Article

Social Support Increases Resilience and Affect in Non-Displaced Ukrainians and Refugees After a Year of War

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ABSTRACT

Background: This study investigates the impact of social support on resilience and affect among Ukrainian individuals affected by war (non-displaced persons and refugees), one year after the onset of the conflict. **Method:** A total of 344 participants were recruited and categorized into two groups: non-displaced individuals and refugees. Measures included the Scale of Positive and Negative Experience (SPANE), the Brief Resilient Coping Scale (BRCS), and the Multidimensional Scale of Perceived Social Support (MSPSS). Rigorous back-translation was conducted for the BRCS and MSPSS to ensure solid psychometric properties. **Results**: Findings revealed higher levels of both positive and negative affect in the non-displaced group compared to refugees, along with significant disparities in perceived social support. Path modeling using Partial Least Squares Structural Equation Modeling (PLS-SEM) demonstrated the interconnections between the studied variables. It is worth noting that the 'family' subscale of the MSPSS emerged as the most influential predictor of affect. **Conclusions:** Social support demonstrated an effect on resilience and affect. Resilience was identified as a dynamic and potentially mediating factor. This underscores the importance of social support networks, particularly familial support, in promoting well-being among populations affected by conflict.

El Apoyo Social Aumenta la Resiliencia y el Afecto en Ucranianos no Desplazados y Refugiados Después de un año de Guerra

RESUMEN

Antecedentes: Este estudio investiga el impacto del apoyo social en la resiliencia y afecto entre individuos ucranianos afectados por la guerra (personas no desplazadas como refugiados), un año después del inicio del conflicto. **Método:** Se reclutó un total de 344 participantes y se categorizaron en dos grupos: personas no desplazadas y refugiados. Las medidas incluyeron la Escala de Experiencias Positivas y Negativas (SPANE), la Escala Breve de Afrontamiento Resiliente (BRCS) y la Escala Multidimensional de Apoyo Social Percibido (MSPSS). Se realizó una rigurosa retrotraducción para la BRCS y la MSPSS para garantizar propiedades psicométricas sólidas. **Resultados:** Los hallazgos revelaron niveles más altos de afecto positivo y negativo en el grupo de personas no desplazadas en comparación con los refugiados, junto con disparidades significativas en el apoyo social percibido. La modelización de trayectorias utilizando Modelado de Ecuaciones Estructurales de Mínimos Cuadrados Parciales (PLS-SEM) demostró la interconexión entre las variables estudiadas. Es importante destacar que la subescala 'familia' de la MSPSS emergió como el predictor más influyente del afecto. **Conclusiones:** El apoyo social mostró un efecto sobre resiliencia y afecto. La resiliencia se identificó como un factor dinámico y potencialmente mediador. Esto subraya la importancia de las redes de apoyo social.

War and conflicts, as well as natural disasters, can inflict physical and emotional harm on both individuals and communities (Nuttman-Shwartz, 2019). Literature has shown that some individuals and communities are able to recover more quickly and effectively than others, reflecting a concept known as resilience (Masten, 2018; Moret-Tatay & Murphy, 2022). This term is defined as the capacity to adapt and recover in the face of adversity (Norris et al., 2008).

For most, resilience is not a fixed trait, but rather a dynamic characteristic that is influenced by various factors such as personal characteristics features and social support, among others (Luthar et al., 2000; Solà-Sales et al., 2021) – a reflection of the 'stress-buffering hypothesis', which proposes that social support is particularly beneficial in times of high stress (Pinquart & Sörensen, 2006). Social support from family, friends, and community members can play a significant role in promoting resilience (Masten et al., 1990; Ungar, 2013; Windle et al., 2011). Research has also found that social support can buffer the negative effects of stress and trauma, and can facilitate recovery (Masten, 2018; Ozbay et al., 2007). Moreover, access to resources such as financial assistance, healthcare, and transportation can also promote resilience in individuals and communities affected by natural disasters and war conflicts (Kizub et al., 2022; Norris et al., 2008). Literature has also found that resilience, positive and negative affect, as well as social support, are correlated constructs (Tay et al., 2019). More specifically, it has been claimed that individuals with high levels of resilience are more likely to experience positive affect and seek out social support during times of stress or adversity (Fletcher & Sarkar, 2013). In contrast, individuals with low resilience may experience more negative affect and have difficulty seeking and receiving social support (Connor & Davidson, 2003).

