

Resilience, avoidant coping and post-traumatic stress symptoms among female Ukrainian refugees and internally displaced people

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Abstract

Background: Since the Russian full-scale invasion of Ukraine, over 10 million Ukrainians have been displaced from their homes. This has contributed to an increase in post-traumatic stress (PTS) symptoms in both refugees and internally displaced persons (IDPs). Previous research has suggested that refugees may experience higher levels of PTS due to additional stressors inherent in migration to a new country, language barriers and separation from family and social support. PTS symptoms may also be exacerbated by avoidant coping which we proposed would be more prevalent amongst refugees because of the isolating effects of migration-related stressors.

Aims: The present study aimed to investigate the relationship between PTS symptoms, resilience and avoidant coping in refugees and IDPs. We predicted that refugees would report higher levels of PTS symptoms and use of avoidant coping strategies, and that avoidant coping would mediate the effect of resilience on PTS symptoms. We tested a moderated mediation model to examine whether this effect differed between IDPs and refugees.

Methods: A total of 229 women (108 IDPs and 121 refugees), who were displaced after the full-scale invasion, were recruited using online platforms and volunteering centres. They completed an online questionnaire comprising measures of PTS, resilience and coping.

Results: We found no significant differences in resilience, PTS symptoms or reported use of avoidance coping strategies between refugees and IDPs. As expected, avoidance coping mediated the negative association between resilience and PTS symptoms, but no group differences in this effect were observed.

Conclusions: Contrary to previous research, our findings indicate that PTS symptoms may be similarly problematic for refugees and IDPs. This may be due to increased time since the invasion as many refugees may have had time to adjust. Use of avoidant coping strategies may exacerbate PTS symptoms and our study highlights the need for mental health interventions aimed at reducing PTS symptoms in Ukrainian IDPs and refugees through fostering resilience and adaptive coping strategies.

Keywords

Russia-Ukraine war, avoidance coping, post-traumatic symptoms, PTSD, resilience

Introduction

Russia launched a full-scale invasion of Ukraine on February 24th, 2022, following Russia's annexation of the Crimean Peninsula and occupation of the Eastern regions of Ukraine. Since the invasion, Russia has occupied 18% of the country (Center for Preventive Action, 2024) and launched 10,411 successful explosions (Air Raid Alert Map of Ukraine, 2024). As a result, many Ukrainian people have fled their homes, with 3.7 million becoming internally displaced persons (IDPs) within Ukraine, and 6.5 million fleeing Ukraine to various countries around the world as refugees (United Nations High Commissioner for Refugees, 2024).

The invasion has led to reports of post-traumatic stress disorder (PTSD) in the Ukrainian population (Chudzicka-Czupala et al., 2023). PTSD is a psychiatric disorder that can occur as a result of experiencing a traumatic or distressing event (American Psychiatric Association [APA], 2023). The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; APA, 2013) classifies a

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traumatic event as actual or threatened severe injury, death or sexual violence, which was experienced or witnessed by an individual, or occurred to a close family member or friend. Post-traumatic stress (PTS) symptoms are categorised by: (1) intrusions (recurrent distressing memories or flashbacks), (2) avoidance of internal and external stimuli associated with the traumatic event, (3) negative alterations in cognitions and mood (inability to remember an aspect of the traumatic event, negative beliefs about oneself or the world) as well as (4) alterations in arousal and reactivity (irritable behaviour, hypervigilance; APA, 2013). Lushchak et al. (2024) suggested that 58% of the Ukrainian population meet criteria for PTSD diagnosis, with Chudzicka-Czupała et al. (2023) reporting an incidence of 73%, of which 64% were IDPs. In refugees, 62% to 73% met the cut-off point for PTSD diagnosis (Długosz, 2023; Lushchak et al., 2024).

The biggest predictor of PTSD in Ukrainians is exposure to the war. Those with higher exposure to war-related stressors are more likely to meet criteria for PTSD (Hamama-Raz et al., 2022; Karatzias et al., 2023). These stressors include, but are not limited to, hearing or seeing bombing or artillery fire; witnessing the destruction of local infrastructure; displacement; being unable to access essential healthcare or necessities like food, water, electricity or heating; living in occupied territories; being shot at by the enemy forces; and knowing someone who was physically hurt in the war or whose belongings were destroyed.

