



Developing a Culturally Relevant Measure of Resilience for War-Affected Adolescents in Eastern Ukraine

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DEVELOPING A CULTURALLY RELEVANT MEASURE OF RESILIENCE FOR WAR-AFFECTED ADOLESCENTS IN EASTERN UKRAINE

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ABSTRACT

Psychosocial support in education that is provided during emergencies frequently aims to support children's resilience, but strong, contextual measures of resilience are in short supply in Eastern Europe. In this article, our aim is to describe the development and psychometric properties of the first measure of resilience for war-affected adolescents in Eastern Ukraine. We used qualitative methods to identify the main cultural characteristics of resiliency and then used these constructs to develop the measure. We used exploratory structural equation modeling to extract five factors that showed high internal consistency: family support ($\omega=0.89$), optimism ($\omega=0.87$), persistence ($\omega=0.87$), health ($\omega=0.86$), and social networking ($\omega=0.87$). Confirmatory factor analysis suggested that a concise model of resiliency fit the data almost as well as the exploratory structural equation modeling model. The measure demonstrated good test-retest reliability. In this article, we also discuss the importance of development, validation, and the use of culturally relevant measures of resilience for strengthening psychosocial support programs in schools, particularly in Ukraine.

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INTRODUCTION

In March 2014, amidst political upheaval in Ukraine, Russia invaded and annexed Crimea; these actions were followed by ongoing military conflict among Russia-supported separatists and Ukrainian military forces in Eastern Ukraine. These events resulted in significant social and economic disruption and dislocation (United Nations Refugee Agency n.d.; World Health Organization 2016), with many individuals and families experiencing significant trauma and violence. In addition to significant veteran casualties and injuries, 3,344 civilians (including children) have been killed and more than 7,000 injured since the start of the conflict (United Nations Office of the High Commissioner for Human Rights 2019). Currently, more than 1.5 million people in Ukraine are identified as internally displaced persons (United Nations Refugee Agency: Ukraine 2019). When children grow up in such a context of instability, their ability to overcome exposure to ongoing stress is negatively affected and they may experience long-term health consequences (Ehnholt and Yule 2006; Miller and Rasmussen 2010; Shonkoff et al. 2011; Werner 2012).

A recent survey (Bogdanov, Kovalevskaya et al. 2017) of 466 randomly selected schoolchildren living within five kilometers of the frontline zone in the Donetsk region of Ukraine revealed that the children were very negatively affected by exposure to trauma, which included seeing tanks and other military machines and experiencing shooting or explosions. As a result, a prevailing number of the children surveyed reported suffering effects such as feeling slightly or deeply frightened, having difficulty concentrating, and experiencing impaired sleep. Approximately a quarter of the students reported needing adult support to feel more secure and less worried.

When our work began, there was little scientific evidence that could point to resilience assets specific to the children living in the war zone in Eastern Ukraine. Despite the resilience scales already developed and tested in different cultural contexts (He and van de Vijver 2015; Tol, Song, and Jordans 2013; Windle, Bennett, and Noyes 2011), only a few that measure certain aspects of resiliency, such as the Strength and Difficulties Questionnaire (Goodman, Lamping, and Ploubidis 2010), have been used to measure the effectiveness of psychosocial programs in Ukraine (Bogdanov, Kovalevskaya et al., 2017; Bogdanov, Zalesska, and Basenko 2019). The CYRM-28, one of the most promising resilience measures for youth that embeds the process of cultural adaptation, which we considered adapting to the Ukrainian context, has been successfully adapted and validated with various cultures across the world (Liebenberg, Ungar, and Van De Vijver

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2012; van Rensburg, Theron, and Ungar 2019), specifically in low- and middle-income countries (Kaunda-Khangamwa et al. 2020; van Rensburg et al. 2019). This measure, which has a three-factor structure (individual, relational, and contextual), includes a local functioning scale that offers the possibility of contextualizing it to specific cultures and environments (Ungar 2016). Despite the value of using the CYRM-28, the results of its factor analysis demonstrate some inconsistencies in the underlining constructs (Liebenberg, Joubert, and Foucault 2017; van Rensburg et al. 2019). Using this measure may have resulted in unanswered questions about silent resilience factors, which could considerably change our understanding of locally defined concepts of resilience. Another problem of measuring resilience is that, even with well-developed measures such as the CYRM-28, there is the possibility of bias that comes from not including children's perspectives (Ungar 2016), even though resilience researchers are called on to develop local measures from the users' perspective (Betancourt et al. 2013).