The situation of refugees and people affected by war is potentially inherently stressful due to the significant adversity, such as losing their homes, their loved ones, being separated from their families, and experiencing violence and trauma (Mollica et al., 2004; Morina et al., 2018). Despite facing such challenges, research has shown that many individuals have the ability to demonstrate resilience, leading to positive outcomes and aiding in their recovery (Miller & Rasmussen, 2017). Likewise, resilience is particularly crucial for people impacted by war and displacement, as it can facilitate the development of positive coping mechanisms and provide essential support for mental health and overall well-being (Miller & Rasmussen, 2017; Tol et al., 2013). Additionally, resilience can facilitate positive outcomes, such as successful integration into new communities and increased social support thus not alone conserving resources, but actually increasing them (Fazel et al., 2005). In this context, it is of interest to examine the differences between conflict refugees and non-displaced people, as the literature seems to point out that, upon arrival in the host country, refugees tend to bear a heavy burden of mental health conditions (Chernet et al., 2021). By contrast, non-displaced Ukrainian people have exhibited high levels of resilience in the face of the Russian annexation of Crimea in 2014, as well as the broader Russian invasion in 2022 (Goodwin et al., 2023).

Social support is also beneficial in times of war, and has been shown to help individuals cope with the psychological distress and trauma that can arise from experiencing war-related events (Schick et al., 2016). Studies have also shown that social support can improve resilience, the ability to adapt and recover from traumatic experiences. In a study of Syrian refugees, individuals with higher levels of perceived social support were found to have greater resilience and lower levels of Post-Traumatic Stress Disorder symptoms (Alpak et al., 2015). Furthermore, during times of war, social support can enhance a sense of community and belonging, which is vital to counteract the isolation and disconnection that individuals may experience (Kaniasty & Norris, 2008). This sense of connectedness can foster feelings of hope and optimism, and can even improve physical health outcomes (Hobfoll et al., 2008; Marzana et al., 2023).

To contextualize, Ukraine has been experiencing ongoing conflict and displacement since 2014, which has affected millions of individuals (UNHCR, 2021). The conflict has escalated into a full-scale war, causing significant loss of life, displacement, and political tension up to the present time. Specifically, since the beginning of the conflict and as of February 2023, it is estimated that there have been more than 5 million internally displaced persons and more than 8 million displacements to Europe, of which 4.8 million people have been displaced under temporary protection mechanisms or national protection systems (UNHCR, 2023).

There is evidence indicating that people impacted by the conflict in Ukraine encounter different obstacles to mental health and resilience, such as being exposed to violence and trauma, experiencing a loss of social support networks, and encountering barriers to accessing resources (Oviedo et al., 2022; Xu et al., 2023). Surprisingly, a study conducted on 1,025 respondents across Ukraine in September 2022 showed that most non-displaced Ukrainians considered themselves happy (Goodwin et al., 2023). However, the authors also indicated that the resilience of a nation may decline because of an ongoing threat, which could weaken interpersonal relationships– perhaps reflecting a move from acute to chronic stress (McGonagle & Kessler, 1990).

It should be noted that, to continue research in this area, it is crucial to ensure good psychometric characteristics of the assessment instruments in the population under study. Overall, there are several questionnaires that address social support and resilience, which have been translated for the Ukrainian population. These tools can be valuable in comprehending how social support impacts mental health and resilience within this specific context. The Brief Resilience Coping Scale (BRCS) assesses an individual's ability to bounce back from stress and adversity (Sinclair & Wallston, 2004). However, there are underlying issues regarding the psychometric properties of the adaptation used due to sample size concerns (Zasiekina et al., 2021). With regards to social support, the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), or MSPSS has been used in a variety of populations, including refugees and individuals affected by war (Yildirim et al., 2020). Moreover, it has been translated in Ukrainian (Martsenkovskyi et al., 2022). Although the psychometric properties appear to be sound, we believe it would be valuable to re-evaluate them in light of the specific features of the current conflict.

In this work it is hypothesized that resilience, affect, and social support are interrelated constructs during times of adversity; more precisely, that social support acts as a fostering variable for resilience, promoting better positive affect for both non-displaced people and refugees during the Ukraine conflict., The aims of this study are threefold: (1) To revisit the psychometric properties of BRCS and MSPSS for the Ukrainian population, (2) to assess

differences between refugees and non-displaced Ukrainians in resilience, social support, and positive and negative affect, and (3) to examine interrelationships of resilience, social support, and positive and negative affect during a political-military conflict.

Regarding the third objective, the proposed theoretical model integrates insights from reviewed literature and existing models (Liu & Cao, 2022; Yang et al., 2022). In this model, social support serves as a predictor of both resilience and affect. Resilience is conceptualized as a dynamic process influenced by social support and affect. It is hypothesized that differences in affect and resilience will emerge across participant groups (non-displaced versus refugees) when considered as outcomes. However, given that both groups have experienced internal or external displacement, no significant differences are anticipated in the models concerning the groups.

