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**Connectedness, Social Support and Mental Health in Adolescents  
Displaced by the War in Chechnya**

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## ABSTRACT

This study presents an exploratory, cross-sectional investigation of factors associated with internalizing emotional and behavioral problems (anxiety/depression, emotional withdrawal, and somatic complaints) in a sample of adolescents displaced by the war in Chechnya and interviewed in the fall of 2000. Social support and connectedness with family, peers, and the larger community were given particular attention as potential protective processes explaining variation in internalizing mental health problems as measured by the Achenbach Youth Self Report (YSR) scale (1991). It was hypothesized that family, peer and community connectedness, and global ratings of social support would be associated with lower levels of internalizing mental health problems in this population. Findings indicated that, consistent with other studies of war-affected children, internalizing behaviors in this sample of displaced adolescents were higher compared to rates in samples published on non-war-affected Russian adolescents. Expected gender differences were observed, with girls reporting higher internalizing problems than boys. No differences by gender on social support or family connectedness were observed; however, males reported higher peer connectedness and community connectedness than did females. In multivariate analyses, family connectedness was indicated as an enduring and significant predictor of lower internalizing mental health problem scores upon adjusting for covariates and all other forms of support investigated.

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## List of Abbreviations and Acronyms

IDP	Internally Displaced People
IRC	International Rescue Committee
MSPSS	Multi-dimensional Scale of Perceived Social Support
OLS	Ordinary Least-Squares Regression
PTSD	Post Traumatic Stress Disorder
UNICEF	United Nations International Children's Emergency Fund
YSR	The Youth Self Report

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**I. INTRODUCTION**

In public health terms, the cost of war on children's lives is extensive, multi-faceted and pervasive. Between 1945 and 1992, there were 149 major armed conflicts, which are estimated to have taken the lives of more than 23 million people (United Nations, 1996). UNICEF reports that conflicts in the last decade have killed an estimated 2 million children and have left another 4 to 5 million disabled, 12 million homeless, and over 1 million separated from their parents. For children, war represents not only the risk of personal physical endangerment, but also the loss of the security, predictability, and structure of day-to-day life. Accordingly, UNICEF estimates that some 10 million children have experienced psychological "trauma" or distress as the result of war. Despite the potentially profound impact of war-related violence on young lives, the psychosocial impact of war on children remains understudied in many populations.

The attainment of desirable social outcomes and emotional adjustment, despite exposure to considerable risk, is commonly referred to as resilience (Rutter, 1985; Luthar, 1993). For war-affected children, little is known about what factors contribute to resilient versus positive outcomes in the face of war-related stressors such as violence, displacement, and loss. Individual development and interpersonal processes occurring at the family, peer, and community levels all have important implications for how war-affected children cope with pervasive threats to their mental and physical health. Policy makers in the humanitarian community, faced with responding to the needs of sizeable populations of children exposed to violence and loss, could benefit greatly from some of the current research on child resilience. However, the tendency for some researchers to conceptualize resilience as a quality of individual children has limited application for policy makers and program planners. In applying a resilience perspective to the situation of children affected by armed conflict, a catalogue of the characteristics of children who tend to overcome hardship is less useful than the identification of protective processes at work in the larger social ecology of families and communities that can be supported by outside agencies and intervention programs. A focus on coping, protection, and resilience (broadly defined) has only recently begun to gain strength in the study of children affected by armed conflict (Jensen & Shaw, 1996; Stichick, 2001).