Apart from war-related trauma, other factors can also contribute to the development of PTS symptoms. As they flee their homes to seek safety, both IDPs and refugees report higher levels of anxiety associated with the duration of the trip and the number of days spent at the transit centre (Rizzi et al., 2022). Nonetheless, Ukrainian refugees are found to have significantly higher levels of stress and trauma-related symptoms than non-displaced people (Boiko et al., 2023) and IDPs (Kurapov et al., 2023), possibly due to additional post-migration stressors that refugees face during the integration process. Hynie (2017) lists socioeconomic hardship, unemployment, unstable housing conditions, language barriers, discrimination, social isolation and uncertainty about their migratory status as frequent stressors that can hinder refugees' recovery from the traumatic experiences. For example, language acquisition plays a crucial role in refugees' ability to adapt to a new environment in their host country (Beiser & Hou, 2001; Długosz, 2023). Poor language skills can restrict work opportunities to jobs that do not match a refugee's skills and qualifications, and in turn led to lower psychological well-being (Bridekirk & Hynie, 2020; Mazhak et al., 2023),

Furthermore, refugees who have no social support network or have been separated from their family have more PTS symptoms (Ahmad et al., 2019; Miller et al., 2018;

Schweitzer et al., 2006). Indeed, 34% of Ukrainian refugees have reported that family was an important part of coping with the stresses of war (Oviedo et al., 2022). However, only a small proportion of these reported they had contacts in the host countries, as only 12% were being assisted by friends or relatives (Oviedo et al., 2022). Due to Ukraine's travel restrictions abroad for men of military age, many families have been separated, with only 20% of Ukrainian refugees in Krakow and 37% of refugees in Vienna living together with their spouse or partner (Kohlenberger et al., 2023). In comparison, 78% of IDPs in Ukraine have been registered as a family who live together in one household (Information and Computing Center of the Ministry of Social Policy of Ukraine [ICCMSPU], 2024). Therefore, IDPs are more likely to have a stronger social support network, retain more aspects of their previous life and, as a result, have more protective factors than refugees. Furthermore, due to Ukraine's travel restrictions for men of the conscription age, the majority (70%) of refugees are women (Lauren & Dumont, 2023), who appear to be more susceptible to PTSD than men (Chudzicka-Czupała et al., 2023; Długosz, 2023) and women who have children under 16 years old have an elevated risk (Hamama-Raz et al., 2022).

However, while over 70% of people worldwide report having experienced at least one traumatic event in their lifetime (Benjet et al., 2016), not everyone develops PTSD (Ozer et al., 2003). Resilience has been identified as the key protective factor (Thompson et al., 2018), but there is considerable heterogeneity in how resilience is conceptualised, defined and measured (Kalisch et al., 2017). While some studies see resilience as a personality trait (Fletcher & Sarkar, 2013), more recent research has moved towards seeing it as a dynamic process that can change overtime (Snijders et al., 2018). In the present study, we adopt the following definition of resilience by the American Psychological Association (2018): the process and outcome of effectively adapting to stressful experiences through mental, emotional and behavioral adjustment to external and internal demands. Resilience is consistently found to be negatively associated with PTS in many contexts, for instance in Nepalese psychiatry hospital patients (Dhungana et al., 2022), Swiss Alpine rescuers (Mikutta et al., 2022), survivors of natural disasters (Yang & Bae, 2022) and Syrian war asylum-seekers (Maria et al., 2021). In the context of the present Ukrainian population, resilience is related to lower psycho-emotional deterioration (Kurapov et al., 2022), and fewer PTS symptoms 6-month after the full-scale invasion (Kurapov et al., 2023).

Resilience is also associated with coping strategies, the cognitive and behavioural efforts utilised to manage internal and external demands of a stressful event (Folkman & Moskowitz, 2004). Coping strategies can be categorised as emotion-focussed (managing emotional responses to stressors), problem-focussed (directly addressing the

problem causing the stress) and avoidant (evading the problem and associated emotions). These have also been conceptualised as adaptive, or approach, and maladaptive, or avoidant, coping (Campos et al., 2004; Carver et al., 1989). Adaptive coping involves direct action, reappraisal, regulated emotional expression and controlled self-discipline. Conversely, maladaptive, or avoidant, coping includes dysfunctional strategies such as rumination and venting, and behaviours like withdrawal, social isolation and substance use (Campos et al., 2004). Higher levels of trauma have been reported in Ukrainians who used strategies such as giving up and taking sedatives (Długosz, 2023) and avoidant coping is associated with lower resilience in Ukrainian civilians (Kurapov et al., 2022).

