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Trauma Exposure, Psychological Distress, and Burnout Among Psychologists in the Ukrainian Armed Forces, National Guard, and National Police: The Central Role of Secondary Traumatic Stress

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Research Article

Keywords: secondary traumatic stress, burnout, professional quality of life, Ukraine, military and police psychology, structural equation modeling

Posted Date: September 9th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10817569/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

The full-scale war in Ukraine has produced a population-level mental health crisis, yet the psychologists who deliver care within the country's security and defense sector are themselves immersed in that war. How their accumulated trauma exposure translates into impairment remains poorly understood. To examine whether secondary traumatic stress (STS) links cumulative trauma exposure to psychological distress and to burnout among security-sector psychologists, and to distinguish the two pathways.

Methods

A total of 795 psychologists serving in the Ukrainian Armed Forces, National Guard, and National Police completed a cross-sectional survey assessing childhood adversity, lifetime trauma exposure, professional quality of life (ProQOL-5), depression (PHQ-9), anxiety (GAD-7), and posttraumatic stress (CPSS). A cross-sectional structural equation model examined STS as an intervening variable linking cumulative trauma exposure to two simultaneously estimated outcomes: a latent psychological-distress factor and burnout.

Results

STS was the strongest correlate of both burnout ($\beta = .64$) and distress ($\beta = .42$) and remained independently associated with each when the two were modeled together. Childhood adversity, lifetime trauma, and Armed Forces service each predicted higher STS; their effects on distress and burnout were partly indirect, via STS (all indirect paths $p < .05$), and partly direct. Armed Forces psychologists reported the highest symptom levels, whereas internal displacement and settlement size were unrelated to the outcomes.

Conclusions

Secondary traumatic stress emerged as a central correlate of both clinical and occupational impairment in this workforce, indicating that efforts to protect security-sector psychologists should address the indirect trauma they absorb.

Background

Russia's full-scale invasion of Ukraine in February 2022 precipitated one of the largest mental health emergencies in contemporary Europe. Sustained bombardment, occupation, mass displacement, and bereavement have exposed millions of civilians and service members to potentially traumatic events, and population-level estimates from armed-conflict settings indicate that roughly one in five people will experience a mental disorder at any given time [1]. Far less visible in this picture are the professionals charged with containing the crisis. The psychologists who screen, counsel, and rehabilitate trauma-affected personnel and citizens are not detached observers of the war: they inhabit the same shelled cities, face the same threat to life, and absorb, encounter after encounter, the traumatic material of those they treat.

Whether and how these providers sustain psychological injury in the course of their work, and through what pathways, carries direct consequences for their own health, for workforce retention, and for the quality of care

available to a traumatized nation. Yet the processes linking the exposures these professionals accumulate to their mental health and occupational functioning remain poorly specified, particularly among those serving within the demanding institutional environments of the armed forces and law enforcement. The present study examines these processes in psychologists of Ukraine's security and defense sector.

Theoretical Framework

The present investigation is anchored in conservation of resources (COR) theory [2], which holds that psychological strain arises when valued resources are threatened, lost, or inadequately replenished, and that initial losses set in motion accelerating loss spirals [3]. Applied to trauma work, the repeated empathic engagement with others' suffering, layered upon a clinician's own exposure to potentially traumatic events, constitutes a sustained drain on emotional and cognitive resources that the relentless demands of wartime practice rarely allow to recover. Within this framework, the construct of professional quality of life specifies the affective consequences of these resource dynamics, comprising a resource-replenishing dimension, compassion satisfaction, and two resource-depleting dimensions, burnout and secondary traumatic stress [4, 5]. Secondary traumatic stress (STS) denotes the intrusion, avoidance, and hyperarousal symptoms that parallel posttraumatic stress disorder but originate in indirect, empathic exposure to trauma rather than direct victimization [4], whereas burnout reflects the emotional exhaustion and sense of ineffectiveness that accrue from chronic occupational demand. These processes are intensified under conditions of shared traumatic reality, in which providers and clients are simultaneously immersed in the same collective threat, dissolving the protective boundary between the clinician's professional role and personal life [6]. COR theory thereby predicts a cascading pathway in which cumulative exposure depletes personal resources, registers proximally as secondary traumatic stress, and propagates into broader psychological distress and occupational burnout.

Secondary Traumatic Stress, Psychological Distress, and Burnout

Secondary traumatic stress is among the best-documented occupational hazards of the helping professions, with appreciable prevalence among clinicians who treat traumatized populations [7]. Meta-analytic evidence identifies occupational exposure to traumatized clients, a personal trauma history, and limited work and social support as its principal risk factors [8], and a recent systematic review confirms that clinicians' own trauma histories, including adverse childhood experiences, heighten susceptibility to STS [9, 10]. The antecedents of secondary traumatic stress thus reach well beyond the consulting room to encompass the practitioner's accumulated developmental and lifetime adversity, a consideration of particular relevance to providers who are themselves living through war.

Evidence drawn specifically from uniformed and military-affiliated providers reinforces these concerns. Among mental health clinicians serving military populations, secondary traumatic stress is prevalent and is tied to the volume and intensity of trauma-focused clinical contact [11], and professional burnout affects a substantial minority of military mental health providers even outside active war [12]. Security-sector psychologists in a country under invasion occupy an extreme position on this continuum, combining heavy trauma caseloads with personal war exposure, yet they have seldom been studied directly.