Method

Participants

A sample of 344 participants volunteered to take part in this study. Table 1 depicts the descriptive data on sex, age, education, and marital status. Participants were divided into two groups: not displaced (internationally) and refugees (in a different country). The participants' regions are described as follows: Kyiv City, Kyiv Oblast (Bila Tserkva, Brovary, Gostomel, Irpin, Makariv, Obukhiv, and Vyshgorod), Cherkasy Oblast (Cherkasy, Kamianka, and Zolotonosha), Zhytomyr Oblast (Zhytomyr, Olevsk, and Pershotravneve), Dnipropetrovsk Oblast (Dnipro, Nikopol, and Kryvyi Rih), Zaporizhzhia Oblast (Zaporizhzhia), Kharkiv Oblast (Kharkiv), Kherson Oblast (Kherson, and Skadovsk), Chernivtsi Oblast (Novodnistrovsk, and Rudka), Donetsk Oblast (Myrnohrad), Lviv Oblast (Lviv), Khmelnytskyi Oblast (Khmelnitskyi), Odesa Oblast (Odesa), Poltava Oblast (Poltava), Rivne Oblast (Rivne), Sumy Oblast (Sumy), Ternopil Oblast (Ternopil), and Vinnytsia Oblast (Vinnytsia).

For the refugee group the participants' regions are described as follows: Kyiv City (Kyiv), Kyiv Oblast (Bila Tserkva, Bohuslav, Irpin, Obukhiv, Vyshgorod, and Brovary), Zhytomyr Oblast (Zhytomyr), Lviv Oblast (Lviv), Kharkiv Oblast (Kharkiv), Kherson Oblast (Kherson, Kahovka, and Nova Kahovka), Donetsk Oblast (Mariupol), Dnipropetrovsk Oblast (Dnipro, and Kryvyi Rih), Luhansk Oblast (Kreminna, and Lutuhyne), Crimea (Armyansk), Odesa Oblast (Odesa), Sumy Oblast (Sumy, and Shostka), Poltava

Oblast (Poltava), Cherkasy Oblast (Uman), Kropyvnytskyi Oblast (Kropyvnytskyi), Zakarpattia Oblast (Mukachevo), Mykolaiv Oblast (Mykolaiv, and Ochakiv), Rivne Oblast (Rivne), Ternópil Oblast (Ternopil), and Zaporizhzhia Oblast (Zaporizhzhia).

Instruments

After administering a sociographic battery of questions, an adapted version of a Resilience and Social Support questionnaire were used. Additionally, the Ukrainian version of a Positive and Negative scale was employed. These questionnaires are described as follows:

- The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) is a 12-item scale that assesses perceptions of social support from family, friends, and significant others. Each item is rated on a seven-point scale, with a total score range of 12 to 84, where higher scores indicate greater perceived social support. The reliability of the scale was found to be high in the Ukrainian population, with a reported Cronbach's alpha of 0.88.
- The Brief Resilient Coping Scale (BRCS) as a measurement tool for resilience (Sinclair & Wallston, 2004) was selected, as it involves optimism, perseverance, creativity, and positive growth in challenging situations. The authors conceptualize a resilient coping pattern as involving an active problem-solving approach. The BRCS has demonstrated adequate levels of reliability and validity in assessing resilience. The original version of the scale consists of four items and a single factor or dimension.
- The Scale of Positive and Negative Experiences (SPANE) comprises two subscales, namely positive experiences (SPANE-P) and negative experiences (SPANE-N), which consist of six experiences each and measure three general and three specific emotions. It employs a five-point Likert scale ranging from 1 ("very rarely or never") to 5 ("very often or constantly"). It has shown optimal psychometric properties in previous literature in the Ukrainian population (Olefir et al., 2021). In the current research, McDonald's ω was optimal for the groups under study (non-displaced ω =0.902 and refugee ω =0.914). Good ω were also found for Negative affect (non-displaced ω =0.802 and refugee ω =0.856).

As depicted in the supplementary material (DOI 10.17605/OSF. IO/8ZDKU at OSF.io), a back translation was carried out for both BRCS and MSPSS. To carry out the back-translation, following the guidelines outlined by the International Test Commission for test

Table 1

Descriptives Between Non-Displaced and Ukrainian Refugees in Terms of Sex, Age, Education, and Marital Status

		Overall (344)		Refugees (162)		Not Displaced (182)		*p*-value
Sex	Men	95	(27.6%)	40	(24.7%)	55	(30.2%)	.252
	Women	249	(72.4%)	122	(75.3%)	127	(69.8%)	
Age		32.2	(14.1)	25.6	(14.7)	39.7	(9.3)	<.001
Education	Primary	40	(11.6%)	24	(14.8%)	16	(8.8%)	
	Secondary	157	(45.6%)	51	(31.5%)	106	(58.2%)	<.001
	Superior	147	(42.7%)	87	(53.7%)	60	(33.0%)	
Marital status	Married	136	(39.5%)	88	(54.3%)	48	(26.4%)	
	Divorced	19	(5.5%)	17	(10.5%)	2	(1.1%)	
	Relationship	83	(24.1%)	22	(13.6%)	61	(33.5%)	<.001
	Single	106	(30.8%)	35	(21.6%)	71	(39.0%)	

adaptation (Hernández et al., 2020), a Ukrainian native speaker proficient in English translated the questionnaires from their original language to English. Subsequently, another independent Ukrainian native speaker, also fluent in English, was tasked with producing a back translation of the questionnaires from English back to Ukrainian. The back-translated text was then meticulously compared with the original text to identify any discrepancies or inaccuracies that may have arisen during the translation process.