Overall, evidence suggests that resilience and coping strategies can influence PTSD development in the acute aftermath of trauma. Thompson et al. (2018) found that social withdrawal, a maladaptive avoidance coping strategy, mediated the relationship between resilience and PTSD symptoms and suggested that people with lower resilience were more likely to use avoidant coping and have increased PTSD symptoms as a result. The present study tests this proposal in Ukrainian refugees and IDPs. The results have potential to inform interventions to target PTS symptoms through resilience building and fostering more adaptive coping strategies. This is important because traditional PTSD interventions such as Cognitive Behavioural Therapy, are suggested to desensitise individuals to actual dangers if a threat situation is ongoing (Ennis et al., 2021). We aimed to examine how the relationship between resilience, avoidant coping and PTS symptoms may vary between refugees and IDPs, given that refugees have been suggested to have higher levels of PTS than IDPs due to additional post-migration stressors (Kurapov et al., 2023). We proposed the following hypotheses:

1. IDPs will report lower post-traumatic stress symptoms than refugees.
2. Resilience will be negatively associated with PTS symptoms in both IDPs and refugees.
3. Avoidant coping strategies will mediate the relationship between resilience and PTS symptoms in both IDPs and refugees.
4. Migration status (refugee vs. IDP) will moderate the relationship between resilience and avoidant coping strategies.

Method

Participants

For the planned analysis, a power analysis conducted using G*Power 3.1.9.7 (Faul et al., 2009) suggested that an overall sample size of 178 was needed for a medium effect size according to Cohen's (1988) criteria. For between-subjects

analysis, a sample size of 172 participants in each group was required. We recruited women aged 18 years or older who had been displaced internally or became refugees abroad after the invasion on 24th of February, 2022. Men who are eligible for the draft are prevented from leaving Ukraine, therefore we included only women in the present study.

Data was collected between October and December 2023. Two hundred and ninety participants were recruited from adverts placed in social media groups, refugee group chats and volunteering centres in Ukraine. Sixty-one participants were excluded due to incomplete data, leaving 229 for analysis (refugees $N=121$, $M_{age}=36.45$, $SD=12.35$; IDPs $N=108$, $M_{age}=41.75$, $SD=13.74$). The groups significantly differed in age, $t(227)=-3.06$, $p<.002$, $d=-0.04$. Categorical socio-demographic data are summarised in Table 1. Comparisons were made using Chi-square tests.

Materials and procedure

Ethical approval was obtained from the authors' psychology ethics and integrity committee. Data was collected via an online questionnaire and participants were required to read details of the study and check a box giving informed consent before the survey would commence. The survey was administered in Ukrainian. After collecting the data in Table 1, social support was assessed with the question *What is the level of your social support (i.e. people around you or who you can easily contact that are supportive)?* Followed by three response options, coded 0 to 2 as below:

0. I do not have anyone to talk to
1. I have a few people I could talk to in my city of residence
2. I have lots of people I could talk to in my city of residence

Exposure to war was measured by asking *To what extent did you have immediate contact with the war prior to leaving your home?* Followed by three response options:

0. I did not come into contact with the war at all
1. I had indirect contact with the war (e.g. my city has been shelled; I have spent some time in a bomb shelter but have not been impacted directly; I know someone who have experienced a shelling attack or had their home and belongings destroyed, etc.)
2. I came into direct personal contact with war (e.g. I have experienced a direct shelling attack; I had my home and belongings damaged, I or someone I know have been injured, I have lost a family member or a relative, my city has been occupied, etc.)

Table 1. Socio-demographic data and significance values for between group differences.

