugee communities. In K. E. Miller, & L. M. Rasco (Eds.), The mental health of refugees: Ecological approaches to healing and adaptation. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., 2004, 1–64

[14] M. Hollifield, T.D. Warner, B. Krakow, J. Westermeyer. Mental Health Effects of Stress over the Life Span of Refugees. J. Clin. Med. (2018), 7, 25; doi:10.3390/jcm7020025.

[15] T. Chu, A.S. Keller, A. Rasmussen, Effects of post-migration factors on PTSD outcomes among immigrant survivors of political violence. J. Immigr. Minority Health (2013), 15, 890–897.

[16] W. Chen, B.J. Hall, L. Ling, A.M. Renzaho, Pre-migration and post-migration factors associated with mental health in humanitarian migrants in Australia and the moderation effect of post-migration stressors: Findings from the first wave data of the BNLA cohort study. Lancet Psychiatry (2017), 4, 218–229.

[17] F. Lindencrona, S. Ekblad, E. Hauff, Mental health of recently resettled refugees from the Middle East in Sweden: The impact of pre-resettlement trauma, resettlement stress and capacity to handle stress. Soc. Psychiatry Psychiatr. Epidemiol. (2008), 43, 121–131.

[18] R.D. Schweitzer, M. Brough, L. Vromans, M. Asic-Kobe, Mental health of newly arrived Burmese refugees in Australia: Contributions of pre-migration and post-migration experience. Aust. N. Z. J. Psychiatry (2011), 45, 299–307.

[19] O. Braun-Lewensohn., & K. Al-Sayed,. Syrian Adolescent Refugees: How Do They Cope During Their Stay in Refugee Camps? (2018) Frontiers in Psychology, 9. doi:10.3389/fpsyg.2018.01258

[20] A. Feder, N. Mota, R. Salim, et al. Risk, coping and PTSD symptom trajectories in World Trade Center responders. J. Psych. Res. (2016), 82:68–79.

[21] J. Hooberman, B. Rosenfeld, A. Rasmussen, A. Keller, Resilience in Trauma-Exposed Refugees: The Moderating Effect of Coping Style on Resilience Variables. Am J Orthopsychiatr. (2010), 80, 557-63. 10.1111/j.1939-0025.2010.01060.

[22] W. Pickren, What Is Resilience and How Does It Relate to the Refugee Experience? Historical and Theoretical Perspectives. (2014). 10.1007/978-94-007-7923-5_2.

[23] N.J. Thompson, D. Fiorillo, B.O. Rothbaum, K.J. Ressler, V. Michopoulos, Coping strategies as mediators in relation to resilience and posttraumatic stress disorder. J. Affect. Disorder. (2018) 1; 225:153-159. doi: 10.1016/j.jad.2017.08.049.

[24] G. A. Bonanno, Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive After Extremely Aversive Events? American Psychologist, (2004) 59(1), 20–28. doi:10.1037/0003-066x.59.1.20

[25] G. A. Bonanno, Resilience in the Face of Potential Trauma. Current Directions in Psychological Science (2005). 14(3), 135-138. doi.org/10.1111/j.0963-7214.2005.00347.x

[26] T. N. Alim., A. Feder., R E. Graves., Y. Wang., J. Weaver., M. Westphal., D S. Charney. Trauma, Resilience, and Recovery in a High-Risk African-American Population. American Journal of Psychiatry, (2008). 165(12), 1566–1575. doi:10.1176/appi.ajp.2008.07121939

[27] J.-S. Lee., Y.-S Ahn., K.-S. Jeong., J.-H. Chae., & K.-S. Choi. Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. Journal of Affective Disorders (2014). 162, 128–133. doi:10.1016/j.jad.2014.02.031.

[28] G. Wrenn., & A. Wingo., M. Renee., T. Pelletier., A. Gutman., B. Bradley., K. Ressler. The Effect of Resilience on Posttraumatic Stress Disorder in Trauma-Exposed Inner-City Primary Care Patients. Journal of the National Medical Association. (2011). 103. 560-6. 10.1016/S0027-9684(15)30381-3.

[29] L. Campbell-Sills., S.L. Cohan., M.B. Stein. Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. Behavior Research and Therapy, (2006). 44(4), 585–599. doi:10.1016/j.brat.2005.05.001.

[30] D. Fletcher., M. Sarkar. Psychological resilience: A review and critique of definitions, concepts, and theory. European Psychologist. (2013) 18. 12-23. 10.1027/1016-9040/a000124.

[31] M. Weinberg., O. Gilbar., S. Gil. Forgiveness, coping and terrorism: Do tendency to forgive and coping strategies associate with the level of post-traumatic symptoms of injured victims of a terror attack? Journal of Clinical Psychology, (2014) 70, 693–703. http://dx.doi.org/10.1002/jclp.22056

[32] G. Wu., A. Feder., H. Cohen., J.J. Kim., S. Calederon., D.S. Charney., A.A. Mathe. Understanding resilience. Frontiers in Behavioral Neuroscience. (2013);7:10. doi: 10.3389/fnbeh.2013.00010.

[33] J. Hooberman., B. Rosenfeld., A. Rasmussen., A. Keller., Resilience in Trauma-Exposed Refugees: The Moderating Effect of Coping Style on Resilience Variables. The American journal of orthopsychiatry. (2010). 80. 557-63. 10.1111/j.1939-0025.2010.01060.x.