Procedure

The data for this study was gathered through social media and online sources. Ethical approval for the study was granted by the ethics committee on November 16, 2022. The study was conducted from January to March 2023, using a convenience sampling approach. Participants were required to meet the following inclusion criteria: i) be at least 18 years old, ii) be a resident of Ukraine or a refugee who has fled due to the Russian invasion, and iii) provide consent to participate, in accordance with the Declaration of Helsinki. Participation was completely voluntary, and participants could withdraw from the study at any time.

Data Analysis

All statistical analyses were conducted using IBM SPSS 21, f-Stats, JASP 0.14.1.0, and AMOS 21 software. Assumptions were assessed to ensure the suitability of analyses. Reliability was examined through McDonald's ω Omega, which is recommended as a more accurate and reliable estimate of internal consistency when some assumptions are not met, such as items in a scale are not parallel or have different factor loadings (Dunn et al., 2014). Moreover, a confirmatory factor analysis (CFA) was performed for the adapted questionnaires to Ukrainian, accompanied by goodness of fit indices. Model adequacy was confirmed through absolute fit indices such as the chi-square statistic X^2, the comparative fit index (CFI) with a reference value of 0.90 (Bentler, 1990), and parsimony-adjusted indices such as the root mean square error of approximation (RMSEA), for which a smaller value indicates a better fit, with a reference value of 0.05 (Rigdon, 1996).

For the model testing, a partial least squares structural equation modeling (PLS-SEM) was chosen. In this way, the PLS-SEM algorithm (Lohmöller & Lohmöller, 1989; Tenenhaus et al., 2005; Wold, 1982, 1985) was employed, which consists of iteratively alternate two types of estimation of the latent variables (the constructs) until convergence. The first type of estimation is the external estimation, where each construct is estimated from their manifest variables; the second type of estimation is the internal estimation, where each construct is estimated from the previous external estimation of their precedent constructs. As PLS-SEM relies on several OLS regressions, it relaxes the assumption of multivariate normality needed for covariance based SEM methods, achieves high levels of statistical power without demanding large sample sizes and have not identification concerns (Hair et al., 2011). It is also important to note that, as PLS-SEM estimates scores for each scale as exact linear combinations of their items (Fornell & Bookstein, 1982) researchers have relied almost exclusively on LISREL for parameter estimation. Apparently they have been little concerned about the frequent inability of marketing data to meet the requirements for maximum likelihood estimation or the common occurrence of improper solutions in LISREL modeling. The authors demonstrate that partial least squares (PLS, this provides us with perfect substitutes for the manifest variables: we have a value for each construct for each individual observation. Since the social support variable can be subdivided into three subscales, we initially treated the three modalities of the variable individually (three independent scales) and, in a second phase, we constructed a second-order construct from the three scales.

Results

Psychometric Properties for the Ukrainian Adaptation of BRCS and MSPSS

The primary objective of this study was to reevaluate the psychometric properties of the Brief Resilient Coping Scale (BRCS) and Multidimensional Scale of Perceived Social Support (MSPSS) for the Ukrainian population. This section focused on assessing reliability and conducting confirmatory factor analyses for both scales. The results indicated that McDonald's ω coefficient demonstrated satisfactory internal consistency for the BRCS scale across both non-displaced and refugee samples (0.767 and 0.845, respectively). The CFA was calculated as a similar procedure from previous literature (Murphy et al., 2021), and confirmed the existence of a single factor for the whole dataset: $\chi^2 (8) = .02$; $\chi^2/df = 3.13$; $p = .99$; CFI = .99; RMSEA = .01. Adequate goodness of fit was also found for the non-displaced ($\chi^2 (8) = .23$; $\chi^2/df = .12$; $p = .98$; CFI = .99; RMSEA = .01). and the refugee sample ($\chi^2 (8) = .153$; $\chi^2/df = .07$; $p = .92$; CFI = .99; RMSEA = .01).

With regards to MSPSS, the McDonald's ω scale indicated an optimal internal consistency for all its subscales in the non-displaced sample (significant others ω =.928, family ω = .815 and friends ω = .932), as well as the refugee one (significant others ω = .939 family ω = .936 and friends ω = .945). The CFA confirmed adequate values for the whole dataset: $\chi^2 (41) = 150.39$; $\chi^2/df = 3.06$; $p < 0.01$; CFI = .97; RMSEA = .07. Adequate goodness of fit was also found for the non-displaced ($\chi^2(41) = 111.321$ $\chi^2/df = 2.27$; $p < .01$; CFI = .97; RMSEA = .08), and the refugee sample ($\chi^2 (41) = 177.05$; $\chi^2/df = 3.61$; $p < .01$; CFI = .94; RMSEA = .12).

