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STUDY PROTOCOL



Understanding mental health needs in Ukraine: protocol for a longitudinal survey of mental health in children and caregivers during the war in Ukraine

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ABSTRACT

Background: The full invasion of Ukraine by Russia in 2022 has created a situation of sustained stress for the Ukrainian population. Initial surveys indicate that Ukrainians have experienced elevated rates of anxiety, depression, and posttraumatic stress disorder (PTSD) since the onset of the war. Most research has focused on adults and there is relatively less study on children and adolescent mental health. Research that has been conducted is limited by (a) predominant reliance on parent reports of children's mental health, (b) biased sampling, (c) lack of integrated child and caregiver reports, and (d) cross-sectional designs.

Method: The Ukrainian Families Navigating Insecurity, Trauma, and Yielding Strength (UNITY) initiative is a nationally-representative longitudinal cohort study of mental health in Ukrainian children aged 8-16 years. Children ($N = 3,000$) will be recruited via schools from 22 oblasts across Ukraine. Sampling will be stratified from regions with high, medium, and low exposure to Russian attacks during the war. Recruitment will be stratified according to 8-12 and 13-16 years of age (on a 1:1 basis), gender of children (1:1), and urban vs. rural region (1:1). One caregiver of the child participant will also be assessed. Children will be assessed for anxiety, depression, PTSD, prolonged grief, externalizing problems, suicidality, positive affect, social and family support, posttraumatic cognitions, somatic symptoms, functioning, and posttraumatic growth. Caregivers will be assessed for family exposure to traumatic events, psychological distress, prolonged grief, psychological wellbeing, parenting practices, hope, and positive affect. The UNITY study will initially be conducted over three waves, with the expectation of ongoing collection following the war. The protocol was pre-registered at <https://archive.org/details/osf-registrations-n62gy-v1>.

Discussion: The UNITY study will provide much-needed evidence regarding the mental health needs of young Ukrainians and their families, and the factors that moderate psychological adjustment during and after the war.

Comprender las necesidades de salud mental en Ucrania: protocolo para un estudio longitudinal sobre la salud mental en niños y cuidadores durante la guerra en Ucrania

Antecedentes: La invasión a gran escala de Ucrania por parte de Rusia en 2022 ha generado una situación de estrés sostenido para la población ucraniana. Los estudios iniciales indican que los ucranianos han experimentado tasas elevadas de ansiedad, depresión y trastorno de estrés postraumático (TEPT) desde el inicio de la guerra. La mayoría de las investigaciones se han centrado en adultos, y existen relativamente menos estudios sobre la salud mental de niños y adolescentes. Las investigaciones realizadas presentan limitaciones debido a (a) la dependencia predominante de los reportes de los padres sobre la salud mental de sus hijos; (b) el sesgo en el muestreo; (c) la falta de reportes integrados de niños y cuidadores; y (d) el uso de diseños transversales.

Método: La iniciativa Ukrainian Families Navigating Insecurity, Trauma, and Yielding Strength (UNITY) es un estudio de cohorte longitudinal representativo a nivel nacional sobre la salud mental de niños

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Ukraine; children; adolescents; epidemiological; mental health

PALABRAS CLAVE

Ucrania; niños; adolescentes; epidemiología; salud mental

HIGHLIGHTS

- The war in Ukraine has placed enormous psychological strain on young Ukrainians.
- The UNITY study is a longitudinal survey of mental health in children and their caregivers.
- This study will yield longitudinal evaluations of children's and caregivers over multiple waves.

