RESILIENCE AND WAR-RELATED ANXIETY: EXPLORING ETHNIC DIFFERENCES

Lubna Tannous-Haddad¹, & Efrat Barel²

¹Department of Behavioral Sciences, The Max stern Yezreel Valley College (Israel) ²Faculty of Psychology, The college of Law and Business (Israel)

Abstract

Since the October 7th, 2023, events, Israel has been in a continuous war. The aim of the study was to look at the role of ethnicity and resilience as predictive factors of anxiety among Jews and Arabs, citizens of Israel, post October 7th events. The current study utilized a cohort, followed over 8 months in two time points. Before the October 2023 events (July 2023, referred to as T1), 512 participants filled in an online questionnaire of demographic details, resilience and anxiety. Of the 512 participants, 250 (126 females; 156 Jewish; M age= 42.12 (SD = 10.58)) filled post attack questionnaires (March 2024 referred to as T2). The post attack questionnaires included: Demographic information, resilience, and anxiety scales. Results showed that resilience at baseline was negatively associated with anxiety and that higher levels of anxiety are attributed to Arabs. Furthermore, the interaction term was significant as well, meaning that ethnicity moderated the relationship between resilience and anxiety. Conditional effect analyses indicated that resilience was negatively related to anxiety among Arabs only but not for Jews. These findings suggest different interactions of resilience with war related anxiety, between and within the two ethnicities. The empirical evidence yields critical implications for developing and implementing culturally responsive mental health interventions that honor diverse ethnic perspectives and lived experiences.

Keywords: Resilience, war related anxiety, ethnicity.

1. Introduction

In October 2023, Hamas attacked Israel's southern region causing civilian casualties, taking hostages and leading to a war. Research indicates that people living under persistent warfare conditions risk developing various psychological conditions, including anxiety, depression, and PTSD, which can have enduring impacts on mental wellbeing.

Resilience, defined as converting adversity into growth (Joseph, 2012; Seligman, 2011), has been extensively researched in mental health contexts. Studies show it negatively correlates with depression (Chuning et al., 2024), anxiety (Lara-Cabrera et al., 2021), and PTSD (Bensimon, 2012; Lee et al., 2014), while serving as a protective mediator between stress and psychological symptoms (Lara-Cabrera et al., 2021; Dhungana et al., 2022). In war contexts specifically, research on Ukrainian child refugees (Urbański et al., 2023) and Iraqi adult refugees (Arnetz et al., 2013) has demonstrated resilience's protective role against various mental health conditions. Research shows diverse levels of resilience among different ethnic groups facing war (Groweiss at al., 2024; Kimhi et al., 2017). As well as an ethnicity moderation of the relationship between resilience and PTSD (Zheng et al., 2020).

Resilience extends beyond individual traits to include environmental factors that enable growth (Ungar, 2004). This ecological perspective emphasizes the interaction between individuals and their surroundings (Shaw et al., 2016; Ungar, 2013), where access to vital support during crisis is shaped by one's socioeconomic and cultural circumstances. The ecological model of resilience emphasizes two essential aspects of the individual-environment interaction: First, it represents a mutual process where both parties play vital roles - individuals must actively seek out resources, while systems and institutions bear responsibility for ensuring these resources are readily available and accessible.

Israel's population dynamic presents a significant contrast in how its Jewish majority (78%) and Arab minority (22%) interact with societal systems and cope with adversity. Arab citizens face a complex reality marked by economic disparities, cultural integration challenges, and limited access to public resources, leading to a persistent trust deficit with state institutions. This has resulted in Arab communities primarily relying on family and local community networks for support. In contrast, the Jewish majority's closer alignment with institutional and socioeconomic systems enables them to access both governmental

and familial support networks during crises (Kimhi et al., 2020; Tannous-Haddad et al., 2022). This broader access to resources correlates with research findings showing that Arabs generally report higher anxiety and lower resilience levels compared to Jews in regular times (Braun-Lewensohn, 2014; Kimhi et al., 2017). These established differences in institutional trust, resource accessibility, and support network utilization provide the foundation for examining how both populations experience anxiety and resilience during times of conflict.