Accurate psychosocial research and appropriate service delivery require reliable, valid, and useful measurement tools. The literature repeatedly calls attention to the high need for validated resiliency measures for the purposes of program implementation (Clauss-Ehlers 2008; Windle, Bennett, and Noyes 2011), especially in emergency settings. These kinds of measures for use with conflict-affected populations are frequently lacking, owing to the difficulty and cost of local adaptation and testing. To address this literature gap, we describe in this article the academic-practitioner work of the National University of the Kyiv-Mohyla Academy and its diverse partners in Ukraine. Our aim was to develop a contextualized concept and measure of resilience that applies to war-affected adolescents in Eastern Ukraine. In the remainder of this article, we describe our use of qualitative and statistical methods to create and validate a local resilience questionnaire; discuss a local concept of resilience; and make suggestions for the development of future psychosocial programs in Ukraine.

DEFINING AND MEASURING RESILIENCE

Education is a fundamental right and a high priority for children in all humanitarian settings. Because many children living in conflict zones are affected by their war experiences, losses, displacement, and insecurity (e.g., Sagi-Schwartz 2008), school-based psychosocial support (PSS) serves to enhance the wellbeing of children and adolescents while also enabling them to learn (Ager et al. 2011; Jordans, Pigott, and Tol 2016; Jordans et al. 2010). The field of PSS in emergency settings increasingly recognizes the importance of avoiding deficit-focused

approaches to education and working to strengthen the resilience of war-affected children, as well as their families, teachers, school personnel, etc.

One challenge in modern resilience science is the inconsistency in the literature regarding how resilience is defined and measured (Masten 2018). Many definitions of resilience are continually revised, indicating the continuing development of this field. Most of these definitions feature the roles of adaptive functioning and problem-solving in the face of significant adversity. When confronted with adversity, individuals rely on their resources and strengths to actively navigate and engage with their social environment. Generally speaking, resiliency is defined as a trait, an outcome, a process, or an overall domain that reflects all of these concepts. Others have defined resilience as the ability to adapt positively to hardship or challenges (Masten 2018). Based on extensive empirical research, Rutter (2006, 2012) discussed children's resilience as a positive psychological outcome in various risk situations. These findings suggest that resilience is not exemplified by the superior functioning of a "superkid"; instead, they emphasize that different environments lead to differences in children's responses to adversity.

Masten (2007, 2018) offered a different conceptualization, describing resilience as individual- and family-centered concepts from the framework of systems theory. From Masten's theoretical point of view, childhood resilience is not a single and stable personal trait but the result of dynamic interactions across and between interacting systems (Masten 2007), which could be extended to include community systems. Other authors similarly note the importance of environment: Werner (1996) took a socioecological perspective of resilience, describing protective factors at the individual, family, and community levels, and Luthar (Luthar, Cicchetti, and Becker 2000; Luthar and Brown 2007) identified resilience as an interaction between a child and their environment. Ungar (2013), who discussed resilience as a phenomenon and a process that arise from the interaction between the individual and their environment, also specified the critical role the environment plays, due to its ability to provide individuals and groups with access to protective factors and support resources. Ungar (2008, 2011, 2013) emphasizes that these interactions are always influenced by the specific context and culture.