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ucranianos de entre 8 y 16 años. Los niños ($N = 3.000$) serán reclutados a través de escuelas de 22 provincias de Ucrania. El muestreo se estratificará según regiones con alta, media y baja exposición a los ataques rusos durante la guerra. El reclutamiento se estratificará según grupo etario (8–12 y 13–16 años, en una proporción de 1:1), el género de los niños (1:1) y la región de procedencia urbana o rural (1:1). También se evaluará a un cuidador de cada niño participante. Los niños serán evaluados en cuanto a ansiedad, depresión, TEPT, duelo prolongado, problemas de externalización, suicidalidad, afecto positivo, apoyo social y familiar, cogniciones postraumáticas, síntomas somáticos, funcionamiento y crecimiento postraumático. Los cuidadores serán evaluados respecto de exposición familiar a eventos traumáticos, malestar psicológico, duelo prolongado, bienestar psicológico, prácticas de crianza, esperanza y afecto positivo. El estudio UNITY se llevará a cabo inicialmente en tres fases, con la expectativa de continuar la recolección de datos tras la guerra.

Discusión: El estudio UNITY proporcionará evidencia muy necesaria sobre las necesidades de salud mental de los jóvenes ucranianos y sus familias, y sobre los factores que influyen en la adaptación psicológica durante y después de la guerra.

The full invasion of Ukraine by Russia in February 2022 has resulted in relentless stressors upon the Ukrainian population. Numerous studies of people in Ukraine indicates the elevated rates of anxiety, depression, and posttraumatic stress disorder (PTSD) (An et al., 2025; Hutul et al., 2026; Hyland et al., 2023; Kurapov et al., 2023). Most research on this issue has focused on adults; however, the war in Ukraine has also created psychological stressors for children and adolescents. Since the onset of hostilities, young Ukrainians have been exposed to constant threat of bombings, frequent air raid sirens and need to hide in shelters, exposure to a range of traumatic events, internal displacement, separation from social networks, disruption of daily life, and chronic insecurity, all of which contribute to increased mental health needs. In addition, the mandatory mobilization of men in Ukraine for military service has resulted in many children being separated from fathers, many of whom are injured or killed. Evidence from conflict and humanitarian settings consistently demonstrates that children exposed to war are at heightened risk of developing a range of psychological difficulties, including PTSD, anxiety, depression, and behavioural problems (Betancourt et al., 2013; Kadir et al., 2019).

Emerging research suggests that the stressors of the war are taking a toll on the psychological wellbeing of children and adolescents. It should be noted that the majority of evidence comes from studies that obtain parents' reports of their children's mental health rather than direct self-reports from children (McElroy et al., 2024). For example, one study in Ukraine based on parents' reports of children aged 7–17 years found elevated rates of anxiety/depression (24.1%) and PTSD (17.6%) (Naem et al., 2025). As a result of the massive loss of life in the war, some attention has also been given to Prolonged Grief Disorder (PGD), which only observed PGD in 1.4% of children aged 7–17 years; this study was limited, however, by reliance on

caregiver reports (Redican, Shevlin, et al., 2024). In contrast to these studies that relied on parents' reports, one investigation of Ukrainians aged 11–17 years found elevated self-reported rates of PTSD (16.0%), severe depression (10.5%), and suicidality (17.7%) (Sourander et al., 2026). Another large study using self-reports of Ukrainian adolescents found that 32.0% had moderate or severe depression, 18% had moderate or severe anxiety, 35.0% for probable PTSD (Goto et al., 2024). Although prior to the full invasion, another study that assessed mental health in adolescents in war-affected Donetsk and less-affected Kirovograd region found that those in Donetsk were more likely to have PTSD (odds ratio: 4.11), severe anxiety (OR, 3.10), and moderate/severe depression (OR, 2.65) (Osokina et al., 2023). Another seldom-studied problem is conduct problems in children, with elevated rates reported in one study in which children self-reported externalizing problems (Burlaka et al., 2025), a behaviour that has been identified as often better to measure via caregiver report (De Los Reyes et al., 2022).