Although STS is often treated as an endpoint, accumulating evidence positions it as a proximal driver of broader psychopathology. Because its symptom architecture overlaps substantially with that of posttraumatic stress disorder, secondary traumatic stress commonly co-occurs with elevated depression and anxiety among trauma-exposed clinicians, who report markedly higher symptom levels than their unaffected colleagues [7, 10]. This pattern suggests that the distress absorbed through indirect exposure does not remain encapsulated as a narrow

occupational complaint but generalizes into the clinician's overall mental health, consistent with the COR premise that resource depletion in one domain spills into others.

Secondary traumatic stress is also tightly coupled with burnout; meta-analytically, the two share roughly half of their variance (weighted r = .69; [13]), yet they remain conceptually and empirically distinct, and factor-analytic work supports their separability [14]. Compassion-fatigue theory positions secondary traumatic stress as a contributor to the broader exhaustion of burnout [4], a direction consistent with more recent cross-sectional structural models in which secondary traumatic stress predicted burnout among helping professionals [15, 16]. The reverse ordering has been reported in a single longitudinal study [14], and the temporal sequence therefore remains unsettled. This strong covariation, set against their distinctness, carries an analytic implication that prevailing descriptive studies have largely left unaddressed: it remains unclear whether secondary traumatic stress operates as a common liability for both clinical and occupational impairment or is preferentially tied to one rather than the other. Estimating the associations of secondary traumatic stress with distress and with burnout concurrently, so that each is evaluated while holding the other's shared variance constant, permits these pathways to be discriminated, clarifying whether STS is a general threat to clinician well-being or a more circumscribed phenomenon. This concurrent test is a central aim of the present study.

Developmental and Cumulative Trauma as Direct Risks to Mental Health and Burnout

Beyond their work-related indirect effects, the forms of trauma exposure that providers carry are themselves potent and direct determinants of mental health. Adverse childhood experiences show a graded, dose-dependent association with adult depression, anxiety, and posttraumatic stress disorder; in a meta-analysis of 37 studies, individuals reporting four or more such experiences were several times more likely to meet criteria for these conditions than those reporting none [17]. Early adversity of this kind is not confined to the general population: nurses and physicians report adverse childhood experiences at rates comparable to or exceeding community samples, and these histories are associated not only with depression but with professional burnout [18]. Childhood adversity may therefore shape provider well-being through a developmental pathway that is conceptually and statistically separable from the secondary stress of clinical work.

Cumulative exposure to potentially traumatic events across the lifespan exerts a comparably direct influence. A robust dose-response relationship, frequently termed the building-block effect, links the number of distinct traumatic event types a person has experienced to the probability and severity of posttraumatic stress, with disorder approaching ceiling levels at the highest exposure loads [19, 20, 21]. For psychologists living through an invasion, this lifetime accumulation is compounded in real time by ongoing war exposure, plausibly elevating depression, anxiety, and posttraumatic stress independently of the trauma encountered through their clients.

Finally, the institutional setting of practice conditions risk. Service in the armed forces entails proximity to combat-related death, injury, and moral transgression, exposures repeatedly linked to elevated posttraumatic stress and depression among military personnel [22]. Even in peacetime, the clinicians who treat military personnel report high rates of secondary traumatic stress and burnout [11, 12]. Whether the branch in which a psychologist serves, and the attendant intensity of exposure, translates into differential risk for distress and burnout in a wartime security-sector workforce has not been established.

Professional Quality of Life in Conflict-Affected Settings

Research from chronically conflict-affected settings illustrates both the risks and the resources of trauma work under collective threat. In Israel, studies distinguish direct from indirect exposure and document compassion fatigue alongside vicarious resilience [23, 24, 25]. Among displaced Syrian providers, training was the strongest protection against compassion fatigue, whereas shared displacement compounded secondary stress [26, 27]. Work with aid workers in Darfur, post-earthquake Nepal, and the Thai-Myanmar border converges on moderate burnout and STS alongside high compassion satisfaction, with locally recruited, less-trained, and less-supported providers most affected [28, 29, 30]. Across settings, the provider's own mental health and the intensity of exposure, more than the type of crisis, drive professional quality of life.

A growing Ukrainian literature has begun to characterize this workforce. Surveys generally report moderate-to-high compassion satisfaction with low-to-moderate burnout and STS [31], a pattern echoed in the study of more than 5,500 professionals working in the social sector and NGOs, in which severe impairment was rare but moderate burnout and STS were common [32]. Averages, however, obscure a distressed minority: among psychosocial support workers, 59.6% screened positive for burnout, 38.2% for probable PTSD, and 10.7% for suicidal ideation [33], and nearly half of surveyed psychiatrists showed clinically meaningful burnout [34]. Qualitative work foregrounds the shared traumatic reality of Ukrainian therapists and the protective role of intergenerational narratives of endurance [35].

In a recent study of psychologists serving in the Armed Forces of Ukraine, adverse childhood experiences and lifetime trauma each directly predicted burnout, with avoidant coping amplifying and problem-focused coping buffering these effects [36]; that study was, however, confined only to the psychologists in the Armed Forces, centered on burnout alone, and did not model secondary traumatic stress.