[34] S. Jeavons., D.Jdl. Horne., K.M. Greenwood. Coping style and psychological trauma after road accidents. Psychology, Health & Medicine, (2000). 5(2), 213–221. doi:10.1080/713690183

[35] T. A. Mellman., D. David., V. Bustamante., A.I. Fins., K. Esposito. Predictors of post-traumatic stress disorder following severe injury.(2001). Depression and Anxiety, 14, 226 –231.

[36] R.L. Punamäki., A.H. Muhammed., H.A. Abdulrahman. Impact of traumatic events on coping strategies and their effectiveness among Kurdish children. International Journal of Behavioral Development, (2004). 28(1), 59-70. http://dx.doi.org/10.1080/01650250344000271

[37] R. Bontempo, Translation fidelity of psychological scales: An item response theory analysis of an individualism-collectivism scale. J Cross Cult Psychol. (1993) 24, 149–166.

[38] R.F. Mollica, Y. Caspi-Yavin, P. Bollini, T. Truong, S. Tor, J. Lavelle, The Harvard trauma questionnaire: validating a cross-cultural instrument for measuring torture, trauma, and post-traumatic stress disorder in Indochinese refugees. J Nerv Ment Dis. (1992),180, 111–116.

[39] A. Rasmussen., J. Verkuilen., E. Ho., Y. Fan.. Posttraumatic stress disorder among refugees: Measurement invariance of Harvard Trauma Questionnaire scores across global regions and response patterns. Psychological Assessment, (2015). 27(4), 1160-1170. doi: 10.1037/pas0000115

[40] E. Sigvardsdotter, A. Malm, P. Tinghög, M. Vaez, F. Saboonchi. Refugee trauma measurement: a review of existing checklists. Public Health Rev. (2016) 37:10. doi.org/10.1186/s40985-016-0024-5

[41] American Psychiatric, A & American Psychiatric, A. Diagnostic and statistical manual of mental disorders: DSM-IV-TR. Washington, DC: American Psychiatric Association; 2000.

[42] D.P. Goldberg, R. Gater, N. Sartorius, T. Ustun, M. Piccinelli, O. Gureje, et al.. The validity of two version of the GHQ in the WHO study of mental illness in general health care. Psychol Med (1997). 27, 191-197.

[43] D.P. Goldberg, P. Williams, P. A user's guide to the General Health Questionnaire. Windsor UK: NFER-Nelson, 1988.

[44] A. Montazeri, H.A. Mahmood, M. Shariati, G. Garmaroudi, M. Ebadi, A. Fateh, The 12-item General Health Questionnaire (GHQ-12): translation and validation study of the Iranian version Health and Quality of Life Outcomes. Health Qual Life Outcomes. (2003) 1: 66. doi: 10.1186/1477-7525-1-66

[45] D.P. Goldberg, Manual of the General Health Questionnaire. Windsor: NFER-NELSON Publishers, 1978, 8-12.

[46] D.L. Tobin, K.A. Holroyd, R.V. Reynolds, J.K. Wigal, The hierarchical factor structure of the coping strategies inventory. Cognit Ther Res., (1989),13, 343–361.

[47] E.A. Skinner, K. Edge, J. Altman, H. Sherwood, Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychol Bull. (2003) 129*(2), 216-269. http://dx.doi.org/10.1037/0033-2909.129.2.216

[48] B.W. Smith, J. Dalen, K. Wiggins, E. Tooley, P. Christopher, J. Bernard, The brief resilience scale: assessing the ability to bounce back. Int. J. Behav. Med. (2008) 15(3), 194-200.

[49] G. Windle, K.M. Bennett, J. Noyes, A methodological review of resilience measurement scales. Health Qual Life Outcomes (2011) 4;9:8. doi: 10.1186/1477-7525-9-8.

[50] A.F. Hayes, Introduction to Mediation, Moderation, and Conditional Process Analysis. New York: The Guilford Press; 2013.

[51] Z. Steel., T. Chey., D. Silove., C. Marnane., R.A. Bryant., M. Van Ommeren. Association of Torture and Other Potentially Traumatic Events With Mental Health Outcomes Among Populations Exposed to Mass Conflict and Displacement. JAMA, (2009) 302(5), 537. doi:10.1001/jama.2009.1132.

[52] M. Bogic., A. Njoku., S. Priebe. Long-term mental health of war-refugees: a systematic literature review. BMC International Health and Human Rights, (2015).15(1). doi:10.1186/s12914-015-0064-9

[53] K. Miller., A. Rasmussen. The Mental Health of Civilians Displaced by Armed Conflict: An Ecological Model of Refugee Distress. Epidemiology and Psychiatric Sciences. (2016).1.10.1017/S2045796016000172.

[54] D. Silove., P. Ventevogel., S. Rees. The contemporary refugee crisis: an overview of mental health challenges. World Psychiatry. (2017).16. 130-139. 10.1002/wps.20438.[58] S.R. Horn, A. Feder, Understanding Resilience and Preventing and Treating PTSD. Harv. Rev. Psychiatry. (2018), 26 (3):158-174. DOI: 10.1097/HRP.0000000000000194.

[55] M.S. Burton., A.A. Cooper., N.C. Feeny., L.A. Zoellner. The enhancement of natural resilience in trauma interventions. J Contemp Psychother (2015);45:193–204.

[56] A. Chmitorz., A. Kunzler., I. Helmreich., O. Tüscher., R. Kalisch., T. Kubiak., T. Wessa., K. Lieb., Intervention studies to foster resilience- A systematic review and proposal for a resilience framework in future intervention studies. Clinical Psychology Review 59 (2018) 78–100.