A recent scoping review of studies of mental health in young Ukrainians since the invasion highlighted a range of significant limitations in our current knowledge (Silwal et al., 2026). The current knowledge regarding mental health of young Ukrainians is limited by focus on cross-sectional designs (Burlaka et al., 2025; Halchenko et al., 2024; Karamushka et al., 2022), and lack of integrated child-caregiver reports of mental health (McElroy et al., 2024; Pfeiffer et al., 2024; Redican, Sachser, et al., 2024). Further, there is a lack of integrated child and caregiver self-reported data, nationally representative studies, and direct assessments of children under the age of 10 years.

In this context, the Nadija Research Foundation was established as a not-for-profit institute to foster high-quality research with the aim of promoting a stronger evidence base to understand the mental

health needs of young Ukrainians during and after the war. This Foundation is focused on developing empirical findings that can shape the future planning of mental health interventions to mitigate mental health problems in young Ukrainians. The first project supported by the Foundation was the Ukrainian Families Navigating Insecurity, Trauma, and Yielding Strength (UNITY) initiative, which is a nationally-representative longitudinal cohort study of mental health in Ukrainian caregivers and their children. The aim of this project was to address limitations in previous surveys of mental health in young Ukrainians by establishing a longitudinal cohort that included children, adolescents, and caregivers.

The UNITY study aimed to measure by integrated self-report and caregiver report assessments of key problems experienced by children and adolescents, including anxiety, depression, PTSD, externalizing problems, suicidality, and prolonged grief. The project also aimed to index factors that may moderate mental health outcomes in young Ukrainians. There is strong evidence that cumulative trauma exposure, including direct exposure to death and injuries, repeated threats from drone attacks, and knowledge of people being killed, which can increase the likelihood and severity of mental health disorders in children (Slone & Mann, 2016). Forced migration can also disrupt access to education, healthcare, and social support networks, all of which are critical protective factors for mental well-being (Fazel et al., 2012; Reed et al., 2012). Consistent with this, refugee and internally displaced children experience higher rates of depression, anxiety, and PTSD compared to non-displaced peers (Blackmore et al., 2020). Conversely, social support can be a buffer against the effects of adversity (Bryant, 2023). Family dynamics are also critical in shaping children's mental health during war. There is much evidence that parental psychopathology in trauma-exposed populations, such as psychological distress and prolonged grief, is associated with poorer child mental health, including in Holocaust survivors (van Ijzendoorn et al., 2003) and refugees (Bryant et al., 2021; Lambert et al., 2014). Underscoring this association is evidence that trauma experiences can lead to parents' mental health problems contributing to parenting practices, which can in turn adversely impact child mental health (Bryant et al., 2018). Finally, hope and positive affect can buffer the effects of adversity (Sewart et al., 2019), and also worth studying as potential moderators of mental health during the war. Each of these factors guided the choice of measures used in this cohort study, aiming to encompass both factors that contribute to mental health problems and also serve to buffer against the potential harm caused by adverse experiences.

1. Methods

1.1. Participants

Participants will be recruited from 22 oblasts across Ukraine. Sampling will be stratified from regions with high, medium, and low exposure to Russian attacks during the war (which will be defined by proximity to the front lines, and intensity of missile/drone attacks). Participants will be eligible for inclusion if: (1) they are a child between 8–16 years during the time of initial recruitment in Wave 1, (b) having a primary caregiver who can provide legal consent; and (c) living in Ukraine at the time of the survey. Recruitment will be stratified according to 8–12 and 13–16 years of age (on a 1:1 basis), gender of gender (1:1), and urban vs. rural region (1:1). On the premise that the point prevalence of probable anxiety, depression, and PTSD would be approximately 5%, we would require 1,881 participants ($Z = 1.99$, $p = .05$, $d = .01$); to accommodate attrition in subsequent waves we recruited an initial sample of 3,000 children and adolescents. Ethical approval has been obtained from the Danylo Halytsky Lviv National Medical University.

1.2. Measures

If available, validated instruments were used (Table 1). All other measures were translated and back-translated following gold-standard translation practices. Pilot testing of the research instrument will be conducted prior to main data collection to identify ambiguities and ensure reliability.