Socio-demographic factor		Refugees		IDPs		p
		N	%	N	%	
Time since displacement (months)	<3	1	0.8	4	3.7	.21
	3–6	2	1.7	3	2.8	
	7–12	5	4.1	9	8.3	
	>12	113	93.4	92	85.2	
Relationship status	Single	26	21.5	16	14.8	.06
	In a long-term relationship	20	16.5	23	9.6	
	Married	57	47.1	47	43.5	
	Divorced	13	10.7	12	11.1	
	Widowed	0	0.0	5	4.6	
	Other	5	4.1	5	4.6	
Children	No children	43	35.5	22	20.4	.002
	Child under 16 years	54	44.6	42	38.9	
	Child over 16 years	24	19.8	42	38.9	
	More than one child	0	0.0	2	1.9	
Separated from family	No	5	4.1	10	9.3	.18
	Yes	116	95.9	98	90.7	
Education	Basic secondary	0.0	0.0	1	0.9	.12
	Complete secondary	13	10.7	5	4.6	
	Professional-technical/special	25	20.7	23	21.3	
	Bachelor's degree	39	32.2	30	27.8	
	Master's degree	30	24.8	43	39.8	
	PhD/Doctorate	5	4.2	1	0.9	
	Two or more HE diplomas	9	7.4	5	4.6	
Ukraine region of origin	Dnipro	8	6.6	3	2.8	.01
	Donetsk	11	9.1	20	18.5	
	Zaporizhzhia	52	43.0	49	45.4	
	Kyiv	18	14.9	7	6.5	
	Luhansk	3	2.5	11	10.2	
	Lviv	1	0.8	0	0.0	
	Mykolayiv	3	2.5	3	2.8	
	Odesa	2	0.8	2	1.9	
	Poltava	3	2.5	0	0.0	
	Sumy	7	5.8	0	0.0	
	Kharkiv	8	6.6	6	5.6	
	Kherson	2	1.7	7	6.5	
	Khmelnyskyi	1	0.8	0	0.0	
	Cherkasy Chernihiv	11	0.80.8	00	0.00.0	
	Current living conditions	Refugee camp	0	0.0	1	
Host family		14	11.6	7	6.5	
Shared accommodation provided by the government or other agency		8	6.6	4	3.7	
Shared accommodation paid for by yourself		6	5.0	11	10.2	
Private accommodation provided by the government or other agency		64	52.9	1	0.9	
Private accommodation paid for by yourself		26	21.5	69	63.9	
Other		3	2.5	15	13.9	
No job		21	17.4	22	20.4	
Job satisfaction before displacement	Completely dissatisfied	1	0.8	1	0.9	.76
	More or less satisfied	26	21.5	18	16.7	
	Quite satisfied	47	38.8	48	44.4	
	Very satisfied	26	21.5	19	17.6	

(Continued)

Table 1. (Continued)

Socio-demographic factor		Refugees		IDPs		p
		N	%	N	%	
Job satisfaction after displacement	No job	62	51.2	55	50.9	.01
	Completely dissatisfied	23	19.0	6	5.6	
	More or less satisfied	22	18.2	24	22.2	
	Quite satisfied	10	8.3	20	18.5	
	Very satisfied	4	3.3	3	2.8	
Refugee country of residence	Germany	74	61.2			
	UK	20	16.5			
	Poland	5	4.1			
	Lithuania	2	1.7			
	Belgium	3	2.5			
	France	3	2.5			
	Norway	3	2.5			
	Czech Republic	3	2.5			
	Austria	1	0.8			
	Italy	1	0.8			
	Estonia	1	0.8			
	Ireland	1	0.8			
	Latvia	1	0.8			
	Sweden	1	0.8			
	Slovakia	1	0.8			
Cyprus	1	0.8				
Refugee language proficiency	None	30	24.8			
	Beginner	52	43			
	Intermediate	25	20.7			
	Advanced	2	1.7			
	Proficient/fluent	3	2.5			

Significant effects indicated in bold font.

Participants then completed the following standardised measures:

Brief Resilience Scale (BRS, Smith et al., 2008) is a 6-item self-report questionnaire used to measure the ability to recover from stressful or traumatic events. Items such as 'I have a hard time making it through stressful events' are responded to on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*), giving a maximum score of 60. The Ukrainian version of the BRS was used (Kurapov et al., 2023). The scale showed good reliability ($\alpha = .72$).