Differences Between Non-Displaced Ukrainians and Refugees

The second aim was to compare the responses of refugees and non-displaced individuals in the questionnaires under study. Firstly, an analysis was conducted on the distribution of variables and assumptions. Despite the Levene's test indicating no statistically significant difference in variance ($p > .05$), the distributions did not meet the criteria for normality (Shapiro-Wilk $p < .05$). Table 2 displays the results of the non-parametric analysis comparing groups. Refugees demonstrated significantly lower scores in both positive and negative affect compared to the non-displaced group. Moreover, refugees exhibited significantly higher scores in terms of support received from significant others compared to the non-displaced group.

The variables of interest, split by group (non-displaced and refugees), are presented in Table 3 with Spearman's rho correlation

Table 2

Differences Between Non-Displaced and Ukrainian Refugees in Terms of Social Support, Resilience and Affect

	Group	Mean	SD	W	p	Rank-Biserial Correlation	Lower	Upper
							95% CI for Rank-Biserial Correlation	
BRCS	Non-displaced	14.665	3.289	13922	.369	-.056	-.176	.067
	Refugee	14.963	3.178					
SPANE_A	Non-displaced	21.093	4.247	18543	< .001	.258	.140	.368
	Refugee	19.346	4.211					
SPANE_N	Non-displaced	17.066	4.135	16902.5	.019	.147	.025	.264
	Refugee	16.111	4.077					
PSS_Others	Non-displaced	5.606	1.398	16830.5	.022	.142	.020	.259
	Refugee	5.282	1.481					
PSS_Family	Non-displaced	5.451	1.340	15693	.299	.065	-.058	.185
	Refugee	5.312	1.403					
PSS_Friends	Non-displaced	5.346	1.421	16152	.123	.096	-.026	.215
	Refugee	5.171	1.331					

Note. BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE = Affect (P = positive and N = Negative)

Table 3

Spearman's Partial Correlations (Across Non-Displaced and Ukrainian Refugees) in Terms of Social Support, Resilience

Variable	BRCS	SPANE_A	SPANE_N	PSS_Others	PSS_Family	PSS_Friends
BRCS	—					
SPANE_P	.328**	—				
SPANE_N	-.335**	-.351**	—			
PSS_Other	.286**	.336**	-.152*	—		
PSS_Family	.359**	.441**	-.293**	.621**	—	
PSS_Friends	.351**	.344**	-.201**	.566**	.578**	—

Note. Conditioned on variables: Group

* $p < .05$, ** $p < .01$

BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE = Affect (P = positive and N = Negative).

coefficients. Negative affect showed negative correlations with all other variables, whereas all other factors demonstrated positive correlation.

PLS-SEM Model: Resilience, Social Support, Positive and Negative Affect

To address the third objective of studying the relationships between variables, a PLS-SEM approach was chosen. To purify the measures, a principal component analysis was conducted over the 28 indicators, with a VARIMAX rotation that enhances the structural interpretation. This is also a way of examining the independence of the items across the different scales and confirming their structure. In this case, a six-components structure emerges, explaining 72.4% of the total variance. This analysis confirms our hypothesized six-scales structure. To supplement the unidimensionality study, we see the evolution of the eigenvalues of the correlation's matrix for each scale: in all cases the first eigenvalue is much larger than the rest, being the second eigenvalue less than one. From this analysis, we accept the unidimensionality of the six subscales. In this point, convergent validity is confirmed: AVE exceeds the .5 threshold (Fornell & Larcker, 1981) (see Table 3), and its square root (in bold in the diagonal on Table 4) is above .7. Convergent validity is also ensured by checking that the loadings exceed the .7 threshold (in bold in Table 5) for all the items, except for the last two of the Negative affect subscale (SPANE_N), which are slightly below this level.

We use three different criteria to assure the discriminant validity: at first, we see that the correlation of each indicator with its construct (the loadings) is greater than the correlation of each indicator with the other constructs (the cross-loadings) (Barclay et al., 1995; Chin, 1998), the criterion is confirmed in all the items (see Table 4); as a second criterion, we see that the square root of the AVE for each construct (in bold in the diagonal in Table 4) is greater than the correlation of each construct with the other constructs (the values to the left and below each number on the diagonal of Table 4) (Fornell & Larcker, 1981); we see in Table 5, 6 and 7 at this criterion is verified for the six constructs; the third and last criterion is based on the Multitrait-Multi-method approach introduced by Churchill (1979, p. 66) for validating a test. This method consists in calculating the HeteroTrait/Mono-Trait ratios of correlations (HT/MT) (Henseler et al., 2015), verifying that they are all beneath the .90 threshold (Kline, 2011). Table 5 shows the HT/MT ratios (upper triangle) all below the established threshold. Given that the three complementary criteria are verified, we accept the discriminant validity of the six subscales. The significance of the coefficients and indirect effects (Table 6) was studied using the Bootstrap method (Efrom & Tibshibirani, 1986) with 1000 samples with replacement of the same size as the used sample ($N = 344$).