Table 1. Summary of assessment measures.

Construct	Measure
Child-Report Measures	
Anxiety	Spence Child Anxiety Scale
Depression	Mood and Feelings Questionnaire
PTSD	Child Revised Impact of Events Scale
Prolonged Grief	Traumatic Grief Inventory – Kids
Positive Affect	Positive and Negative Affect Scale
Posttraumatic Cognitions	Child Posttraumatic Cognitions Scale
Social Support	Pediatric Social Relationships Scale
Family Support	Longitudinal Study of Australian Children
Posttraumatic Growth	Posttraumatic Growth Scale
Parent-Report Measures	
Socio-demographic factors	
Trauma checklist	
Psychological distress	Kessler Distress Scale
Wellbeing	World Health Organization Wellbeing Scale
Parenting	National Longitudinal Survey of Children and Youth
Child externalizing problems	Disruptive Behavior Scale
Child disability	Child Disability Scale
Optimism	Hope Scale
Child somatic symptoms	Somatic Scale
Prolonged Grief	Prolonged Grief Scale
Positive Affect	Positive and Negative Affect Scale

1.3. Child-reported measures

Child anxiety is measured using the shortened version of the 8-item Spence Child Anxiety Scale (SCAC-8), which are scored on a 4-point scale (0 = *never*, 3 = *always*), with probable anxiety being operationalized as scores of ≥ 5.5 for boys ≥ 7.5 for girls (Reardon et al., 2018). Child depression is assessed using the short form of the Mood and Feelings Questionnaire, a 13-item measure on which participants respond on 3-point scale (0 = *not at all*, 2 = *true*), with scores of ≥ 12 indicative of probable depression (Angold et al., 1995). Probable PTSD will be assessed using a 4-item version of the Children's Revised Impact of Event Scale to measure probable PTSD (Perrin et al., 2005), on which items are scored on a 4-point scale (0 = *not at all*, 5 = *often*); a score of 9 is the pro-rated cut-off for probable PTSD. Suicidality is assessed using a 3-item scale developed for this study that indexed suicidal thoughts and intent (e.g. thoughts of killing self, thoughts family better off without me) on a 3-point scale (0 = *not true*, 1 = *sometimes*, 2 = *true*); a score of 1 is used as presence of suicidality. Prolonged grief disorder will be assessed using the 6-item Prolonged Grief Disorder Short Form for Youth (PGD-SF (Layne et al., 2023)), on which each item is scored on a 5-point scale (0 = *none of the time*, 1 = *all the time*) and a score of 9 is indicative of probable PGD (Oosterhoff et al., 2023). To ensure that the assessment of probable PGD aligns with ICD-11 criteria for PGD, an additional item was added that directly assessed yearning for the deceased. Probable PGD in children will be defined as endorsing yearning (at least *a lot of the time*), as well as the prescribed score of ≥ 9 on the PGD-SF.

Regarding factors that may moderate or buffer mental health, positive affect will be measured using the 5-item version of the short form of the Positive and Negative Affective Schedule (PANAS), which asks adolescents to indicate the extent to which they experience positive states (*joyful, proud, happy, lively, full of energy*) on a 5-point scale (1 = *never*, 5 = *all the time*) (Ebesutani et al., 2012). Social support will be assessed using 3 items from the 6-item Emotional Support subscale and 3 items from the 6-item Friendship subscale of the Pediatric Social Relationships Scale (Dietz et al., 2022). Family support will be assessed using a 3-item measure adapted from the Longitudinal Study of Australian Children that assesses the extent to which children feels loved and cared for by their family on a 3-point scale (0 = *not at all*, 2 = *true*) (Australian Institute of Family Studies, 2007). Maladaptive appraisals pertaining to traumatic experiences will be measured using the 4-item 'fragile person' subscale of the Child Posttraumatic Cognitions Scale, which are

scored on a 4-point scale (1 = *not at all*, 4 = *a lot*) (McKinnon et al., 2016). To measure posttraumatic growth, we adapted the 10-item Posttraumatic Growth Scale (Kilmer et al., 2009) to a 6-item measure that was scored on a 4-point scale pertaining to how much they have changed since the war (e.g. *I can now handle big things better than I used to*; 0 = *no change*, 3 = *a lot*).