PTSD Checklist for DSM-5 (PCL-5, Blevins et al., 2015) is a 20-item self-report measure, which assesses the severity of the post-traumatic stress disorder symptoms present in the DSM-5 (APA, 2013). Items such as 'In the past month, how much were you bothered by repeated, disturbing, and unwanted memories of the stressful experience?' are filled out using a 5-point Likert scale (0 = *not at all* to 4 = *extremely*), obtaining a maximum score of 80. The Ukrainian version of the PCL-5 was used (Bezsheiko, 2016). The questionnaire showed high reliability in this sample ($\alpha = .92$).

Brief Coping Orientation to Problems Experienced Questionnaire (Brief-COPE, Carver, 1997) is a 28-item questionnaire, measuring 14 coping strategies, which can be measured separately, or as two overarching coping styles: approach (or adaptive) and avoidant (or maladaptive; Eisenberg et al., 2012). These two subscales can be further divided into: active coping, emotional coping, use of informational support, planning, positive reframing and acceptance (for approach coping); and venting, self-blame, self-distraction, denial, substance use and behavioural disengagement (for avoidant coping). Additionally, it measures humor and religion as coping strategies that do not fall within either style. Each coping strategy subscale is comprised of 2 statements, such as 'I've been turning to work or other activities to take my mind off things', which are responded to on a 4-point Likert scale (1 = *I have not been doing this at all* to 4 = *I have been doing this a lot*). The Ukrainian version of the Brief-COPE was used (Mazhak et al., 2023). Due to the focus of the study, only the avoidant coping subscale was included in the analysis and the score computed as the mean response to relevant items. This subscale showed low, but

Table 2. Descriptive statistics and comparison between groups.

Variable	IDPs		Refugees		Compared
	M	SD	M	SD	
PTS symptoms	34.8	15.7	37.3	15.5	$t(227) = 1.20, p = .23, d = .16$
Resilience	2.5	0.7	2.6	0.6	$t(227) = 1.10, p = .28, d = .15$
Social support	1.12	0.65	1.18	0.65	$t(227) = 0.72, p = .48, d = .10$
Exposure to war	2.44	0.59	2.11	0.66	$t(227) = 4.28, p < .001, d = .54$
Avoidant coping	26.4	5.5	26.4	5.1	$t(227) = 0.02, p = .99, d = .002$

Table 3. Bivariate correlations between key variables for both groups. Refugee data above the diagonal, IDP data below diagonal.

	PTS	Resilience	Avoidance	War exposure	Social support
PTS	–	–.40**	.46**	.16	–.27**
Resilience	–.35**	–	–.18*	–.19*	.18*
Avoidance	.51**	–.23**	–	–.11	–.06
War exposure	.15	.03	.12	–	–.11
Social support	.03	.19*	–.01	–.04	–

*Sig. at $p = .05$. **Sig. at $p = .01$.

still acceptable, reliability ($\alpha = .65$), its six additional subscales reducing overall unidimensionality (Field, 2009).

Results

All data analyses were conducted using SPSS v 28.0.1.1. Descriptive statistics are presented in Table 2. Our Hypothesis 1 predicted that refugees would present higher levels of PTS symptoms. However, the only significant difference observed between groups was for exposure to war, where IDPs reported higher levels.

Correlations between key measures are shown in Table 3. Consistent with Hypothesis 2, PTS symptoms was negatively correlated with resilience. Avoidance coping showed a positive association with PTS and a negative association with resilience in both groups. PTS symptoms was negatively associated with social support in refugees only.

Table 4 presents the results of hierarchical linear regression on PTS symptoms. The first block comprised age, education, social support, resilience, migration status (refugees coded 0 and IDPs coded 1) and exposure to war. In the second block, avoidant coping was added. Other factors shown in Table 1 were not included in the regression due to their multiple nominal categories and small numbers in many cases. Resilience presented a significant negative effect, and a significant effect of exposure to war was also observed. Migration status also presented a significant effect. Model 2 accounted for a significantly higher level of variance, $\Delta R^2 = .19$, $F(1;214) = 63$, $p < .001$, and a decreased β -value for resilience suggested a possible mediating effect of avoidant coping, as predicted.