The current literature attempts to identify factors of child and adolescent resilience that are similar across situations and cultures. While some commonalities exist, it is also clear that resilience is affected by specific cultural contexts and by a dynamic interplay of many variables (Tol et al. 2013; Ungar 2008). The dominance of Western-based ideas about what resilience is and how it can be measured limits our understanding of silent cultural factors and creates bias toward psychosocial

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intervention goals in war-affected regions (Kaunda-Khangamwa et al. 2020; Ungar 2013). Building consensus on key definitions of resilience, specifically understanding the effects exposure to trauma has on developmental outcomes, will enable researchers to build models that differentiate the main protective and promotive factors at different socioecological levels, which is crucial to promoting best outcomes in high-risk situations (Betancourt et al. 2013; Garmezy 1991; Masten 2007; Peltonen et al. 2014). On the one hand, existing evidence conclusively supports the notion that children exposed to conflict are able to negotiate negative outcomes using similar strategies across contexts and cultures, such as seeking parent and peer support, relying on their cognitive skills and self-regulation, a sense of faith and hope, and on their self-efficacy, acculturation, and prosocial skills (Cicchetti 2010; Masten 2007; Tol et al. 2013). Previous exposure to trauma also must be considered, in addition to gender and developmental periods, by studying individual differences in responding to adverse events (Cicchetti 2010; Masten 2018). On the other hand, researchers still look for explanations of how different learning environments, as represented by parenting beliefs, behavioral strategies, and socialization goals, can shape the developmental consequences of a growing child (Keller and Otto 2009).

The challenges associated with operationalizing the construct of resiliency is closely linked with the development of valid, culturally relevant, and practicable psychometric scales for measuring resilience. Although the development and validation of such measure are critical in diverse contexts to ensure that constructs are appropriately described and identified (van de Vijver and Leung 2000), few contextualized measures of resilience have as yet been developed.

CONCEPT AND INSTRUMENT DEVELOPMENT

MIXED METHODS APPROACH

In order to understand the concept of resilience in Ukraine from the ground up (an inductive rather than an a priori approach), we designed a mixed methods study to first identify local understanding of resilience and subsequently to inform the novel resilience instrument.

CONTEXTUALIZATION OF A LOCAL RESILIENCE CONSTRUCT:
QUALITATIVE METHODS

We conducted an initial qualitative study that aimed to explore assets in a local resilience construct and inform the validation study. We conducted the study in Pokrovsk (formerly Krasnoarmeysk), which is located within the security buffer zone controlled by the Ukrainian government (Bogdanov, Girnyk, Lasorenko et al. 2017). Sixty-seven children between the ages of 9 and 18 participated. We obtained parental consent and participant (i.e., child) assent before conducting the interviews. We used free listing (i.e., listing the different responses to each question and associating interviewee identification numbers next to each response) (Weller and Romney 1988) to produce brief textual responses via semistructured interviews (Table 1), and we completed our analysis by identifying the central themes (i.e., coding) revealed by grouping texts and running frequencies for each code. Specifically, respondents listed everything related to a child's characteristics, resources, or abilities that help them overcome stressful life events. Our analysis of these descriptions revealed the following resiliency categories: happy (n=32), communicative (n=21), optimistic (n=10), family support (n=10), helpful (n=10), curiosity and intelligence (n=8), and persistence (n=7). These Ukrainian children described attempting to cope with traumatic stress by engaging in pleasant activities such as developing hobbies, looking for support from their parents and friends, and using positive thinking. We also identified two negative strategies for coping with stress, namely, isolation and conflict with others. These categories were subsequently included in the measure's items. We also conducted ten focus groups (total N=53) with young adolescents in order to gain detailed information about the selected resilience categories identified in the free-listing interviews.

Table 1: Questions Included in the Qualitative Study

Open-Ended Questions	
1	What are the main problems facing families living here in the conflict area?
2	How would you describe children who are feeling well and are growing and developing well, in spite of the many problems they face?
3	How would you describe a child who is in a state of sadness or despondency?
4	What do children (such as you) who live in the buffer zone do to take care of themselves and others?
5	How do children (such as you) cope with sadness? What else can help children in a state of sadness or despondency?
6	What can adults do to alleviate grief or sadness in children?"