1.4. Caregiver-Reported measures

Caregivers will provide a broad range of demographic factors pertaining to both the child and caregiver, including displacement, mobilization of father into military service, and wellbeing of the father. Caregivers will complete a dichotomous measure checklist of traumatic events the child has been exposed to since the invasion; to reduce the burden of the assessment, this measure will be used as a proxy for family trauma, including caregiver exposure. To measure externalizing and disobedient behaviour, caregivers will complete a 10-item version of the 17-item Disruptive Behaviour International Scale (Burkey et al., 2018). Each item was scored on a 4-point scale (0 = *never*, 3 = *very often*), with a prorated cut-off of ≥ 10 indicating probable disruptive behaviour. Children's functioning will be assessed with the caregiver-reported 3-item Child Disability Scale, which scores the extent to which children's distress is interfering with school, social activities, and home life; each question is scored on an 11-point scale (0 = *not at all*, 10 = *very much*), with scores ≥ 5 on each subscale being indicative of impairment (Whiteside, 2009). Children's somatic complaints will be assessed by caregiver reports on the 8-item version of the Children's Somatic Symptoms Inventory (CSSI-8), on which common physical symptoms (e.g. stomach pains, headaches, weakness) are scored on a 5-point scale (0 = *not at all*, 4 = *a lot*) (Stone et al., 2024).

To assess caregiver psychological distress, they will complete the 10-item Kessler Distress Scale (K10), which is scored on a 5-point scale (1 = *none of the time*, 5 = *all of the time*); severe mental disorder is operationalized as scores of ≥ 30 (Kessler et al., 2002). Caregiver wellbeing will be assessed with the 5-item World Health Organization Wellbeing Scale (WHO5) (Topp et al., 2015). An 8-item measure of parenting will be used on which each item is scored on a 4-point scale (0 = *never*, 3 = *always*), adapted from the National Longitudinal Survey of Children and Youth (Kingsbury et al., 2020). This scale will comprise subscales measuring negative parenting (e.g. yelling at child, using physical punishment). Prolonged grief in caregivers will be measured by asking if they had experienced a bereavement, their relationship to the deceased, and how long ago it occurred. They will also be administered a shortened 5-item version of the PG-13-Revised (PG-13-R;

Prigerson et al., 2021), which measures core symptoms of PGD. Participants will respond on a 3-point scale (1 = *not at all*, 3 = *extremely*), with higher scores indicating more severe grief symptoms. Probable PGD will be operationalized in line with ICD-11 criteria, such that a person needed to indicate that they experience yearning for the deceased at an extreme level, as well as at least two of the four other grief symptoms at an extreme level. To measure caregivers' hope, they will complete a 6-item version of the 12-item Dispositional Hope Scale, which comprises Pathway (having awareness of a route to meet one's goals) and Agency (sense of ability to follow the route to one's goals) (Snyder et al., 1991); each item is scored on an 8-point scale (1 = *definitely false*, 8 = *definitely true*), with higher scores indicating greater pathways and agency, respectively. To measure positive affect in caregivers, they will complete the same 5-item positive subscale of the PANAS.

1.5. Procedure

All data collection will be collected by the FAMA Custom Research Agency in Ukraine (<https://fama.agency/en/>). FAMA will initially seek permission from regional education authorities to contact schools in the relevant oblasts and regions to participate in the study. From the pool of schools who agree to participate, a process will randomly select schools that are representative of threat region and urban/rural status. Caregivers of children aged 8–16 years in the selected schools will be contacted via the school's chat room. If more than one child is eligible in the family unit, the younger child will be selected to participate. The identity of the caregiver will be the person who is registered with the school as the child's guardian at the time of the survey. Potential participants will initially watch a 1-minute video explaining the reasons for the survey, the nature of the questions, and instructions for completion of the survey. Caregivers will discuss participation with their child, and then complete informed consent for the dyad. All assessments will be conducted online by having the caregiver receive a link via the school's chat room. All participants will be recruited UAH50 per assessment, and were also enrolled in a lottery to potentially win prizes.