The Present Study

Three gaps motivate the present study. First, the psychologists embedded in Ukraine’s security and defense sector, who serve the Armed Forces, the National Guard, and the National Police, remain almost entirely absent from the empirical record, even though they treat among the most severely trauma-exposed clients and operate within hierarchical, operationally demanding institutions that differ markedly from civilian and nongovernmental settings; the limited available work is predominantly programmatic or regulatory rather than epidemiological [37, 38]. Second, the literature is overwhelmingly descriptive, cataloguing prevalence rather than testing how the distinctive constellation of exposures these professionals carry translates into impairment; in particular, the role of secondary traumatic stress as a mechanism linking trauma exposure to downstream distress and burnout has seldom been modeled, and its associations with clinical and occupational outcomes have rarely been discriminated within a single framework. Third, cumulative trauma exposure is rarely examined comprehensively, with childhood adversity and lifetime traumatic load seldom considered together with occupational and institutional exposure as antecedents of professional quality of life.

Addressing these gaps, the present study tests an integrative model in a large sample of 795 psychologists serving in the Ukrainian Armed Forces, National Guard, and National Police. Using structural equation modeling, we position secondary traumatic stress as the mechanism through which cumulative trauma exposure (childhood adversity, lifetime trauma, and service branch) is associated with psychological distress (depression, anxiety, and posttraumatic stress symptoms) and with burnout, modeling the two outcomes concurrently so that the distress and burnout pathways can be discriminated. In doing so, the study builds on recent evidence that trauma exposure predicts burnout via coping among Armed Forces psychologists [36], extending it to the full security-sector

workforce and to clinical distress as a second outcome, and isolating secondary traumatic stress as the affective mechanism not previously tested.

We hypothesized that (a) greater cumulative trauma exposure would be associated with higher secondary traumatic stress; (b) secondary traumatic stress would be independently associated with greater psychological distress; (c) secondary traumatic stress would be independently associated with greater burnout, with distress and burnout estimated simultaneously to isolate each association; and (d) childhood adversity and lifetime trauma would additionally show direct associations with psychological distress and burnout, over and above secondary traumatic stress; and (e) cumulative trauma exposure would show indirect associations with both outcomes via secondary traumatic stress. Differences across service branch were examined on an exploratory basis.

Methods

Participants and Procedure

Participants (see Table 1) were 795 psychologists and mental-health practitioners employed within Ukraine's security and defense sector during the full-scale war. They served in the Armed Forces of Ukraine (*n* = 260, 32.7%) and in agencies of the Ministry of Internal Affairs (*n* = 535, 67.3%), the latter comprising personnel of the National Guard (*n* = 263) and the National Police (*n* = 255). Ages ranged from 18 to 62 years (*M* = 32.33, *SD* = 8.77), and length of service averaged 6.73 years (*SD* = 7.25). Women constituted 44.3% of the sample, and 137 participants (17.2%) had been internally displaced as a consequence of the war.

Table 1
Sample Characteristics (N = 795)

Characteristic	Value
Age in years, M (SD)	32.33 (8.77)
Age range	18–62
Women, %	44.3
Years of service, M (SD)	6.73 (7.25)
Armed Forces, n (%)	260 (32.7)
Ministry of Internal Affairs, n (%)	535 (67.3)
National Guard, n	263
National Police, n	255
Internally displaced, n (%)	137 (17.2)

Data were collected via an anonymous online questionnaire administered in Ukrainian. All instruments were administered using published Ukrainian-language versions where available; otherwise, items were translated and back-translated by independent bilingual reviewers, with discrepancies resolved by consensus. Eligible respondents were qualified psychologists working in the participating services. Participation was voluntary and uncompensated, and electronic informed consent was obtained before participants accessed the survey. The study was approved by the Commission on Ethics and Deontology of the National Academy of Medical Sciences at the Institute of

Neurology, Psychiatry, and Narcology of Ukraine (Protocol 4-a/1, dated April 26, 2024), and all procedures adhered to the ethical principles of the Declaration of Helsinki.

Measures

Demographic and Service Characteristics. A purpose-designed background questionnaire elicited participants' age, sex, educational attainment, years of service, branch of service, internal-displacement status, and the population size of their current place of residence.

Adverse Childhood Experiences. Early-life adversity was assessed with the 10-item Adverse Childhood Experiences questionnaire (ACE; [9]), which surveys exposure before age 18 to abuse, neglect, and household dysfunction. Each item is endorsed dichotomously, and affirmative responses are summed to form a cumulative-adversity index ranging from 0 to 10, with higher scores denoting greater childhood adversity. Because the ACE total is a count of distinct adversities rather than a unidimensional construct, internal-consistency reliability is not reported.

Lifetime Trauma Exposure. Lifetime exposure to potentially traumatic events was assessed with the Life Events Checklist for DSM-5 (LEC-5; [39]), a 17-item self-report measure of exposure to a range of potentially traumatic events. The number of event types endorsed was summed to index cumulative trauma exposure, with higher scores reflecting more extensive lifetime exposure. Because the measure indexes a count of distinct events rather than a unidimensional construct, internal-consistency reliability is not an appropriate index and is not reported.