The structural model is estimated, as shown in Figure 1. When estimating the structural model we see that 4 of the 11 links have no significative coefficients (the dot lines in Figure 1). Given that only one of the MSPSS constructs (Family) has a significant impact on BRCS and on both SPANE, we tested constructing MSPSS as a

Table 4
Loadings for the First Six PCA Components After VARIMAX Rotation

Item	p_1	p_2	p_3	p_4	p_5	p_6	Comm	Spec Var
MSPSS_3	**.81**	.16	.22	.05	.26	.03	79.9%	20.1%
MSPSS_4	**.83**	.17	.25	.09	.17	-.18	85.5%	14.5%
MSPSS_8	**.74**	.29	.26	.15	.15	-.21	78.4%	21.6%
MSPSS_11	**.78**	.26	.30	.10	.17	-.08	81.4%	18.6%
MSPSS_6	.22	**.85**	.24	.10	.15	-.06	86.0%	14.0%
MSPSS_7	.19	**.85**	.20	.16	.11	-.09	83.9%	16.1%
MSPSS_9	.19	**.86**	.23	.12	.17	-.05	87.6%	12.4%
MSPSS_12	.17	**.82**	.25	.07	.21	-.04	81.7%	18.3%
MSPSS_1	.27	.20	**.88**	.05	.08	-.07	89.2%	10.8%
MSPSS_2	.24	.28	**.84**	.04	.16	-.03	86.3%	13.7%
MSPSS_5	.21	.23	**.82**	.09	.15	-.09	80.7%	19.3%
MSPSS_10	.21	.22	**.79**	.10	.20	.00	76.3%	23.7%
BRCS_1	.09	.16	.10	**.72**	-.01	-.15	58.9%	41.1%
BRCS_2	.14	.00	.02	**.74**	.02	-.16	59.1%	40.9%
BRCS_3	.05	.13	.04	**.82**	.23	-.01	74.9%	25.1%
BRCS_4	.01	.08	.08	**.79**	.11	-.09	65.3%	34.7%
SPANE_1	.17	.11	.09	.09	**.77**	-.26	71.8%	28.2%
SPANE_3	.21	.17	-.01	.14	**.75**	-.06	66.4%	33.6%
SPANE_5	.08	.01	.19	.11	**.79**	-.10	69.4%	30.6%
SPANE_7	.08	.09	.15	.05	**.81**	-.14	71.6%	28.4%
SPANE_10	.13	.14	.09	.00	**.81**	-.09	70.7%	29.3%
SPANE_12	.07	.14	.09	.05	**.81**	-.09	69.7%	30.3%
SPANE_2	-.10	-.09	-.03	-.07	-.28	**.75**	67.2%	32.8%
SPANE_4	-.16	-.16	.01	-.09	-.30	**.71**	65.9%	34.1%
SPANE_6	-.07	.01	-.11	-.05	-.24	**.68**	54.4%	45.6%
SPANE_8	-.04	-.02	-.09	-.06	-.10	**.78**	62.4%	37.6%
SPANE_9	.01	.00	.11	-.25	.13	**.64**	49.9%	50.1%
SPANE_11	-.03	-.01	-.06	-.03	.00	**.72**	53.0%	47.0%

Note. BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE = Affect (P = positive and N = Negative).

Table 5
Unidimensionality Of the Reflective Scales

From	To	Coeff.	p-value
PSS_Family	BRCS	.159	.024
PSS_Friends	BRCS	.197	.007
PSS_Other	BRCS	.018	.855
PSS_Family	SPANE_P	.265	.000
PSS_Friends	SPANE_P	.147	.020
PSS_Other	SPANE_P	.087	.252
BRCS	SPANE_P	.119	.045
PSS_Family	SPANE_N	-.250	.000
PSS_Friends	SPANE_N	-.040	.565
PSS_Other	SPANE_N	.031	.612
BRCS	SPANE_N	-.200	.002

Note. BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE = Affect (P = positive and N = Negative).

was estimated with the partial least squares method (PLS) (Tenenhaus et al., 2005; Wold, 1982). The significance of the coefficients and indirect effects was studied using the Bootstrap method (Efrom & Tibshibirani, 1986) with 1000 samples with replacement of the same size as the used sample ($N = 344$).

In response to our third objective, which aimed to treat the Multidimensional Scale of Perceived Social Support (MSPSS) as an overarching complex concept and measure it as a second-order construct, we can confirm that the data support our methodological approach. All paths were found to be significant at the .05 level, indicating that MSPSS functions effectively as a second-order variable comprising three first-order constructs: MSPSS Family, MSPSS Friends, and MSPSS Others. The contributions of these three variables are well-balanced, ranging from .385 to .403, suggesting that social support operates across various dimensions, thus confirming its multidimensional nature.