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The resulting model of local adolescent resiliency included 12 characteristics: family support, helping others, communicating with friends, conflict with others, networking skills, isolation, happiness, optimism, physical health, self-confidence, persistence, and curiosity. All the categories represented two levels of socioecology, relationship and individual; family support, helping others, communicating with friends, and conflict with others were at the relationship level, and the rest of the components were specific to the individual level. Interestingly, their relationships with teachers and school performance were not mentioned during either the free-listing interviews or the focus group discussions; thus, we did not include these categories in the model. Any macro-level characteristics, such as community traditions, rituals, religion, or spirituality, did not appear in the qualitative results. We can speculate that the absence of contextual variables common in other countries affected by war (Cortes and Buchanan 2007; Eggerman and Panter-Brick 2010) is a result of the local culture in Eastern Ukraine. Historically, this geographic region was shaped as individuals of various Slavic nationalities moved into the Donbass region. Over time, the local spiritual traditions were replaced with an impersonal proletarian culture, especially during the time of the Soviet Union (Kusina n.d.). The physical health factor expressed in one child's comment that they were "in strong body, strong spirit" might be the closest representation of perceived spirituality.

We developed a pool of 146 items, based on the initial model of youth resiliency. We added 11 questions to test consistency in the participants' responses. We used a Likert-type scale (5=not at all true, 4=somewhat not true, 3=true as much as false, 2=somewhat true, 1=completely true).

VALIDATION STUDY SAMPLE AND PARTICIPANT DEMOGRAPHICS:
QUANTITATIVE METHODS

In the initial validation study, 218 participants living in the military zones in Ukraine completed the measure. The mean age of participants was 13.98 years old (SD=1.3; age range 12-17). More than half (57.3%) of the sample identified as female. All the children were recruited from five schools located in the city of Pokrovsk. The validation study sample was different from the qualitative survey sample, but both represented a similar population that included children from Pokrovsk and children of internally displaced persons. To limit the burden of an already lengthy assessment, we did not ask these children to complete a checklist of adverse life events.

FACTOR ANALYSIS

The initial number of categorical variables was too large to conduct an exploratory factor analysis (sample size of 218 observations), so there was a clear need for a feature selection procedure to reduce it substantially. To this end, we computed a 146x146 matrix of Pearson product-moment correlations of items, and for each item we counted the number of correlations with other items that exceeded a value of 0.5 (the threshold for the large correlational effect size proposed by Jacob Cohen (1992)). For the subsequent analysis, we retained only items with two or more large correlations. This decision assumed that at least three variables are required to identify a factor. Variables with fewer and weaker correlations were less likely to form a stable interpretable latent dimension.

We performed all confirmatory factor analyses (CFA) with Mplus 8.4 using a weighted least square mean and variance adjusted (WLSMV) estimator. We tested a series of four competing models (see Table 2). Model 1 was a unidimensional model, where all items were indicators of a general factor of resilience. Model 2 was based on five factors that were allowed to correlate. Model 3 was the conventional higher order model, with five first-order factors and one second-order general factor. Model 4 was the corresponding bifactor model, which allowed each item to load simultaneously onto the general factor and onto its corresponding index factor. Correlations of general and specific factors were fixed at 0 in the model.

Table 2: Comparison of CFA Models

Model	df	χ^2	RMSEA	CFI	TLI	SRMR
Unidimensional	324	1510.9	.131	.776	.758	.126
Correlated Factors	311	509.6	.055	.963	.958	.060
Second Order	316	542.6	.058	.957	.953	.067
Bifactor	294	524.3	.061	.957	.948	.062