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## **A. Study of the Impact of War on Children's Mental Health**

Study of the psychosocial impact of war on children has its roots in data collected on war exposed adults from soldiers experiencing "shell shock" in World War I (McManners, 1993) to adult survivors of Nazi concentration camps during World War II. Some researchers came to categorize a group of associated symptoms referred to as "concentration camp syndrome" (Eitinger, 1961), which is most closely related to the cluster of psychiatric symptoms designated as Post Traumatic Stress Disorder (PTSD) in the Diagnostic and Statistical Manual of the American Psychiatric Association, or DSM IV (American Psychiatric Association, 1994). PTSD's essential features include symptoms developed in response to exposure to "an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury" involving "intense fear, helplessness or horror". Characteristic symptoms include "persistent re-experiencing of the traumatic event, persistent avoidance of stimuli associated with the trauma, numbing of general responsiveness, and persistent symptoms of increased arousal" (ibid.). In smaller children, the response may involve disorganized or agitated behavior. This set of symptoms must cause "clinically significant distress or impairment in social, occupational, or other important areas of functioning" and be present for at least one month in order to meet criteria for the diagnosis (ibid).

Long before current criteria for diagnosing PTSD in children were established, researchers earlier in the century noted significant changes in child behavior following exposure to war-related stressors. Studies of English children during WWII indicated a 25% to 50% prevalence of emotional difficulties following evacuation (Garmezy, 1988). Growing interest in the topic led to the publication of Anna Freud and Dorothy Burlingham's book Children and War (1943).

Dominant theoretical models from Western psychiatry have greatly influenced most studies to date on the mental health of children exposed to war. Given the popularity of investigating PTSD in these populations, much of the available research focuses on quantifying or qualifying exposures to traumatic events associated with war and their subsequent psychiatric sequelae. Several studies have investigated the relationship between traumatic exposures in children, such as witnessing or experiencing shellings, direct combat, killings as well as the impoverishment of basic needs on mental health problems (Allwood et al., 2002). In response to war-related stressors, researchers have observed a range of symptoms in children including "nightmares, recurring dreams, trouble sleeping, difficulty concentrating, exaggerated startle response, intrusive mental states (shame about being alive), avoidance of troubling memories and avoidant behavior", many of which are symptoms typical of PTSD and other anxiety disorders (Kinzie et al., 1986; Kuterovac et al., 1994; Ressler, 1993). Increased risk of anxious/depressed symptoms, somatic symptoms and emotional withdrawal have also been documented in children exposed to war traumas when compared to unexposed children (Allston et al., 2002; Kliewer et al., 2001).

## **B. A Call for Attention to Protective Processes**

Research focused solely on quantifying exposure to traumatic events and PTSD in war-affected populations has been inadequate for helping policy makers and programmers make decisions about what helps children and families cope in the face of the severe stressors of war. While the

available research has made important contributions to understanding the mental health of children affected by armed conflict, the dominant focus on trauma has not adequately addressed the practical question of what can be done to *support* children affected by armed conflict. Moreover, an individually focused approach aimed solely at identifying and treating clinical PTSD in children cannot adequately address the challenge of improving mental health outcomes when enormous numbers of children and families are exposed to violence, loss and displacement. In this light, even the definition of post-traumatic stress disorder is problematic in that it assumes that there is a “post” conflict experience. However, in the many conflicts that have ravaged developing countries around the world, conditions of conflict have been chronic. Rather than a singular, emotionally charged event, many of the wars children face in developing countries stretch on indefinitely. In places like Chechnya, entire generations of children have grown up knowing nothing but war and disruption. Furthermore, even once the actual fighting subsides, a context of insecurity and hardship can characterize the entire trajectory of a child’s development (Stichick, 2001).

To improve the knowledge base available to program designers and policy makers, information on protective processes and variables associated with better mental health in the face of war-related stressors merit much more research attention. In general, there has emerged a resounding need to examine factors that are protective or moderate the risk of mental health problems in children exposed to violence (Buka et. al, 2001). For the humanitarian community in particular, there is a need to identify exogenous protective processes that can be leveraged or enriched by interventions and policies targeting children and families in emergency situations (Stichick, 2001). The potentially protective role of social supports and connectedness to others presents one such promising area of study in the mental health of children affected by armed conflict.