The primary goal of the current study was to examine resilience and anxiety among Jews and Arabs in Israel during war. The current study has three hypotheses:

- 1. Anxiety scores will be higher for Arabs than for Jews.
- 2. Resilience at baseline will have a negative relationship with anxiety following the attack.
- 3. Ethnicity will moderate the relationship between resilience at baseline and anxiety following the attack

2. Method

2.1. Participants

The current study utilized a cohort, followed over 8 months in two time points. Before the October 2023 events (July 2023, referred to as T1), 512 participants filled in an online questionnaire. To be included, participants had to be 20-60 years old and speak the language in which the survey was administrated (Hebrew or Arabic). Of the 512 participants with October events questionnaires, 250 (126 females; mean age 42.12 (SD = 10.58); 156 Jewish) had post attack questionnaires (March 2024 referred to as T2).

2.2. Procedures

The authors collected the data via in a cross-sectional survey conducted in Israel. Qualtrics (https://www.qualtrics.com) was used to create an anonymous questionnaire, which was distributed online by iPanel (https://www.ipanel.co.il), a large Israeli panel service. The complete study protocol was approved by the College Institutional Review Board. The questionnaire completion was voluntary, and respondents were told they could stop their participation at any point. Data from participants who completed the survey was excluded from the final analysis if their responses were implausible (e.g., they chose the same answer throughout the questionnaire). The final analysis included 250 participants.

2.3. Measures

2.3.1. Demographic. The demographics questionnaire included items on ethnicity, gender, age, residence, religion and education.

2.3.2. Anxiety. Depression, Anxiety, and Stress Scale–21 Items (DASS-21; Lovibond and Lovibond, 1995). In the current study we used a Hebrew and Arabic versions, retrieved from the DASS21 website (http://www2.psy.unsw.edu.au/dass/). Looking back over the previous week, the assessment consists of 21 items measuring three distinct categories: depression (7 items, with statements like "I felt sad and depressed"), anxiety (7 items, including questions such as "I was aware of dryness of my mouth"), and stress (7 items, with examples like "I tended to over-react to situations"). Each item is rated on a 4-point scale from 0 (never) to 3 (most all the time). The scoring thresholds indicate severe depression when scores exceed 11, severe anxiety when scores surpass 8, and moderate to severe stress levels when scores are greater than 9. The measurement demonstrated strong internal consistency in this study, with Cronbach's alpha values of 0.91 across all three dimensions - depression, anxiety, and stress.

2.3.3. Resilience. The Connor-Davidson Resilience Scale (CD-RISC) was applied in this research using the shortened version created by Campbell and Stein (2007). This measurement tool examines resilience through three fundamental aspects: 1. Locus of Control: This element measures how strongly participants feel they can shape their life outcomes. For instance, one statement reads: "I am in control of my life." 2. Challenge of Action-Oriented Behavior and Self-Efficacy: This aspect gauges participants' determination and their confidence in managing difficulties. An illustrative item states: "I am not easily discouraged by failure." 3. Optimism: This component assesses participants' ability to maintain optimism during challenging times. One example statement is: "I can stay focused under pressure.". Each statement was scored by participants using a 5-point scale, ranging from 1 (not at all) to 5 (extremely). The combined ratings yield an overall score, where higher totals reflect stronger psychological resilience. The instrument showed reliable internal consistency, with a Cronbach's α of ... for the complete sample. For this study, bilingual professionals performed a two-way translation between English and Arabic following Cha et al.'s (2007) methodology.

3. Data analysis

All statistical analyses were carried out with Statistical Package for the Social Sciences (SPSS) version 28.0. Descriptive statistics are given as mean \pm standard deviation. Normality of distribution was explored using Kolmogorov-Smirnov test and log transformation was applied in cases of skewed distribution. Paired-sample t-tests were used to assess changes pre and post attack in the current study variables. Bonferroni correction was performed, and results were considered significant at the .006. The PROCESS macro for SPSS (version 4.1) (model 1) was used to determine the moderating effects of ethnicity on the effect of resilience on anxiety, controlling for age, sex, and pre-attack symptoms levels (anxiety). Significant interactions were decomposed using the procedures described by Aiken and West (1991).

