

Psychometric Properties of the Ukrainian Version of the War-Related Stress Scale (WRSS) in a Bereaved Sample Exposed to the Ongoing War

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Background

The ongoing war in Ukraine has led to widespread exposure to chronic stressors, loss, and prolonged uncertainty, creating a need for adaptation instruments to assess war-related psychological distress. The **War-Related Stress Scale (WRSS)** is one such instrument. The present study aimed to adapt the Ukrainian version of the WRSS and examine its psychometric properties.

Methods

The sample consisted of **194 adults** who experienced the loss of a loved one in the context of the war in Ukraine. **Exploratory (EFA) and confirmatory (CFA) factor analyses** were conducted to examine the latent structure of the scale. Internal consistency was assessed using **Cronbach's α** , **McDonald's ω** , and item–total correlations. **Convergent validity** was evaluated by examining associations between total WRSS scores and the PTSD Checklist for DSM-5 (PCL-5).

Software: jamovi 2.6 and R 4.4.2 | **Ethics:** Bogomolets NMU; Protocol No.165, 05.12.2022

WRSS: Scale Overview

The WRSS consists of **21 items** assessing the degree of difficulty or concern in areas related to the ongoing war, rated on a **7-point scale** (1 = no concerns to 7 = severe concerns/difficulties).

The scale covers domains including **personal safety, safety of loved ones, economic hardship, displacement, and social disruption**.

Originally developed for war-affected populations; this study represents its **first psychometric evaluation in a Ukrainian bereaved sample**.

Results

CFA indicated that **neither the unidimensional nor the originally proposed three-factor model** demonstrated acceptable fit.

Table 1. Fit indices of confirmatory factor models (N = 194).

Model	χ^2 (df)	p	CFI	TLI	RMSEA (90% CI)	SRMR	AIC
1-factor	803.19 (189)	<.001	0.67	0.63	0.129 (0.120–0.139)	0.086	16216.6
3-factor	634.03 (186)	<.001	0.76	0.73	0.111 (0.102–0.121)	0.079	16053.4
3-factor (cov 9&10)	546.75 (185)	<.001	0.80	0.78	0.100 (0.091–0.110)	0.073	15968.1

EFA supported a **three-factor structure** accounting for **46.39%** of total variance, with substantial inter-factor correlations (factor loadings in Table 2).

Table 2. EFA factor loadings of the WRSS (N = 194). F1 = safety-related; F2 = person-related; F3 = society-related.

Item	F1	F2	F3
1. Your own safety	.815	–	–
2. Safety of your loved ones	–	–	–
3. Work/school future	–	.834	–
4. Access to essential items	–	–	–
5. Social relationships with loved ones	–	.785	–
6. Social relationships in general	–	–	–
7. Economic crisis	–	–	.813
8. Functioning of public institutions	–	–	–
9. Functioning of the healthcare system	–	–	.813
10. Worsening of public health	–	–	–
11. Spending your free time	–	.878	–
12. Uncertainty about the future	–	–	–
13. Fear of war moving to the country	.760	–	–
14. Concern about war spreading globally	–	–	–
15. Nuclear threat	.730	–	–
16. Coping with a migration wave	–	–	–
17. Rising prices (inflation)	.650	–	–
18. Lack of energy resources	–	–	–
19. Worsening of your mental health	–	.851	–
20. Political situation development	–	–	–
21. Quality of your life	–	.876	–

Internal consistency was **excellent**: Cronbach's $\alpha = .91$; McDonald's $\omega = .92$. Item–total correlations ranged from **$r = 0.39–0.67$** — all items contributed meaningfully to the overall scale.

Convergent validity was supported by **moderate positive associations** with post-traumatic stress symptoms (PCL-5): **$r = 0.31$** , 95% CI [0.18, 0.43], **$p < 0.001$** .

Clinical Implications

- The WRSS can be used as a **brief screening tool** for war-related stress in clinical and research settings in Ukraine
- The three-factor structure suggests **distinct intervention targets**: safety concerns, interpersonal losses, societal disruption
- Particularly relevant for **bereaved populations** experiencing compounded war and grief-related stressors

Conclusions

The Ukrainian version of the WRSS demonstrates **acceptable levels of reliability and construct validity**, supporting a three-factor structure reflecting distinct dimensions of war-related stress. Although the use of a bereaved sample may **limit the generalizability** of the results, it allows for the evaluation of the WRSS in a highly vulnerable, war-affected population. Future research with **larger and more diverse samples** is needed to confirm the factor structure.