### **C. Defining Social Support**

Social support is a complex construct defined by both its structure and function in interpersonal relationships. Sherbourne & Stewart (1991) have outlined three main dimensions of social support: instrumental support (help and assistance to carry out necessary tasks); informational support (information and guidance for an individual to carry out day-to-day activities successfully); and emotional support (caring and emotional comfort provided by others). Other researchers (Barrera, quoted in Wolchik et al., 1987) have underscored the importance of deconstructing the term in ways that specify more distinct forms of interpersonal relations. For instance, Barrera (ibid.) has advocated for distinguishing between social embeddedness (close connections with significant others), enacted support (the frequency of supportive behaviors enacted), and perceived support (the individual’s perception of the quality of support she/he receives). The source and relationship of the recipient to the provider of social support must also be differentiated. Researchers have noted the importance of distinguishing between support received from different sources, such as family, peers, and significant others as particularly important in international research, as cultural variations in gender roles may result in boys and girls responding to stressors differently (Llabre & Hadi, 1997).

#### **D. Stress and Social Support**

Attachment relationships to others (Bowlby, 1969) are seen as critical for helping children cope with difficult circumstances (Rutter, 1985). A number of studies indicate that social support, social ties, and living in caring or “connected” neighborhoods or schools are all associated with positive mental health outcomes in children and adolescents (Resnick, 1997; Kliewer et al. 1998; Sandler et al. 1989; Hoffmann, Cerbone and Su 2000; Peterson and Zill 1986; Kliewer et al. 2001). Landmark longitudinal studies of child development have demonstrated that the existence of a supportive relationship with at least one caring adult outside of a troubled home was associated with better social and emotional outcomes in even the most disadvantaged children (Werner, 1992).

In children exposed to community violence, social support and family cohesion have been shown to reduce the risk of subsequent psychopathology or distress (Kliewer et al., 1998; Overstreet et al., 1999; Gorman-Smith and Tolan, 1998). Kliewer and colleagues (1998) found that exposure to community violence had the strongest emotional impact on children who exhibited low social support and a high degree of social strains. They also observed that children who had a high degree of intrusive thinking (a hallmark symptom of PTSD) were more likely to exhibit internalizing symptoms such as anxiety/depression, emotional withdrawal, and somatic complaints, when they had low social support.

Social support has also been investigated for its potentially protective qualities in the mental health of children affected by war-related violence. In a study of Colombian children coping with violence against family members, Kliewer et al (2001) found that higher levels of social support in children exposed to severe family violence were associated with reduced risk of internalizing problems. In a study of family stress and coping in the face of war and non-war stressors, Farhood (1999) found that perceived stress, rather than objective exposure to events, best predicted family adaptation. She also observed that social support was a significant predictor of psychological health and a main contributor to family adaptation.

The role of social support in children exposed to war-related trauma may also differ according to gender. Llabre & Hadi (1997) observed interactions between social support and gender in their study of 151 Kuwaiti girls and boys exposed to high or low levels of trauma during the 1990-1991 Gulf War crisis. They found that social support moderated the impact of trauma exposure on distress in girls, but not in boys. They also found that overall, girls reported higher social support compared to boys.

#### **E. Protective Processes and the Construct of Resilience in Children**

Identifying protective processes in children’s adjustment to stressors has been central to the investigation of resilient social and emotional outcomes in children exposed to stress (Rutter, 1985; Luthar, 1993). Resilience traits have traditionally been used to refer to characteristics of the individual child that help them to achieve desirable emotional and social functioning despite exposure to considerable adversity (Masten, 1991; Cicchetti & Garnezy, 1993; Rutter, 1985). Others have argued that family and community factors are also influential in producing resilient



outcomes in children (Masten & Garmezy, 1985; Werner & Smith, 1992). In reviewing the literature on resilience, Luthar and colleagues have summarized three sets of factors thought to relate to the “development of resilience” in children (Luthar, Cicchetti & Becker, 2001, p. 544). These factors include attributes of the individual child, attributes of a child’s family and characteristics of the larger social environment.

Recent thinking has advanced the construct of resilience to specify and distinguish the processes that contribute to resilient outcomes in children. Masten and colleagues (1991) have distinguished between three types of resilience phenomena. These include instances in which: 1) individuals classified as being “at-risk” for negative outcomes manifest better than expected outcomes; 2) positive adaptation is achieved despite the exposure to stressful experiences; 3) recovery from trauma is evidenced.