Further regression analyses by group were conducted to examine the main effect of migration status (see Table 5). In both cases the addition of avoidance coping at stage 2 significantly increased the variance in PTS symptoms explained: refugees $\Delta R^2 = .17$, $F(1, 114) = 32.40$, $p < .001$; IDPs $\Delta R^2 = .18$, $F(1;101) = 29.60$, $p < .001$. Resilience showed a significant negative effect on PTS in both groups, in line with Hypothesis 2. Avoidance coping presented a positive effect in both groups. Social support presented a significant negative effect for refugees in model 1, but this was eliminated once avoidance coping was added at model 2. A positive effect was observed for exposure to war in refugees in model 2.

Hypothesis 3 suggested a mediating effect of avoidant coping on the relationship between resilience and PTS symptoms. Hypothesis 4 further proposed that migration status (refugees vs. IDPs) would moderate the indirect effect. We tested for moderated mediation using the PROCESS macro for SPSS, Model 7 (Hayes, 2022), controlling for exposure to war and social support. The results are shown in Figure 1.

The indirect effect of resilience on PTS symptoms via avoidant coping was significant in both refugees, $\beta = -2.02$, 95% CI $[-4.05, -0.30]$, and IDPs, $\beta = -2.37$, 95% CI $[-4.35, -0.57]$. This is consistent with Hypothesis 3. The moderated mediation effect of migration status however was not significant, $index = -0.35$, 95% CI $[-2.81, 2.26]$, thus Hypothesis 4 is rejected.

Discussion

This was the first study to examine the effects of resilience and coping on PTS symptoms both Ukrainian refugees and

Table 4. Results of linear regression on PTS symptoms (full sample, N=229).

Model		St. β	p	95% CI		Adj. R^2
				Lower	Upper	
1.	Age	.04	.51	-.10	.20	.15
	Education	.05	.43	-.83	1.92	
	Social support	-.06	.32	-4.50	1.48	
	Exposure to war	.12	.06	-.14	6.13	
	Migration status	-.15	.02	-8.59	-.70	
	Resilience	-.34	<.001	-11.61	-5.34	
2.	Age	.10	.09	-.02	.25	.33
	Education	.06	.29	-.56	1.86	
	Social support	-.07	.21	-4.34	.95	
	Exposure to war	.12	.03	.21	5.75	
	Migration status	-.15	.01	-8.25	-1.27	
	Resilience	-.24	<.001	-8.77	-3.09	
	Avoidant coping	.44	<.001	.98	1.63	

Table 5. Results of linear regression by group.

Model		Refugees (n = 121)				IDPs (n = 108)				
		St. β	p	95% CI		St. β	p	95% CI		Adj. R^2
				Lower	Upper			Lower	Upper	
1.	Age	-.04	.63	-.27	.16	.07	.44	-.13	.29	.21
	Education	.20	.02	.28	3.81	-.08	.37	-3.26	1.23	
	Social support	-.23	.01	-9.46	-1.48	.09	.34	-2.27	6.61	
	Exposure to war	.11	.18	-1.29	6.70	.14	.15	-1.33	8.61	
	Resilience	-.32	<.001	-12.79	-3.75	-.36	<.001	-12.90	-4.14	
2.	Age	.10	.09	-.02	.25	.12	.16	-.05	.32	.38
	Education	.06	.29	-.56	1.86	-.06	.45	-2.75	1.24	
	Social support	-.07	.21	-4.34	.95	.07	.43	-2.37	5.53	
	Exposure to war	.12	.03	.21	5.75	.07	.41	-2.60	6.32	
	Resilience	-.24	<.001	-8.77	-3.09	-.25	.001	-9.88	-1.87	
	Avoidant coping	.44	<.001	.98	1.63	.45	<.001	.80	1.75	

IDPs. Although it was predicted that IDPs would report lower PTS symptoms than refugees, the groups did not differ significantly in this respect. However, both IDPs and refugees with higher resilience had lower PTS symptoms, as expected. A mediating effect of avoidant coping on the negative relationship between resilience and PTS symptoms was observed in both groups. However, there was no moderation effect of migration status (refugee vs. IDP) on the indirect path from resilience to PTS symptoms via avoidant coping.