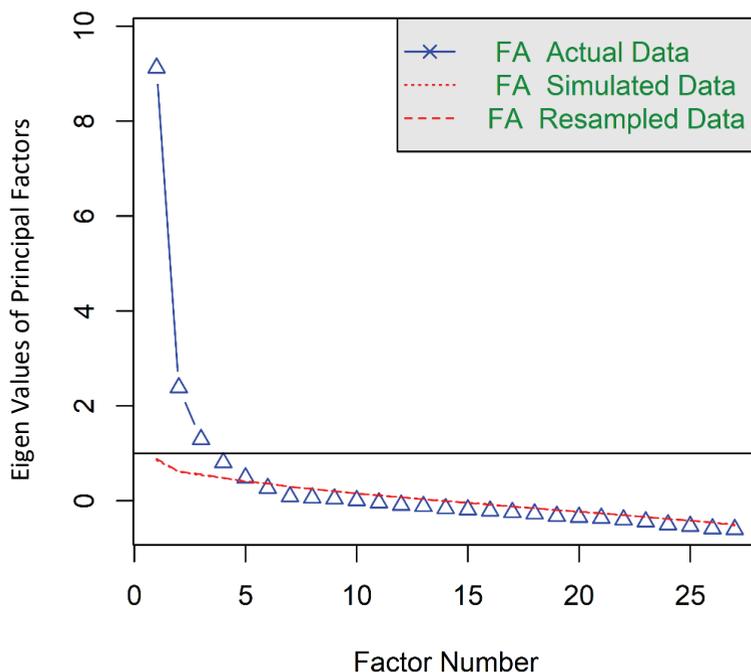
We calculated estimates of internal consistency for each factor using McDonald's ω , and we assessed test-retest reliability on a separate small sample of 31 respondents.

RESULTS

Analysis of the correlation matrix showed that, of 146 variables, 104 did not have a single high ($r>0.5$) correlation with the rest, and 15 had only one such relationship. The set of 27 highly correlated variables consisted of items with two to eight correlations greater than 0.5.

The results of dimensionality analysis were uncertain: index very simple structure complexity 1 achieved a maximum of 0.86 with one factor; very simple structure complexity 2 achieved a maximum of 0.93 with two factors; the Velicer's minimum average partial and empirical Bayesian information criterion achieved a minimum of 0.03 and -995.53, respectively, thus indicating that four factors should be retained. Sample size-adjusted Bayesian information criterion achieved a minimum of 3609.45 with 20 factors. Based on the results of a parallel analysis, we decided to extract five latent dimensions (see the scree plot in Figure 1).

Figure 1: Parallel Analysis Scree Plots



We performed the actual extraction of 5 factors for 27 categorical observed variables with Mplus, using the exploratory structural equation modeling procedure. Exploratory structural equation modeling is equivalent to the usual exploratory factor analysis with an WLSMV estimator and oblique Geomin rotation, but it allows for an estimation of additional parameters, such as error covariances. The obtained solution was good, with a small number of statistically significant cross-loadings, small modification indices for error covariances, and good model fit indices (RMSEA=.058 with 90% CI [.048, .068], SRMR=.036, CFI=.969, TLI=.952, $\chi^2=391.9$, $df=226$, $p<.0001$).

The estimates of reliability for the summated scales using model-based McDonald's ω were as follows: F1=0.89, 95% CI [.85, .92], F2=0.87, 95% CI [.84, .91], F3=0.87, 95% CI [.84, .90], F4=0.86, 95% CI [.82, .90], F5=0.87, 95% CI [.83, .90].

To test a simpler model with a minimal number of crossloadings, we conducted a CFA where each latent factor was measured by a limited number of the most important items. This more concise CFA model included only underscored loadings (see Table 3 for goodness-of-fit indices). Since exploratory factors have substantial correlations, their relationship can be explained in various ways. First, there can be one common factor behind all indicators of the resilience construct. To test this hypothesis, goodness-of-fit indices for the unidimensional model should be checked. Second, there may be a second-order factor that affects first-order factors. Finally, there may be a bifactor model that allows all items to load onto both the general factor and their respective specific factor directly. We present goodness-of-fit indices for these models in Table 3. We present parameter estimates and reliabilities (McDonald's ω and ω_h) for the model in Table 4.