The manner in which resilience is conceptualized and modeled statistically in child development research is often inconsistent (Rutter, 1985; Luthar, 1993). As explained by Luthar (1993), two broad strategies have been used in research to understand protective processes contributing to resilience. The first strategy has focused on identifying “interactive processes” (Luthar, 1993) whereby high-risk children who have a certain attribute function much better in the face of adversity, whereas the presence of the attribute in low-risk children makes no difference in their functioning. A second strategy focuses on the identification of main effects; here the question of interest is whether high-risk children with a certain attribute do better than those without it, regardless of what the effect is in low-risk children (Luthar, 1993).

According to Luthar, Cicchetti and Becker (2001) when a factor maintains a beneficial effect, whether at high or low levels of risk, the process can appropriately be referred to as “protection”. Likewise, the process whereby risk factors result in negative main effects for both high and low risk groups can be referred to as “vulnerability”. For both protection and vulnerability, when factors are beneficial or detrimental to the outcome in interaction with other variables, more specific terminology is recommended. For instance, Luthar and colleagues recommend terminology such as “protective-enhancing” for situations where the factor in question results in positive outcomes as levels of stress increase and “vulnerable and reactive” for situations in which disadvantage created by the factor increases at higher levels of a stressor (ibid.).

In the present study, because no control group was used, there was not enough evidence to determine whether the effects of social supports on internalizing emotional and behavioral problems differed between displaced and non-displaced children. Thus, to use the terms appropriately, social support and connectedness were examined in terms of their “main effects” as protective factors in the mental health of internally displaced Chechen adolescents.

## **F. Community Variables and the Mental Health of War-affected Children**

While interpersonal social support has been documented as an important source of protection in several studies of the mental health of war-affected children, community-level forms of social support have not been studied specifically. Although the quality and nature of relationships in more distal settings such as communities, schools, and other institutions are implicated in children’s mental health and adjustment, they remain understudied in the current research. In

preliminary research on war-affected children, there is evidence to suggest that child care facilities characterized by caring relationships between staff and children have been associated with positive mental health outcomes (Wolff & Fesseha, 1998). Because prevention programming and intervention programs can be designed to target school, institutional and community settings (in addition to interventions addressed at families and individuals) understanding how these aspects of the larger social ecology (Earls & Carlson, 2001) might affect the mental health of children in emergencies is of great interest to policy makers and program developers. For this reason, the pilot measure of children's perception of connectedness between children and adults within the community of internally displaced people (IDP) were of additional interest in the present study.

## **G. Hypotheses of Current Study**

The purpose of this study was to extend previous work examining the role of social support in the mental health of violence-affected children to the situation of children displaced by the war in Chechnya and living in the neighboring Republic of Ingushetia, Russia. This study investigated whether social supports and connectedness at the peer, family, and community levels were protective against internalizing problems (anxiety/depression, emotional withdrawal, and somatic complaints) in this sample of displaced Chechen adolescents. It was predicted that there would be an inverse relationship between perceived social support and connectedness and behavioral and emotional problems as measured on the Youth Self Report (YSR) internalizing subscale. Potential differences in the function of social support by gender were of particular interest, given prior findings that social support and gender operate jointly as moderators of trauma and mental health in war-affected youth (Llabre & Hadi, 1997). It was hypothesized that girls would report overall higher social support than boys. In addition, it was expected that in this group of displaced adolescents, social support would interact with gender as a predictor of emotional and behavioral problems resulting in stronger effects for girls.