Contrary to previous findings (Kurapov et al., 2023), there was no significant difference in PTS symptoms across IDPs and refugees. There are a couple of possible explanations. Firstly, in the study by Kurapov et al. (2023), the IDP sample had significantly higher resilience than refugees, whereas we found similar resilience levels in both groups. Since higher resilience is associated with fewer PTS symptoms, the differing resilience levels in the

two studies could explain the variation in results. Additionally, Kurapov et al.' (2023) study was conducted 6 months post-invasion, while the current study took place 19 months post-invasion. Over 90% of our refugee participants had been displaced for over 12 months (Table 1), and evidence suggests that refugees report better psychological well-being over time, as they adapt to new environments and learn the local language (Mazhak et al., 2023). They also build stronger social networks (Brewin et al, 2000).

As expected, we found that IDPs and refugees who had higher resilience reported lower PTS symptoms. This is consistent with previous research in other contexts (Dhungana et al., 2022; Mikutta et al., 2022; Wrenn et al., 2011) and in the Ukrainian population (Eshel et al., 2023; Kurapov et al., 2023). The relationship remained significant in both groups, even in the presence of avoidance coping and when war-related experiences, social support, age and education level were controlled for. Social support

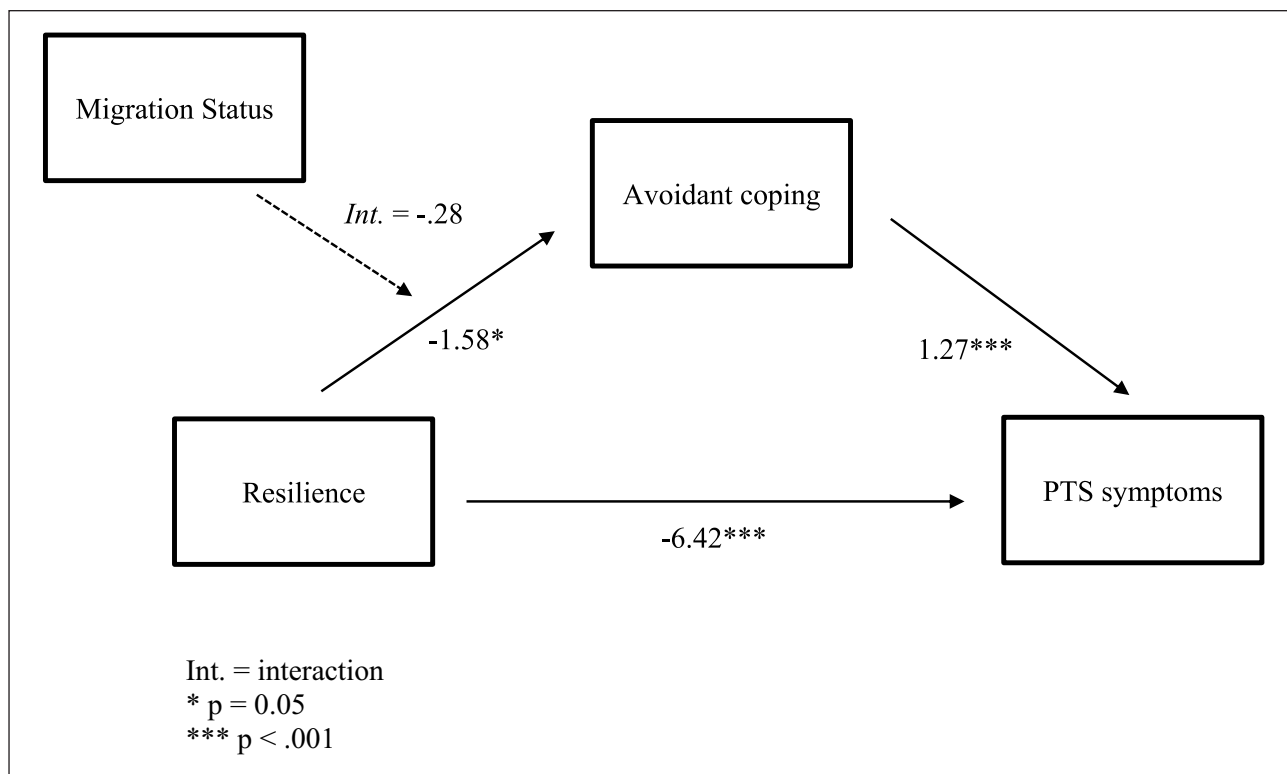


Figure 1. Moderated mediation model.