The UNITY cohort study is initially expected to be conducted over three waves, with Wave 2 being approximately six months after Wave 1. It is hoped that funding will allow for ongoing waves, including after the war ends or a ceasefire occurs, to shed light on potential links between war-time and post-war experiences and adjustment.

2. Ethics and participant safety

Ethical approval for this study has been obtained from the Danylo Halytsky Lviv National Medical

University. The study is conducted in accordance with the Declaration of Helsinki and applicable Ukrainian regulatory requirements. Written informed consent is obtained from a parent or legal guardian prior to participation. Participation is entirely voluntary and families may withdraw at any time. All data are collected anonymously; no school names or personally identifying information are recorded in survey responses. Contact information for longitudinal follow-up is stored separately from survey data and protected by encryption. Given that suicidality is assessed directly in children, all families are informed of acute services available to address crisis situations. The project website includes a prominently displayed section with contacts for psychological support lines, and the FAMA Research Agency has protocols in place for referring participants who indicate acute distress. All data will eventually be shared on public repositories.

3. Discussion

The UNITY cohort study has several notable strengths. It is the first nationally representative longitudinal study of child and adolescent mental health in Ukraine during active conflict, covering the 8–16 years age range with stratified sampling across 22 oblasts and across high-, medium-, and low-risk regions. The dual-informant design – obtaining child and paired caregiver reports on different constructs – is a significant methodological advance over prior Ukrainian research. Consequently, it enables analyses of intergenerational transmission of distress, parenting mediators, and family protective factors. The comprehensive measurement battery captures not only psychological symptoms but also specific moderators and resilience factors, potentially informing intervention and policies. The longitudinal cohort design allows tracking of mental health trajectories across the course of the war and into the post-war period.

Several limitations should be acknowledged. First, the push-to-web methodology, while appropriate given the wartime context, relies on internet access and school participation networks, which may introduce selection bias toward more stable, better-resourced families. Second, because recruitment proceeds through school networks, the most severely affected children – including those who have dropped out of education, experienced multiple displacements, or lost their caregiver – may be underrepresented, potentially leading to underestimation of mental health burden at the population level. Third, all child and caregiver measures are based on self-report with no clinical interview, potentially introducing a bias into responses. Fourth, attrition across waves is expected and may be non-random: families more severely affected by the conflict may be more likely

to drop out of the longitudinal follow-up, potentially leading to survivorship bias in later waves. Fifth, numerous measures used abridged or adapted versions of established scales, and many lack full psychometric testing in Ukraine. Finally, we rely on caregivers to report on certain constructs and child trauma exposure, however, this may not accurately reflect children's experiences; this approach was taken to reduce burden on the children and it is recommended especially for younger children (Creswell et al., 2021).

There is an important public health need to understand the changing mental health needs of young Ukrainians during and after the Russian invasion. The UNITY cohort study will provide the first nationally representative study of young Ukrainians during the conflict. It will have the advantages of a broad age range (8–6 years), obtain children's self-reports of mental health, collect reports from both children and their caregivers, measure moderators of mental health, and achieve longitudinal data collection. The resulting data will provide important insights into how children, adolescents, and families adjust to the chronic stressors of war, and also inform future policies for addressing mental health needs in Ukraine. The UNITY study extends this research by directly addressing the methodological and substantive gaps that have constrained existing work.

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Author contributions

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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Pre-registration

Study is pre-registered at <https://archive.org/details/osf-registrations-n62gy-v1>.

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