Discussion

The aim of this study was to explore the impact of social support and resilience on non-displaced individuals and refugees one year after the onset of the war in Ukraine. It is well-established that social support plays a crucial role in fostering resilience and psychological well-being among populations affected by war (Kira et al., 2013).

second-order construct, formative on all three MSPSS constructs. Note that we build MSPSS as a formative second order construct following the hierarchical components approach (HCA) at first introduced by Wold (1982) and also known as the superblock method (Tenenhaus et al., 2005) or the repeated indicators method (Lohmöller & Lohmöller, 1989; Wold, 1982). The structural model

Table 6
Unidimensionality of the Reflective Scales

Scales	*l*	CR	AVE	*a*	*a* i.e.
	3.20	.94	.80	.92	.90
PSS Family	.40				.87
	.26				.90
	.15				.89
	3.39	.96	.85	.94	.92
PSS Friends	.31				.93
	.15				.91
	.14				.93
	3.32	.95	.83	.93	.89
PSS Other	.31				.90
	.26				.92
	.11				.93
	2.52	.87	.63	.80	.77
BRCS	.59				.78
	.51				.71
	.37				.75
	4.13	.93	.69	.91	.89
	.49				.90
SPANE P	.41				.89
	.36				.89
	.30				.89
	.30				.89
	3.30	.88	.55	.83	.79
	.74				.79
SPANE N	.63				.81
	.51				.80
	.49				.83
	.33				.82

Note. BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE =
Affect (P = positive and N = Negative).

Table 7
Convergent and Discriminant Validity

	PSS Family	PSS Friends	PSS Other	BRCS	SPANE P	SPANE N
PSS Family	**.89**	.58	.65	.32	.47	-.31
PSS Friends	.54	**.92**	.59	.33	.40	-.22
PSS Other	.60	.55	**.91**	.25	.38	-.19
BRCS	.27	.29	.22	**.79**	.29	-.34
SPANE P	.43	.37	.35	.25	**.83**	-.40
SPANE N	-.30	-.22	-.18	-.27	-.40	**.74**

*Note.* Bold figures in diagonal are the square roots of the AVE

Simple correlations between pairs of constructs in the lower triangle

Heterotrait-Multitrait (HT/MT) ratios in the upper triangle

Note: BRCS = Resilience; PSS = subscale of Social support or MPSS. SPANE =
Affect (P = positive and N = Negative).

To achieve this, three specific objectives were outlined. Firstly, to re-assess the factor structure of two questionnaires used in the study: the Brief Resilient Coping Scale (BRCS) and the Multidimensional Scale of Perceived Social Support (MSPSS). Secondly, to compare the variables of interest between the non-displaced and refugee groups. Lastly, to examine a model exploring the interrelationships between the variables under investigation.

Figure 1
Top: First-Order Solution Model Under PLS-SEM Between Non-Displaced and Ukrainian Refugees in Terms of Social Support, Resilience, and Affect
Bottom: Second-Order Model for MSPSS
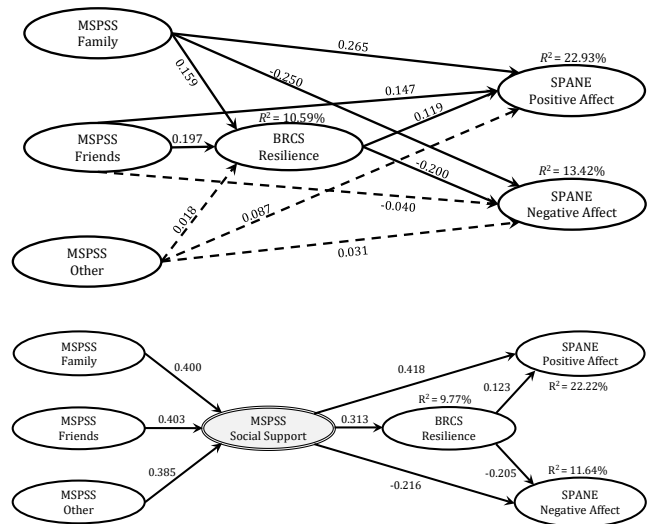
Note. The dashed line marks non-statistically significant relationships

The results indicate that the adaptations made to the questionnaires were accurate and exhibited a good fit. Furthermore, significant differences were observed between the non-displaced and refugee groups regarding support from significant others, as well as positive and negative affect. Additionally, the variables were found to be interconnected, with social support predicting both resilience and affect, and resilience predicting affect. While the group variable did not directly predict resilience, it did predict affect.