Note. Int. = interaction.

*p = .05. ***p < .001.

was negatively associated with PTS symptoms in refugees only. IDPs continue to share a common language and often relocate alongside family or spouses, thus facing fewer challenges in maintaining community connections (ICCMSPU, 2024). As Table 1 shows, 68% of our refugee participants reported no, or beginner level, command of their host country’s language. These findings highlight refugees’ heightened need for community-building workshops and language courses that would allow them to better integrate into the host community, build stronger social networks and attract better job opportunities that would match their qualifications.

Avoidant coping was found to mediate the relationship between resilience and PTS, consistent with previous research (Thompson et al., 2018). This finding has implications for treatment of PTS symptoms in Ukrainian population. Many PTSD interventions, such as Cognitive Therapy for PTSD (Ehlers & Clark, 2000) and trauma-focussed Cognitive Behavioral Therapy (CBT; Ennis et al., 2021) consider trauma as a one-time past event and require a safe environment for treatment. However, for people living under ongoing threat, such as frequent shelling, these interventions may reduce the healthy emotional response to threat, thus desensitising individuals to actual dangers (Cohen et al., 2011; Ennis et al., 2021). The mediating effect of avoidant coping on the relationship between

resilience and PTS symptoms suggests that enhancing resilience and fostering adaptive coping strategies could reduce PTS symptoms. By promoting resilience factors, like finding meaning in life (Sood et al., 2011), nurturing positive future expectations (O’Neill et al., 2020) and boosting self-efficacy through personal strengths (Kunzler et al., 2020), individuals may adopt more adaptive coping strategies. Furthermore, adaptive coping strategies could be fostered through behavioural activation training, which counters behavioural disengagement and social withdrawal (Etherton & Farley, 2020). Problem-solving training also evokes memories of successful previous attempts at problem-solving, which increases confidence and produce positive emotions (Padmanabhanunni & Pretorius, 2023). Since no moderating effect of migration status was found, focussing on building resilience and promoting adaptive coping strategies is advocated for both Ukrainian IDPs and refugees.

The study has some limitations. Firstly, all data relied on self-reports. Due to the stigma associated with mental health in Ukraine (Quirke et al., 2021), participants might have underreported their PTS symptoms. This also presents concerns about the sampling process, and whether individuals with negative views towards mental health may have chosen not to participate. Moreover, the use of snowball sampling through social media may not fully

represent the broader population, as it tends to recruit within similar networks. Additionally, certain populations are much harder to reach, such as people with more severe cases of PTS or harsher experiences of war, those who might not use social media or live in rural or occupied areas. As the study looked at Ukrainian refugees across Europe, limited responses from some countries were gathered. Future research might focus on fewer countries and consider cultural differences and local attitudes towards refugees. For example, Slovakia reports significantly more negative attitudes towards Ukrainian refugees than Estonia (Kaim et al., 2024), which can contribute to post-migration stressors and affect refugees' mental health. It would also be beneficial to explore how proximity to conflict zones influences coping mechanisms and PTS symptoms in IDPs.

Secondly, the study was somewhat underpowered. These are hard-to-reach populations often living in difficult circumstances. Moreover, only data from women was collected, as the majority of Ukrainian refugees are female. Future research could address this by considering Ukrainian men and children who may use other coping strategies (Cholankeril et al., 2023) and possess different resilience levels (Yalcin-Siedentopf et al., 2020). Lastly, although a cross-sectional design cannot establish causation, it can offer valuable insights into the interaction between variables (Hayes, 2022). Nevertheless, a longitudinal approach would better evaluate how adaptation to a new environment, language acquisition and social integration might affect PTS symptoms, resilience and coping mechanisms over time.

In conclusion, this is the first study investigating the relationship between coping, resilience and PTS symptoms in the context of the Ukraine-Russian war. The results suggest that refugees and IDPs with lower resilience are more likely to use avoidant coping strategies, which are associated with higher PTS symptoms. As such, interventions fostering resilience and addressing maladaptive coping could be utilised to indirectly reduce PTS symptoms in Ukrainian refugees and IDPs.

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