Professional Quality of Life.

Professional quality of life was assessed with Version 5 of the Professional Quality of Life Scale (ProQOL-5; [5]), a 30-item instrument comprising three conceptually distinct 10-item subscales: secondary traumatic stress and burnout, which index the two negative dimensions of compassion fatigue, and compassion satisfaction, which captures the fulfillment derived from helping. Respondents rate the frequency of each experience over the preceding 30 days on a 5-point scale, and higher subscale scores indicate greater levels of the respective construct. Internal consistency was good for secondary traumatic stress ($\alpha = .82$) and compassion satisfaction ($\alpha = .92$) and acceptable for burnout ($\alpha = .75$).

Depression and Anxiety. Depressive symptoms over the preceding two weeks were assessed with the 9-item Patient Health Questionnaire (PHQ-9; [40]), and anxiety symptoms with the 7-item Generalized Anxiety Disorder scale (GAD-7; [41]). Items on both measures are rated from 0 to 3 and summed (PHQ-9 range 0–27; GAD-7 range 0–21). Validated severity bands were applied for descriptive classification: on the PHQ-9, scores of 5, 10, 15, and 20 demarcate mild, moderate, moderately severe, and severe depression [40], and on the GAD-7, scores of 5, 10, and 15 demarcate mild, moderate, and severe anxiety [41]. Both scales demonstrated excellent reliability (PHQ-9 $\alpha = .90$; GAD-7 $\alpha = .91$).

Post-traumatic Stress Symptoms. Post-traumatic stress symptoms were assessed with the Child PTSD Symptom Scale (CPSS; [42]), a 17-item adaptation of the Posttraumatic Diagnostic Scale that captures the DSM symptom set for posttraumatic stress disorder in simplified language. Items are rated from 0 to 3 for the preceding two weeks and summed (range 0–51). The CPSS has strong psychometric properties and closely parallels the adult Posttraumatic Diagnostic Scale; an adult-administered Ukrainian-language version has been used in prior Ukrainian samples, including during the current war [36], supporting cross-study comparability. A probable-PTSD classification

was derived by applying the DSM-5 diagnostic algorithm to the CPSS items, with Criterion A exposure established from the LEC-5. Internal consistency in the present sample was excellent (α = .92).

Data Analysis

Analyses were conducted in Stata 18 [43]. We first examined descriptive statistics, distributional properties, and internal consistencies [44] for all multi-item measures. The hypothesized model was then evaluated with structural equation modeling (SEM; [45]). Because depression, anxiety, and post-traumatic stress symptoms were very highly intercorrelated at the latent level, they were modeled as indicators of a single latent psychological-distress factor; this specification was favored over a three-factor solution on grounds of discriminant validity and parsimony. Secondary traumatic stress and burnout, each operationalized by a single subscale score, were represented as single-indicator latent variables with their measurement-error variance fixed a priori to (1 − α) × observed variance, a procedure that disattenuates the structural estimates for measurement unreliability [46]. Cumulative trauma exposure was indexed by childhood adversity, lifetime trauma exposure, and service branch (Armed Forces vs. Ministry of Internal Affairs); continuous predictors were standardized, and covariances among the exogenous predictors were freely estimated.

The structural model specified the three exposure variables as predictors of STS, which in turn predicted the latent distress factor and burnout; direct exposure-to-outcome paths were retained. Models were estimated with full-information maximum likelihood, which uses all available data under a missing-at-random assumption (N = 795; [47]). Fit was assessed with the CFI and TLI (at least .90 acceptable, .95 good) and the RMSEA (up to .08 acceptable, .06 good; [48]). Because RMSEA is positively biased at low degrees of freedom, it was weighted less heavily than the incremental indices [49]. Indirect effects through STS were tested with the delta method, completely standardized coefficients are reported, and significance was evaluated at α = .05. Given the cross-sectional design, the model tests theoretically derived associations rather than temporal or causal precedence. Because the data are cross-sectional, the model is interpreted as describing associational structure at a single time point; indirect paths quantify statistical, not causal, mediation, and no temporal ordering is implied.

Results

Descriptive Statistics and Symptom Prevalence

On average, participants reported low levels of secondary traumatic stress (*M* = 18.83, *SD* = 5.86) and burnout (*M* = 20.25, *SD* = 5.62) and high compassion satisfaction (*M* = 37.85, *SD* = 7.75), and their mean depression (*M* = 3.53, *SD* = 4.49) and anxiety (*M* = 2.85, *SD* = 3.68) scores fell within the subclinical range. Applying validated severity bands, 70.9% of participants reported minimal depressive symptoms, with 19.0% mild, 6.7% moderate, 2.4% moderately severe, and 1.0% severe; for anxiety, 75.8% reported minimal symptoms, 18.6% mild, 3.4% moderate, and 2.1% severe. The majority (78.2%) fell in the low range for secondary traumatic stress. Notwithstanding these generally low averages, 15.1% of participants screened positive for probable PTSD and 15.5% met DSM-5 symptom criteria, identifying a clinically meaningful minority in marked distress. Means, standard deviations, reliabilities, and zero-order correlations among the study variables appear in Table 2.