## **II. METHODS**

### **A. Sample**

Participants were a random sample of girls and boys drawn from the registry of all adolescents participating in an emergency education program run by the International Rescue Committee (IRC) for internally displaced Chechen children and adolescents in Ingushetia, Russia. Initial screening identified all adolescents aged 11-18 across 11 sites where the IRC had opened or was soon to open an education program as of September 2000. Adolescents with a severe mental illness or cognitive disability were excluded from the sample. A one-third probability sampling scheme was employed to select a sample of 198 Chechen adolescents between 11-18 years of age. A team of six Chechen young adults, trained in both general program evaluation concepts, ethical research practice, and standardized survey administration methods, conducted the field research. All survey protocols and procedures received review and approval from the Human Subjects Committee of the Harvard School of Public Health. Six adolescents were unable to participate due to illness or failure to gain consent; thus, a total of 192 surveys were completed. Upon initial analysis of the data, young people who were found to be out of the appropriate age

range or who had incomplete information on age or gender were excluded, yielding a final analytic sample of 184.

## **B. Measures**

### *1. Outcome Variables*

*The Youth Self Report (YSR).* The YSR is a multi-axial, empirically based assessment tool for adolescent self-report of emotional and behavioral problems (Achenbach, 1991). It was designed to describe continuous dimensions of adolescent emotional and behavioral problems in eight main domains: withdrawal, somatic complaints, anxiety/depression, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior. The YSR has been applied in multiple cross-cultural settings and has been used in research with refugee youth (Mollica, 1997). The YSR has been translated to over 33 languages, including a Russian version which was obtained for this research.

Use of the YSR in this study had several advantages. A noteworthy one is that the YSR can be completed by young people themselves or by a lay administrator; trained clinicians are therefore not necessary in the assessment process. Other advantages of using the YSR in this displaced population are its simplicity and brevity in language and the relatively non-intrusive nature of the questions asked. Furthermore, the reliability and validity of the instrument have been well-established in several international populations, including validation of the instrument in a sample of Russian adolescents (Slobodskaya et. al. 1999).

While the YSR does not provide a specific psychiatric diagnosis per the World Health Organization's International Classification of Diseases (ICD 10) or the DSM-IV, clinical cut-points have been established for the total score as well as the summary internalizing and externalizing subscales and the eight main subscales (Achenbach, 1991). For data analysis, all subscales can be used to identify either continuous dimensions of problems or to specify children functioning in the clinical range using the American clinical cut-points. Although, to date, no YSR Russian adolescent norms have been published, some comparisons can be made to a few studies where the YSR was used with Russian youth (Slobodskaya et. al. 1999; Ponizovsky, 1997). The YSR has not been normed on a representative sample of Chechen youth.

Given its theoretical relevance to mental health processes in which social support has most commonly been studied, the internalizing subscale of the YSR was chosen as the outcome of interest for this study. Most commonly, research on social support in children's emotional and behavioral adjustment has focused on outcomes such as anxiety and depression (Allen et al. 1994; Giordano et al. 1998; Roberts and Bengston 1993; Summers et al. 1998). The internalizing problem subscale of the YSR best captures symptoms related to anxiety and depressive disorders; it comprises the subscales for depression and anxiety, emotional withdrawal, and somatic complaints (Achenbach, 1991). As this study aimed to identify variables associated with lower average levels of internalizing problems in the overall sample of displaced adolescents, the continuous score of internalizing subscale was used, as opposed to establishing a clinical cut-point. Following consultation with Chechen staff and community representatives, two items inquiring about suicidal ideation and self-harm were removed due to

their potentially offensive nature in this mainly Muslim population. As a result, the total internalizing subscale assessed in this study included 29 items. Measures of internal consistency indicated that this scale functioned well within this sample (Cronbach's  $\alpha = 0.79$ , mean=16.2, SD=7.4)

## 2. *Predictor Variables*

Two types of measures were used to assess social ties and support: A standardized measure of global social support called the multi-dimensional scale of perceived social support (MSPSS) (Zimet et al., 1988); and pilot measures of "connectedness" across family, peer, and community domains which were designed specifically for this study. Each measure will be described in turn.