4. Results

To examine the hypotheses, a moderation analysis was performed after adjusting for covariates, with anxiety scores as the predicted variable, resilience levels at baseline as the predictor variable, and ethnicity as the moderator. Resilience was found to be a significant predictor and had a negative effect on anxiety, thus supporting Hypothesis 2. That is, the lower the resilience levels, the higher the anxiety levels. In addition, ethnicity was found to be significant too and had a negative effect on anxiety, thus supporting Hypothesis 3. That is, higher levels of anxiety are attributed to Arabs. Furthermore, in Hypothesis 3, the present study assumed that the correlation between baseline resilience and anxiety will be moderated by ethnicity. The interaction term was significant as well, meaning that ethnicity moderated the relationship between resilience and anxiety. Conditional effect analyses (Hayes, 2013) were conducted to determine the precise nature of this difference, which indicated that the resilience was negatively related to anxiety among Arabs only (B = -0.38, SE = 0.11, p < .001) but not for Jews (B = -0.08, SE = 0.10, p = .396; see Figure 1).



Figure 1

5. Discussion

The current study aimed to examine war-related anxiety and resilience among Jews and Arabs in aftermath Israel. Anxiety and resilience were measured in T1 and T2. Compared to Jews, Arabs showed higher levels of anxiety after the attack. This is consistent with former studies indicating that even in regular times minorities, compared to majority, report higher levels of anxiety (Braun-Lewensohn, 2014; Kimhi et al., 2017).

In accordance with the second hypothesis, individuals with higher resilience before the attack showed lower levels of anxiety afterward. Our data strongly supported this relationship, demonstrating that pre-existing resilience was significantly linked to reduced psychological distress following the traumatic event. This aligns with the broader research literature that identifies resilience as a key protective factor against mental health challenges after trauma. (Arnetz et al., 2013; Urbański et al., 2023).

The third hypothesis explored whether ethnicity influenced the relationship between baseline resilience and aftermath anxiety. The analysis revealed that ethnicity did indeed moderate this relationship, with an important distinction: the protective effect of resilience against anxiety was only statistically significant among Arab group members. Consistent with Zheng et al. (2020), these results suggest that resilience may function differently across cultural groups, potentially involving distinct psychological and social mechanisms in different population.

Our findings have direct implications for clinical practice and research in war related anxiety treatment. Mental health professionals need to recognize that resilience factors may operate uniquely within different cultural contexts, especially when addressing collective trauma. This understanding should inform both the development of culturally-tailored interventions and the adaptation of existing treatment approaches. Rather than applying a one-size-fits-all model of resilience, practitioners should consider how cultural background, community resources, and traditional support systems might influence the effectiveness of their interventions. This nuanced approach is essential for delivering effective, culturally-competent care in the aftermath of collective traumatic events.

References

- Arnetz, J., Rofa, Y., Arnetz, B., Ventimiglia, M., & Jamil, H. (2013). Resilience as a protective factor against the development of psychopathology among refugees. *The Journal of nervous and mental disease*, 201(3), 167-172. https://doi.org/10.1097/nmd.0b013e3182848afe
- Bensimon, M. (2012). Elaboration on the association between trauma, PTSD and posttraumatic growth: The role of trait resilience. *Personality and Individual differences*, 52(7), 782-787. https://doi.org/10.1016/j.paid.2012.01.011
- Braun-Lewensohn, O. (2014). Coping resources and stress reactions among three cultural groups one year after a natural disaster. *Clinical Social Work Journal*, 42, 366-374. https://doi.org/10.1007/s10615-013-0463-0
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the connor-davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 20(6), 1019-1028. https://doi.org/10.1002/jts.20271
- Cha, E. S., Kim, K. H., & Erlen, J. A. (2007). Translation of scales in cross-cultural research: Issues and techniques. *Journal of Advanced Nursing*, 58, 386-395. https://doi.org/10.1111/ j.1365-2648.2007.04242.x
- Chuning, A. E., Durham, M. R., Killgore, W. D., & Smith, R. (2024). Psychological resilience and hardiness as protective factors in the relationship between depression/anxiety and well-being: Exploratory and confirmatory evidence. *Personality and Individual Differences*, 225. https://doi.org/10.1016/j.paid.2024.112664
- Dhungana, S., Koirala, R., Ojha, S. P., & Thapa, S. B. (2022). Resilience and its association with post-traumatic stress disorder, anxiety, and depression symptoms in the aftermath of trauma: a cross-sectional study from Nepal. SSM-Mental Health, 2, 100135. https://doi.org/10.1016/j.ssmmh.2022.100135
- Groweiss, Y., Blank, C., Hamdan, S., Neria, Y., & Levi-Belz, Y. (2024). The mental health impact of the October 7th terror attack on Jews and Arabs in Israel: A nationwide prospective study. *Psychiatry research*, *337*, 115973.
- Hayes, A. F. (2013). *Introduction to Mediation, Moderations, and Conditional Process Analysis*. New York: The Guilford Press.
- Johnson, R. J., Canetti, D., Palmieri, P. A., Galea, S., Varley, J., & Hobfoll, S. E. (2009). A prospective study of risk and resilience factors associated with posttraumatic stress symptoms and depression symptoms among Jews and Arabs exposed to repeated acts of terrorism in Israel. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*(4), 291-311. https://psycnet.apa.org/doi/10.1037/a0017586
- Joseph, S. (2012). What Doesn't Kill Us: A guide to overcoming adversity and moving forward. Hachette.