Secondary traumatic stress correlated moderately and positively with depression (*r* = .38), anxiety (*r* = .41), post-traumatic stress (*r* = .40), and burnout (*r* = .50), and was essentially independent of compassion satisfaction (*r* = .00). The three symptom measures were strongly intercorrelated (*r*s = .73–.82), and both childhood adversity and lifetime trauma exposure related positively to all indices of distress (*r*s = .17–.40).

Table 2
Means, Standard Deviations, Reliabilities, and Bivariate Correlations Among Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Secondary traumatic stress	18.83	5.86	(.82)								
2. Burnout	20.25	5.62	.50***	(.75)							
3. Compassion satisfaction	37.85	7.75	.00	−.69***	(.92)						
4. Depression	3.53	4.49	.38***	.49***	−.20***	(.90)					
5. Anxiety	2.85	3.68	.41***	.45***	−.18***	.82***	(.91)				
6. Post-traumatic stress	7.07	7.86	.40***	.48***	−.25***	.76***	.73***	(.92)			
7. Childhood adversity	1.14	1.68	.17***	.22***	−.08*	.38***	.36***	.34***	—		
8. Lifetime trauma exposure	4.28	3.45	.24***	.18***	−.02	.31***	.31***	.40***	.24***	—	
9. Age	32.33	8.77	.04	−.15***	.25***	.00	−.01	.00	−.02	.14***	—

Note. N = 795. Internal-consistency reliabilities (Cronbach's α) appear on the diagonal in parentheses; reliabilities are not reported for the count-based exposure measures (childhood adversity, lifetime trauma exposure) or for age. ***p < .001.

Measurement Model

A confirmatory factor analysis modeling depression, anxiety, and post-traumatic stress as separate latent factors returned inter-factor correlations of .80 to .90, indicating limited discriminant validity among the three symptom domains in this sample. Accordingly, the three were represented as a single latent psychological-distress factor, on which all standardized loadings were strong (depression = .91, anxiety = .90, post-traumatic stress = .83). Secondary traumatic stress and burnout loaded .91 and .87, respectively, on their reliability-corrected single indicators.

Structural Model and Indirect Associations

The structural model exhibited good incremental fit, $\chi^2(11) = 137.60$, $p < .001$, CFI = .95, TLI = .88; the RMSEA was elevated, .12, 90% CI [], but, consistent with its documented upward bias at low degrees of freedom [49], the comparative indices were treated as the more trustworthy evidence of fit. Secondary traumatic stress was the strongest predictor of both outcomes, accounting for substantial variance in burnout (β = .64, p < .001) and in psychological distress (β = .42, p < .001). Higher secondary traumatic stress was, in turn, predicted by childhood adversity (β = .14, p < .001), lifetime trauma exposure (β = .21, p < .001), and Armed Forces service (β = .09, p = .026). Childhood adversity and lifetime trauma exposure additionally exerted direct effects on distress (β = .28 and .18, respectively, both p < .001), and childhood adversity and Armed Forces service on burnout (β = .13, p < .001, and β = .09, p = .018). The model explained 41% of the variance in distress, 48% in burnout, and 10% in secondary traumatic stress. Full estimates appear in Table 3 and are depicted in Fig. 1.

Indirect associations were evident for all exposures. The indirect effects of childhood adversity, lifetime trauma exposure, and Armed Forces service on both distress and burnout, transmitted through secondary traumatic stress, were each statistically significant (all $p < .05$), indicating that a meaningful portion of the influence of cumulative trauma exposure on psychological distress and burnout operates by way of elevated secondary traumatic stress.

Table 3
Completely Standardized Estimates from the Structural Equation Model

Path	β	SE	p
Secondary traumatic stress → Distress	0.42	0.03	< .001
Secondary traumatic stress → Burnout	0.64	0.03	< .001
Childhood adversity → Secondary traumatic stress	0.14	0.04	< .001
Lifetime trauma exposure → Secondary traumatic stress	0.21	0.04	< .001
Armed Forces → Secondary traumatic stress	0.09	0.04	.026
Childhood adversity → Distress	0.28	0.03	< .001
Lifetime trauma exposure → Distress	0.18	0.03	< .001
Armed Forces → Distress	0.04	0.03	.183
Childhood adversity → Burnout	0.13	0.04	< .001
Lifetime trauma exposure → Burnout	−0.01	0.04	.725
Armed Forces → Burnout	0.09	0.04	.018

Note. N = 795. β = completely standardized coefficient. Variance explained: R^2 = .41 (distress), .48 (burnout), .10 (secondary traumatic stress). All indirect effects through secondary traumatic stress were significant at $p < .05$.

Service Branch

Within the structural model, Armed Forces service predicted higher secondary traumatic stress and higher burnout (both β = .09, $p < .05$; Table 3). Burlaka et al. [36] examined branch differences in this sample in detail, including the elevated posttraumatic stress observed among Armed Forces psychologists; these comparisons are therefore not a focus of the present analysis.

Sensitivity Analyses

We evaluated whether the structural paths varied by internal-displacement status and by settlement size using multigroup SEM. Constraining the structural coefficients to equality across displaced and non-displaced participants did not significantly degrade fit, $\Delta\chi^2(7) = 10.00$, $p = .19$, and the secondary-traumatic-stress–to–distress path did not differ between groups, Wald $\chi^2(1) = 1.94$, $p = .16$. Settlement size was likewise unrelated to the outcomes. Displacement and locality were therefore not retained in the final model.