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Table 3: ESEM Standardized Loadings and Factor Correlations of 27 Items

Item Number	Items	F1	F2	F3	F4	F5	R ²
Item 1	I know that my parents love me (Я знаю, что мои родители любят меня)	.93	.20	-.12	-.25	.02	.88
Item 2	My family is interested in what my favorite games and activities are (Моим родным интересно, какие у меня любимые игры и занятия)	.88	-.20	.11	-.03	.06	.73
Item 3	If I have problems, my parents usually talk to me, find out the reason, and help in a difficult situation (Если у меня проблемы, мои родители обычно говорят со мной, узнают причину и помогают в трудной ситуации)	.85	.00	.16	.11	-.31	.75
Item 4	Adults communicate with me, they can support and calm me (Взрослые общаются со мной, могут меня поддержать и успокоить)	.84	-.19	.23	.14	-.02	.81
Item 5	I have a good relationship with my family (У меня хорошие отношения в семье)	.77	.24	-.10	-.06	.01	.72
Item 6	My parents can listen to me without criticizing me (Мои родители могут выслушать меня и не критиковать при этом)	.72	.05	-.05	.09	.00	.59
Item 7	In any, even difficult situations, I find something to be happy about (В любой, даже сложной ситуации, я нахожу, чему можно порадоваться)	-.01	.69	.31	.03	-.14	.63
Item 8	I am cheerful (Я жизнерадостный)	.03	.56	-.04	.47	-.04	.72
Item 9	I love life despite the difficulties (Несмотря на трудности, я люблю жизнь)	.18	.55	.01	.31	.02	.72

Item Number	Items	F1	F2	F3	F4	F5	R ²
Item 10	I can enjoy everything and often smile (Я умею радоваться всему, часто улыбаюсь)	-.02	.51	.17	.37	.04	.73
Item 11	Overall, I'm a happy person (В целом, я счастливый человек)	.12	.53	.20	.12	.06	.61
Item 12	I know that everything will be fine (Я знаю, что все будет хорошо)	.23	.48	.06	.26	.01	.63
Item 13	I understand how to help myself when I see how others overcome difficulties (Я понимаю, как себе помочь, когда вижу, как другие преодолевают трудности)	.04	.00	.75	.21	-.10	.66
Item 14	When I strive for my goals, I am able to overcome difficulties (Когда я стремлюсь к своим целям, то я способен преодолевать трудности)	-.04	-.06	.69	.27	.03	.66
Item 15	I can unobtrusively get a person to talk, find out what happened to him (Я умею ненавязчиво разговорить человека, узнать, что с ним случилось)	-.02	.00	.69	-.01	.17	.60
Item 16	When the problem is too difficult, I try another approach (Когда проблема оказывается слишком трудной, я пробую к ней другой подход)	.21	.07	.77	-.13	.01	.68
Item 17	I am not afraid of criticism and always ready to substantiate my position (Я не боюсь критики и всегда готов обосновать свою позицию)	.10	.07	.63	.02	.10	.58
Item 18	I believe that I can find a way out of any situation (Я считаю, что из любой ситуации можно найти выход)	-.05	.36	.61	-.18	.15	.66

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Item Number	Items	F1	F2	F3	F4	F5	R ²
Item 19	I easily get acquainted with new people (Я легко знакоблюсь с новыми людьми)	-.09	.01	.08	.00	.91	.86
Item 20	I easily make new friends (Я легко нахожу новых друзей)	.10	.02	-.01	.17	.71	.73
Item 21	I easily make contact with peers (Я легко иду на контакт со сверстниками)	.08	-.01	.17	.21	.52	.60
Item 22	In general, I can find common language with many people (В целом, я могу найти общий язык со многими)	.02	-.01	.33	.16	.49	.64
Item 23	Overall, I am confident in my abilities (В целом, я уверен в своих силах)	.04	.11	.41	.23	.31	.69
Item 24	I am agile and energetic (Я подвижный и энергичный)	-.01	.00	-.03	.85	.12	.80
Item 25	I feel physically healthy (Я чувствую себя физически здоровым)	.11	.07	-.13	.68	.09	.59
Item 26	I often play agile games (Я часто играю в подвижные игры)	-.08	.11	.13	.66	.01	.56
Item 27	I look after my health because I believe that “in a healthy body there is a healthy mind” (Я слежу за своим здоровьем, потому что верю, что «в здоровом теле – здоровый дух»)	.01	.15	.11	.55	.04	.51

Note: Statistically significant ($p < 0.05$) loadings and factor correlations are bolded.