- Kimhi, S., Dror, G., & Sapir, S. (2017). Resilience among students from the majority and minority group: The Israeli case. *The Journal of Psychology and Behavioral Science*, 5(1), 37-46. https://web.archive.org/web/20180722012659/http://jpbsnet.com/journals/jpbs/Vol_5_No_1_June_2017/5.pdf
- Kimhi, S., Marciano, H., Eshel, Y., & Adini, B. (2020). Resilience and demographic characteristics predicting distress during the COVID-19 crisis. *Social Science & Medicine*, 265, 113389. https://doi.org/10.1016/j.socscimed.2020.113389
- Lara-Cabrera, M. L., Betancort, M., Muñoz-Rubilar, C. A., Rodríguez Novo, N., & De las Cuevas, C. (2021). The mediating role of resilience in the relationship between perceived stress and mental health. *International journal of environmental research and public health*, 18(18), 9762. https://doi.org/10.3390/ijerph18189762
- Lee, J. S., Ahn, Y. S., Jeong, K. S., Chae, J. H., & Choi, K. S. (2014). Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. *Journal of Affective Disorders*, 162, 128-133. https://doi.org/10.1016/j.jad.2014.02.031
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behavior, Research and Therapy*, 33(3), 335-343. https://doi.org/10.1016/0005-7967(94)00075-U
- Seligman, M. E. (2011). Flourish: A visionary new understanding of happiness and well-being. Simon and Schuster.
- Shaw, J., McLean, K. C., Taylor, B., Swartout, K., & Querna, K. (2016). Beyond resilience: Why we need to look at systems too. *Psychology of Violence*, 6(1), 34-41. https://psycnet.apa.org/doi/10.1037/vio0000020
- Tannous-Haddad, L., Hadar-Shoval, D., Alon-Tirosh, M., Asraf, K., & Tzischinsky, O. (2022). Difference between Minorities and Majorities in the Association between COVID-19-Related Stress and Psychological Distress: A Socio-Ecological Perspective and the Moderating Role of Parenthood. *International Journal of Environmental Research and Public Health*, 19(14), 8283. https://doi.org/10.3390/ijerph19148283
- Ungar, M. (2004). A constructionist discourse on resilience: Multiple contexts, multiple realities among at-risk children and youth. *Youth and Society*, *35*(3), 341-365. https://doi.org/10.1177/0044118X03257030
- Ungar, M. (2013). Resilience, trauma, context, and culture. *Trauma, Violence, & Abuse, 14*(3), 255-266. https://doi.org/10.1177/1524838013487805
- Urbański, P. K., Schroeder, K., Nadolska, A., & Wilski, M. (2023). Symptoms of depression and anxiety among Ukrainian children displaced to Poland following the outbreak of the Russo-Ukrainian war: Associations with coping strategies and resilience. *Applied Psychology: Health and Well-Being, 16*(3), 851-867. https://doi.org/10.1111/aphw.12510
- Zheng, P., Gray, M. J., Duan, W. J., Ho, S. M., Xia, M., & Clapp, J. D. (2020). Cultural variations in resilience capacity and posttraumatic stress: A tri-cultural comparison. *Cross-Cultural Research*, 54(2-3), 273-295. https://doi.org/10.1177/1069397119887669