Discussion

This study examined how the cumulative trauma exposure carried by psychologists in Ukraine's security and defense sector is associated with their psychological distress and burnout, and tested whether secondary traumatic stress functions as a common pathway to both. Three findings stand out. First, secondary traumatic stress was the strongest correlate of both psychological distress and burnout, and it was independently associated with each when

the two outcomes were modeled simultaneously. Second, cumulative trauma exposure (childhood adversity, lifetime trauma, and Armed Forces service) was associated with elevated secondary traumatic stress, and its associations with distress and burnout were partially transmitted through it. Third, although average levels of secondary traumatic stress and burnout were low, a clinically meaningful minority reported substantial symptoms, and Armed Forces psychologists consistently bore the heaviest burden, whereas internal displacement and settlement size were unrelated to the outcomes.

Secondary Traumatic Stress as a Common Pathway to Distress and Burnout

The centrality of secondary traumatic stress to both outcomes is the study's principal contribution. The magnitude of the association between secondary traumatic stress and burnout (β = .64) accords closely with the meta-analytic estimate of the burnout–secondary-traumatic-stress relationship (r = .69; [13]) and with the compassion-fatigue model's premise that indirect traumatic exposure and occupational exhaustion are deeply intertwined [4, 5]. Crucially, secondary traumatic stress was also independently associated with psychological distress (β = .42) once burnout was held constant, indicating that it is not a narrowly occupational phenomenon but a broader liability for clinician mental health, consistent with its symptomatic overlap with posttraumatic stress disorder and with reports that secondary traumatic symptoms co-occur with depression and anxiety in trauma-exposed clinicians [7, 10].

By estimating the distress and burnout pathways concurrently, the model discriminated two outcomes that descriptive studies frequently conflate. Because each association remained substantial with the other partialed out, the data indicate that secondary traumatic stress is a common antecedent of clinical and occupational impairment alike, rather than being preferentially tied to one or the other. This pattern is consistent with evidence that burnout and secondary traumatic stress are distinct, separable constructs [14] while extending it by showing that secondary traumatic stress relates to both clinical and occupational sequelae within a single model. The direction we modeled, from secondary traumatic stress to burnout, follows Figley's [4] compassion-fatigue framework, in which the absorption of others' trauma feeds the broader exhaustion of burnout, and it accords with more recent cross-sectional structural models in which secondary traumatic stress predicted burnout among refugee-sector professionals [16] and critical-care nurses [15]. Evidence for the opposite ordering rests, to our knowledge, on a single longitudinal study [14] conducted in two comparatively small samples (Study 1, N = 135 U.S. behavioral and mental-health providers serving military personnel; Study 2, Polish healthcare providers, social workers, and other human-services professionals) that did not include security-sector psychologists practicing within an active war, and its findings may not generalize to the present population. The significant indirect effects further position secondary traumatic stress as a plausible mechanism through which cumulative exposure is linked to impairment, in line with conservation of resources theory's account of resource depletion generalizing across life domains [2]. These findings remain associational, however; because the data are cross-sectional, the temporal ordering cannot be confirmed, and the results should be read as a test of theoretically specified associations rather than of causal sequence.

The Developmental and Lifetime Origins of Vulnerability

The antecedents of distress and burnout in this sample extended well beyond the workplace and operated through both indirect and direct routes. Childhood adversity and lifetime trauma were each associated with higher secondary traumatic stress, echoing evidence that a personal trauma history is among the most robust risk factors for secondary traumatization [8, 9, 10]. Both exposures, however, also retained direct associations with the outcomes after secondary traumatic stress was accounted for. The direct link from childhood adversity to distress and burnout

is consistent with the graded, dose-dependent relation between adverse childhood experiences and adult depression, anxiety, and posttraumatic stress [17] and with evidence that such histories elevate burnout among health professionals specifically [18]. The direct link from lifetime trauma to distress accords with the well-documented building-block effect, whereby accumulating traumatic event types raise the probability and severity of posttraumatic symptoms [19, 20, 21]. Together, these direct paths indicate that the vulnerability these professionals bring to their work is in part biographical, established before any clinical encounter.

The configuration of direct effects was, moreover, informative about how the two outcomes differ. Lifetime trauma was directly associated with clinical distress but not with burnout, its relation to the latter being carried entirely through secondary traumatic stress, whereas childhood adversity was directly associated with both. One reading is that occupational burnout in this workforce arises principally through the secondary-stress route, whereas clinical distress has additional, direct roots in the provider's trauma history. Service branch showed a parallel specificity: Armed Forces service was directly associated with higher secondary traumatic stress and burnout but not with distress, consistent with the elevated trauma exposure and moral strain that characterize military service [22] and with reports of substantial secondary traumatic stress and burnout among providers serving the military [11, 12]. Such dissociations would be invisible in a model that treated distress and burnout interchangeably, and they illustrate the value of estimating the two pathways concurrently.