Conceptually, the preliminary classification of the measure items helped us to identify relevant factors: family support, optimism, persistence, physical health, and social networking. The concise model with only three crossloadings fit the data almost as well as the full exploratory model. All CFA models fit the data equally well. However, the simplest model with correlated factors had slightly better characteristics. The use of the bifactor model enables us to interpret the

total score and the score for the family support subfactor, while the remaining four factors are more likely a specifically formulated general factor (see Table 4).

Table 4: Bifactor Solution: Loadings on the General (GF) and Specific Factors (SF1-SF5)

	GF	SF1	SF2	SF3	SF4	SF5
Item 1	0.38	0.84				
Item 2	0.41	0.74				
Item 3	0.43	0.71				
Item 4	0.57	0.67				
Item 5	0.45	0.69				
Item 6	0.45	0.63				
Item 7	0.59		0.42			
Item 8	0.62		0.51		0.42	
Item 9	0.73		0.47			
Item 10	0.75		0.35		0.25	
Item 11	0.71		0.30			
Item 12	0.71		0.40			
Item 13	0.60			0.56		
Item 14	0.63			0.52		
Item 15	0.57			0.51		
Item 16	0.59			0.47		
Item 17	0.62			0.46		
Item 18	0.62			0.39		
Item 19	0.61					0.75
Item 20	0.69					0.46
Item 21	0.70					0.31
Item 22	0.74					0.28
Item 23	0.77			0.25		0.19
Item 24	0.67				0.55	
Item 25	0.60				0.43	
Item 26	0.60				0.46	
Item 27	0.63				0.37	
ω	0.97	0.94	0.92	0.92	0.91	0.92
ω_h	0.83	0.67	0.24	0.31	0.26	0.22

Note: All loadings are statistically significant ($p < .05$).

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The questionnaire demonstrated good internal consistency and test-retest reliability, with the latter assessed by a Pearson correlation coefficient between the first and second administration of the test to 31 subjects, with an interval of one week (see Table 5).

Table 5: Test-Retest Reliability of Scales

Scale	<i>r</i>
Family Support (F1, SF1)	.89
Optimism (F2, SF2)	.79
Persistence (F3, SF3)	.68
Social Networking (F5, SF5)	.70
Physical Health (F4, SF4)	.78
Resilience, Total	.82

DISCUSSION

In this article, we describe the inductive development of a contextualized resilience construct and psychometric testing of a contextually validated resiliency scale in a sample of young adolescents who are living in the frontline area of Eastern Ukraine. By incorporating locally relevant items developed from prior qualitative data in the same population, we generated a brief, reliable, and valid measure of resilience factors on different socioecological levels. The measure, which for convenience we refer to as the Kyiv-Mohyla Academy Resiliency Screener for Youth, can be used with conflict-affected male and female adolescents in Ukraine. The time needed to administer the 27-item scale is approximately ten minutes, which makes the Kyiv-Mohyla Academy Resiliency Screener for Youth an easy-to-use tool for everyday PSS praxis. This can significantly reduce the burden on children when testing different resilience models through a combination of events checklists and outcome measures.

The local Ukrainian resilience construct, operationalized within a bifactor model with a “general” resilience factor and “family support” as the only significant subfactors, mostly fits with Masten’s (2018) theoretical framework of resilience as an interactional process between individual and family variables. The meaning of family support as a resilience factor is represented by parenting styles such as deep listening, showing a real interest in a child’s life, having a positive attitude toward a child, and not being critical. In many war-affected countries around the globe, family support is one of the most distinct and significant resilience assets

that has been studied (Cicchetti 2010; Masten 2018; Tol et al. 2013). Unfortunately, ethnographic studies that explore the specific cultural psychology of Eastern Ukraine are rare. One qualitative study, conducted among miners and their families living in the eastern and western cities of Ukraine, described a socialization phenomenon within the miner culture, namely, the importance of the family unit within the local community values hierarchy. These authors (Kusina n.d.) suggested that concern about the family and its welfare allows the miners to justify the daily risks they face when going underground. From this perspective, we can perhaps better understand the hidden emotional ties within the family unit and the extraordinary role they play as a protective factor in the life-threatening experiences of both adults and children in Eastern Ukraine. We consider family factors universal, but at the same time unique, in their manifestation as one of the significant relational and contextual factors within the local ecosystem of child resilience.