Regarding the first objective, it is essential to recognize that social support and resilience measurement questionnaires serve as valuable tools for comprehending the protective factors that foster resilience among individuals impacted by war and displacement. Although various questionnaires are accessible in English and other languages, it is equally crucial to consider those available in Ukrainian to gain deeper insights into resilience within this context. It is important to note that previous research has already made adaptations to these questionnaires (Martsenkovskyi et al., 2022; Zasiekina et al., 2021). However, due to reasons such as sample size or unique characteristics of the current conflict, it was deemed necessary to re-evaluate the psychometric properties of the adaptations. The current findings confirm the usefulness of these adaptations.

In relation with the second goal, aiming to address differences between non-displaced Ukrainians and refugees, no major differences were found between the two groups. This disparity could be attributed to the fact that both groups, albeit in different ways, have experienced displacement, either internally within the country or externally. Nevertheless, it was observed that both positive and negative affect were more pronounced in the non-displaced group compared to the refugee group, as were significant others in terms of social support. It is noteworthy that positive affect encompasses emotions associated with emotional well-being, happiness, satisfaction, and joy, whereas negative affect comprises feelings of

sadness, fear, anxiety, anger, and worry (de Jesús Cardona-Isaza et al., 2023; Jovanović & Joshanloo, 2022). Individuals who have not been displaced by war may experience more positive affect, as they have not been subjected to the extreme traumatic experiences related to violence and conflict that refugees may have encountered. However, this does not imply that individuals unaffected by displacement do not experience negative emotions in their daily lives.

In the context of war, social support plays a crucial role in shaping individuals' emotional experiences. On one hand, receiving support from their community can lead to increased positive emotions, facilitated by a sense of solidarity. This aligns with our findings regarding significant others in the study. Moreover, surviving dangerous situations can also evoke positive emotions. However, it is important to acknowledge that the variable of negative affect has not been controlled for in the present study, representing a significant limitation.

No significant differences were found between the groups of participants in relation to their levels of social support from family and friends. Literature has discussed how resilience is a dynamic process that involves family systems, social support, and community environments beyond cultural belief systems, from a socioecological perspective. More precisely, it has been emphasized the importance of considering resilience as a socioecological phenomenon in the context of family, social support, and community environments has been emphasized (Bonanno & Diminich, 2013; Wilson et al., 2021). In addition, there were no significant differences observed in terms of resilience levels. This result aligns with existing research on the topic, which has shown inconsistent findings across studies. Previous literature suggests that resilience is not necessarily linked to displacement status, implying that both refugees and non-displaced individuals have the capacity to exhibit similar levels of resilience (Bonanno, 2021).

The Partial Least Squares Structural Equation Modeling (PLS-SEM) model developed for this study indicates a strong fit, revealing interconnected variables and highlighting important aspects of resilience. The findings support a dynamic view of resilience influenced by factors like social support. Notably, while significant others didn't uniquely impact social support, family predicted both positive and negative affect, whereas friends only predicted positive affect. Furthermore, the Multidimensional Scale of Perceived Social Support (MSPSS) construct, with its various dimensions, was explored as a second order. Results suggest a positive association between social support and positive affect, as well as a negative association with negative affect, with resilience mediating this relationship. This underscores the potential role of family support in buffering distress. Future research should explore underlying variables of family bonding and social support further. Studies on terrorism-exposed Israeli Jews and Arabs suggest that stronger family support may reduce PTSD symptoms, highlighting potential intervention avenues. Additionally, revisiting attachment differences found in studies on the Kosovo war could yield valuable insights in current contexts.

This study has several limitations. Firstly, the sample was chosen using non-probability sampling, which can introduce distortions in the findings. Data were also collected through self-reporting, which may lead to biases related to the significant amount of self-reporting and control in the data. Moreover, there is a considerable overrepresentation of women compared to men in terms of personal characteristics. It is important to note that the higher number of women in the sample may also be because many men are on the frontline and therefore more challenging to reach for participation. Lastly, the absence of measures for response style biases, such as acquiescence, and the lack of inverse scoring methods could potentially impact the interpretation of results (Suárez-Álvarez et al., 2018; Vigil-Colet et al., 2020).

In sum, the current findings hold both theoretical and practical significance. It can be inferred that social support serves as a predictor of positive affect by bolstering the effects of resilience, with family emerging as a crucial component of social support.

Author Contributions

Carmen Moret-Tatay: Conceptualization, Methodology, Software and Data Curation, Writing - Original Draft, Data Analysis and Validation, Review and Editing. **Iryna Zharova:** Conceptualization, Methodology, Software and Data Curation, Writing - Original Draft, Review and Editing. **Alex Cloquell**: Writing - Original Draft, Review and Editing. **Marcelino Pérez Bermejo:** Writing - Original Draft, Review and Editing. **Mike Murphy:** Writing - Original Draft, Review and Editing. **Francisco Arteaga:** Writing - Original Draft, Data Analysis and Validation, Review and Editing.

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Declaration of Interests

The authors declare that there is no conflict of interest.

Data Availability Statement

On request.

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