Displacement and the Limits of Contextual Risk

Within the model, Armed Forces service was directly associated with higher secondary traumatic stress and burnout, plausibly reflecting the intensity of exposure and institutional demand that accompany military service. Because Burlaka et al. [36] examined branch differences in this sample in detail, we do not elaborate them here. Most participants reported low symptoms, yet a meaningful minority were in marked distress, with about one in seven screening positive for probable PTSD. As among Ukrainian psychosocial support workers, though at lower rates [33], broad resilience coexists with real and unmet need.

Contrary to evidence from other conflict settings that displacement compounds secondary stress [26, 27], neither internal displacement nor settlement size was associated with the outcomes. One interpretation, consistent with the concept of shared traumatic reality [6], is that under nationwide threat the circumstances of displaced and non-displaced providers converge, attenuating displacement as a differentiating factor; this null should nonetheless be interpreted cautiously given the modest size of the displaced subsample and the consequent limits on statistical power. Finally, compassion satisfaction was high and essentially independent of secondary traumatic stress, reinforcing the premise that the rewards of trauma work constitute a distinct, resource-replenishing dimension that can coexist with its costs [5, 31].

Placed in international perspective, the generally low average levels of burnout and secondary traumatic stress observed here fall below those reported among Ukrainian psychosocial support workers, of whom 59.6% screened positive for burnout [33], and among Palestinian wartime practitioners [50], while exceeding the burnout prevalence documented among U.S. military mental health providers outside active war [12]. This variation plausibly reflects differences in trauma exposure, institutional support, and workforce selection across settings [11], and it cautions against treating any single prevalence estimate as characteristic of war-zone providers as a class.

These findings converge with and extend recent evidence from Ukrainian military psychologists, in which adverse childhood experiences and lifetime trauma each directly predicted burnout ($\beta = .16$; [36, 51]). The present study replicates this cumulative-vulnerability pattern in a substantially larger and more heterogeneous sample spanning three services, and it advances that earlier, coping-focused account in two respects. First, it identifies secondary

traumatic stress as a shared affective pathway linking exposure to impairment; second, it shows that this pathway extends beyond burnout to clinical distress. Whereas that earlier study foregrounded avoidant coping as a behavioral amplifier of risk, the present results locate an upstream, symptom-level mechanism that may itself provoke maladaptive coping, pointing to complementary targets for prevention and intervention.

Theoretical and Practical Implications

Theoretically, the findings cohere with a conservation-of-resources account in which the accumulated demands of empathic, war-embedded practice deplete personal resources, register proximally as secondary traumatic stress, and propagate into both clinical distress and occupational burnout [2]. The convergence of personal and professional exposure that defines shared traumatic reality [6] is not merely contextual color but appears to load the very antecedents, childhood and lifetime adversity, that this framework implicates. Practically, the results point to secondary exposure itself as the most actionable target. Because secondary traumatic stress sat at the center of both pathways, organizational measures that limit and buffer indirect exposure (graduated caseloads, reflective supervision, peer support, and protected time for recovery) may yield broader benefit for clinician well-being than approaches directed at any single downstream symptom. Armed Forces psychologists emerge as a priority group, and structured rehabilitation programs already piloted within Ukraine's security and defense sector [37] could be evaluated against the secondary-traumatic-stress pathway identified here.

Strengths and Limitations

Strengths include a large sample from a workforce nearly absent from the literature, validated measures, and an analytic approach that corrected the focal constructs for measurement error and distinguished the distress and burnout pathways. The study also modeled psychological distress and burnout jointly—outcomes that are frequently conflated—allowing their shared and distinct correlates to be separated, and it addresses a security-and-defense workforce that is largely absent from the literature on providers in conflict settings. Several limitations apply. The cross-sectional design precludes temporal and causal inference: the indirect associations reported here describe statistical structure at a single time point and cannot establish that secondary traumatic stress mediates the effects of trauma exposure, an ordering that is one of several possible [14, 52]. All measures were self-reported, raising common-method concerns. STS and burnout were each represented by a single subscale score, although corrected for unreliability. The high intercorrelation of depression, anxiety, and posttraumatic stress led us to model one distress factor, which may obscure construct-specific effects. The model omitted protective resources such as social support, coping, and organizational climate, leaving the resource-gain side of COR untested. Finally, the single-country convenience sample, assessed once during war, limits generalizability.

Conclusions

Among psychologists serving in the Ukrainian Armed Forces, National Guard, and National Police, secondary traumatic stress stood at the center of a network linking cumulative trauma exposure to both psychological distress and burnout, functioning as a common correlate of clinical and occupational impairment rather than a narrowly defined occupational complaint. Although the cross-sectional design does not permit conclusions about temporal or causal ordering, the convergence of theory, the magnitude of the associations, and their consistency across two distinct outcomes identify secondary traumatic stress as a coherent and potentially modifiable target for protecting a workforce on which a traumatized nation increasingly depends. Safeguarding these professionals will require sustained attention to the indirect trauma they absorb, not only to the histories they carry, and particular investment in those serving on the military front line.

Abbreviations

STS
Secondary traumatic stress
COR
Conservation of resources
ProQOL
Professional Quality of Life Scale
CPSS
Child PTSD Symptom Scale
PHQ-9
Patient Health Questionnaire-9
GAD-7
Generalized Anxiety Disorder-7 scale
ACE
Adverse childhood experiences
LEC
Life Events Checklist
SEM
Structural equation modeling
CFI
Comparative fit index
RMSEA
Root mean square error of approximation
SRMR
Standardized root mean square residual.