Other locally specific assets of a general resilience factor, such as optimism, physical health, social networking, and persistence, are not unique characteristics of resilience per se and have been already named by many authors as ego-resilience assets that help youth to regulate their emotions and navigate pathways to existing external resources (Betancourt et al. 2013; Cicchetti 2010; Jefferies et al. 2019; Tol et al. 2013). We also found that the social networking factor represented an essential relational component of adolescents' resilience and children's ability to access important social resources, which can be understood as a process of establishing social contacts in new place.

The local resilience construct, which compares to Ungar's (2011) sociocultural model, is mostly characterized by the absence of important relational and context variables, such as community support (Kuterovac-Jagodić 2003) and spirituality (Duraković-Belko, Kulenovic, and Dapic 2003; Klasen et al. 2010). This may inform PSS programs in terms of understanding family support and developing a social network of peers as the most significant external resources for young adolescents, but it also might raise some concern, in light of the increased number of family violence cases reported in Ukraine (UNICEF 2018).

The lack of value children and adolescents place on other supportive relationships with caring adults (e.g., schoolteachers) also raises questions about the perceived quality of these relationships in Eastern Ukraine. This issue has already been recognized by the Ukrainian ministry of education in its New Ukrainian School reform concept, which aims to change teachers' attitudes from authoritarian to more child focused (Government of Ukraine n.d.).

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We suggest that PSS programs in Ukraine focus on building more open-school ecosystems that engage parents as active actors in the education process. Another promising way to develop more resilient responses may include focusing psychosocial programs that use cognitive-behavioral approaches, such as positive thinking and communicative skills, that have already been effective in the education setting (Bogdanov, Gnida et al. 2017; Bogdanov et al. 2019). Physical literacy and sports programs could benefit psychosocial programs through their positive impact on resilience, but also as a contextually relevant component of positive coping (Jefferies et al. 2019). Finally, receiving additional attention from PSS program staff members might be helpful to introverted children.

A significant feature of the tool described above is its grounding in Ukraine, and thus its contextual relevance. A mixed method approach helped to limit researcher bias about key assets of a local resilience concept by instead investigating this concept through a qualitative exploration of children's subjective perceptions. Our systematic procedure of qualitative data analysis ensured a triangulation of selected resilience assets that were further operationalized in a set of 27 questionnaire items. Rigorous statistical analysis enabled us to identify five factors of local resilience and to evaluate the internal consistency and reliability of the new measure. Our hope is that the approach we have outlined may inspire researcher-practitioner teams in other non-Western countries to conceptualize and measure resilience in ways that fit the local context and culture, and to use these measures to gauge the effectiveness of school-based PSS in emergencies.

LIMITATIONS

We note several limitations of this study. First, although the results suggest the usefulness and appropriateness of this scale, we sampled individual adolescents from only one urban area and the sample size was relatively small. Future work to confirm and expand these findings would add to this work. Second, we did not interview parents or schoolteachers, which may have enabled us to more fully understand the context of the young children in our sample and the processes related to how the local context informs developmental outcomes.

CONCLUSION

To our knowledge, this is the first validity study of instruments to evaluate resiliency among Ukrainian adolescents affected by the country's current conflict. Our hope is that this instrument will be used to measure the effects

various psychosocial programs have on children living near the conflict line, and to strengthen the ability of government and international institutions to select appropriate and effective psychosocial programs. Therefore, it will be freely available to other researchers and clinical workers in Ukraine. The authors, in cooperation with the Ukrainian Ministry of Education and Science, plan to disseminate the Kyiv-Mohyla Academy Resiliency Screener for Youth within the national school psychologists' network and to international organizations working in Ukraine with war-affected children. This will expand our ongoing efforts to implement safe-space interventions for school psychologists (Bogdanov, Gnida et al. 2017) and teachers (Bogdanov, Girnyk, Chernobrovkina et al., 2017) in the eastern regions of Ukraine.

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