Declarations

Ethics approval and consent to participate.

The study was approved by the Commission on Ethics and Deontology at the Institute of Neurology, Psychiatry, and Narcology, National Academy of Medical Sciences of Ukraine (Protocol No. 4-a/1, April 26, 2024), and was conducted in accordance with the Declaration of Helsinki. All participants provided informed consent.

Consent for publication.

Not applicable.

Competing interests.

The authors declare that they have no financial or non-financial competing interests.

Funding.

The authors received no specific funding for this work.

Author Contribution

VB conceived and designed the study, curated and analysed the data, and drafted the manuscript. VK, OS, and MC contributed to participant recruitment and to interpretation of the findings. JB verified the underlying data and contributed to the writing and revision of the manuscript. AJ contributed to interpretation of the findings and to critical revision of the manuscript for important intellectual content. All authors read and approved the final manuscript.

Acknowledgement

The authors thank the psychologists of Ukraine's security and defense sector for their participation.

Data Availability

The datasets generated and analysed during the current study are not publicly available and cannot be shared. Because the participants are psychologists serving in Ukraine's Armed Forces, National Guard, and National Police during an active war, sharing the data, even in de-identified form, could compromise their safety and the continuity of psychological services to these forces.

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Figures

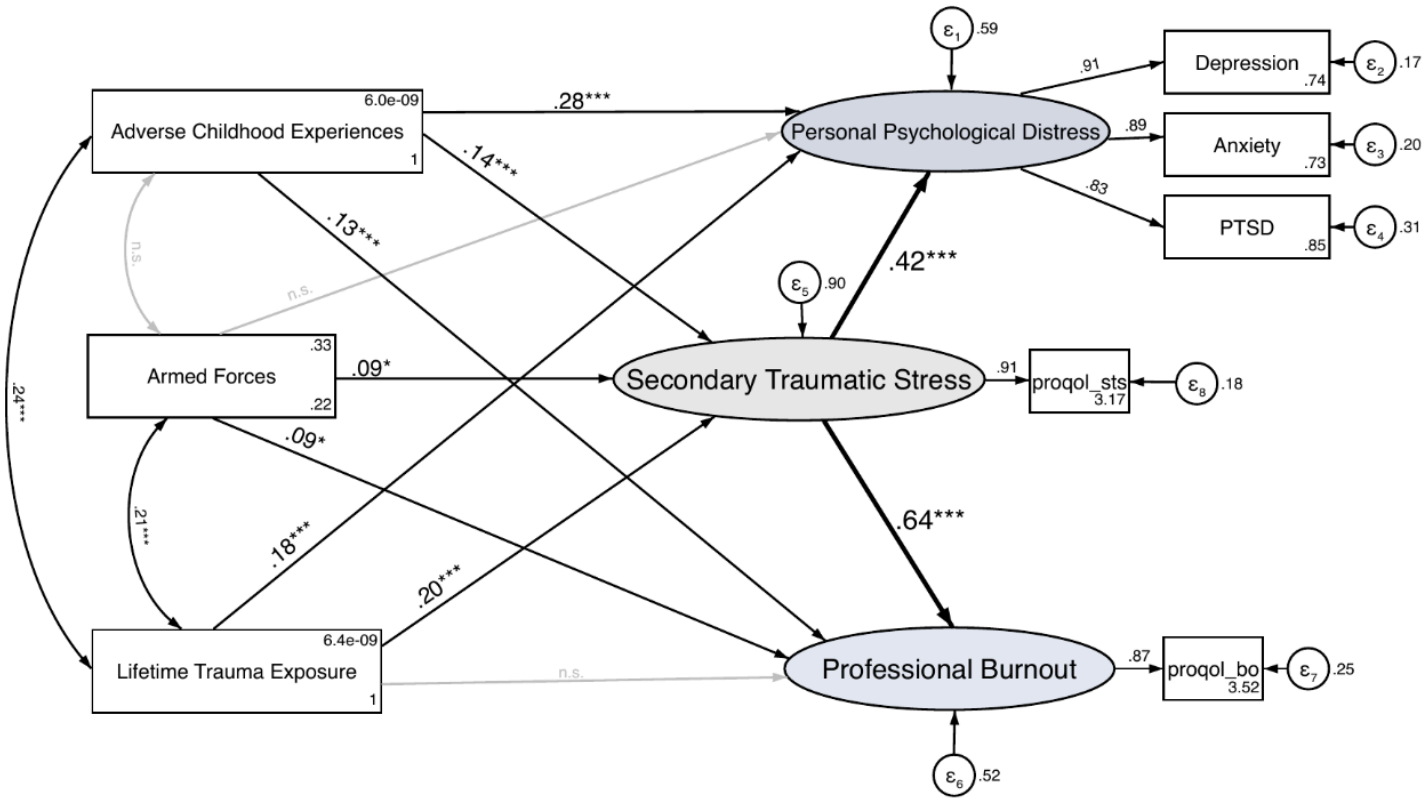


Figure 1

Standardized Structural Model of Secondary Traumatic Stress Linking Trauma Exposure to Distress and Burnout