*The Multidimensional Scale of Perceived Social Support.* The MSPSS (Zimet et. al., 1988) is an instrument used in both adult and adolescent populations to assess the degree of satisfaction with support received from three sources: family, friends, and significant others. It is composed of 12 items that describe perceived support from people the respondent turned to if he or she had experienced problems over the past six months. The seven-point response scale was adapted to a five-point scale for this research ranging from "completely agree" to "completely disagree". The Russian version of the MSPSS was available from a previous study (Ponizovsky, 1997). The internal consistency of this scale within the Chechen youth population was high (Cronbach's  $\alpha = 0.91$ , mean= 51.7, SD=6.9).

## 3. *Connectedness*

The measures of connectedness used in this study assess adolescent perceptions of the closeness, caring, shared understanding, and respect in relationships with their family, peers, and larger community. These scales were developed for this study following the work of Resnick et al. (1997). Like social support, connectedness relates to the perceived quality of interpersonal relationships in the lives of adolescents. The main dimensions of connectedness relate to perceived levels of caring and respect in relationships and the degree to which an adolescent feels that others understand and pay attention to him/her. Three forms of the construct were used, representing relationships with family, peers, and the community. Each item was rated on a three-point Likert scale ranging from "not true" to "somewhat or sometimes true" and "very true or often true". The items in each scale were averaged for a total score, which was then standardized with a mean of zero and a standard deviation of one to ease comparison across scales.

*Family Connectedness.* The measure of family-level connectedness consists of twelve items that assess the degree to which an adolescent feels close to family members, feels understood and cared for in the family context, and is respected as a participant in family decisions. It includes items such as "People in my family understand me", "We are a close or tight-knit family" and "People in my family pay attention to me". It also includes questions on family conflict such as "people in my family hardly ever lose their tempers" and "I get along with almost everyone in my family". Confirmatory factor analysis indicated that the family connectedness questions

functioned well in this population, the internal consistency of this scale was also adequate (Cronbach's alpha= 0.75, mean= 21.3, SD=2.8).

*Peer Connectedness.* Questions assessing peer connectedness were developed specifically for this study. This measure consists of seven items such as “My friends care about me”, “My friends pay attention to me”, and “I feel close to my friends”. Measures of internal consistency indicated that this scale also functioned well within this population (Cronbach's alpha= 0.88, mean= 12.4, SD=2.8).

*Community Connectedness in the IDP Settlement.* A series of 11 questions were developed for this study to investigate adolescents' perceptions of connectedness to others in the IDP settlement. The measure of settlement-level connectedness comprised questions such as “I trust the people who live here in the camp”, “Adults in the camp pay attention to kids”, and “I can rely on adults in the camp to look out for me”. Confirmatory factor analysis indicated that, apart from one item that was dropped in the analyses from the community scale, the connectedness questions functioned well in the Chechen displaced population. The scale was administered only in the 139 cases where adolescents lived within or near an identifiable IDP “settlement”. The internal consistency of this scale was good (Cronbach's alpha= 0.78, mean= 13.4, SD=3.7).

#### *4. Control Variables*

*Demographic Inventory.* A demographic inventory collected information on sex, age, level of schooling, family composition, current living arrangement, city of origin and prior displacement. A dichotomous variable was created to indicate an individual's housing status in order to distinguish those living in relatively higher-quality housing (houses or apartments) from those living tents, abandoned buildings, or hand-made shelters. This variable was scored as a “1” when participants indicated living in an apartment or house as opposed to more temporary shelter. For theoretical reasons, sex and age were maintained as control variables. Level of schooling, family composition and prior displacement were not found to relate significantly to either the outcome of internalizing or the predictors of connectedness/social support, so they were not used as control variables. Housing status was maintained as a control variable, as it was significantly related to community connectedness and age.

It should be noted that renting a room in a house may not necessarily be seen as an indicator of family wealth. For many families, staying in the spontaneous settlements rather than renting a house or room in neighboring villages was a better way to secure services. In fact, for some young people, the experience of living in a rented room or house in a village might be indicative of greater isolation, as they would tend to be apart from other Chechen young people who were mainly clustered in the spontaneous settlements. In the end, the baseline control variables selected for model building were thus sex, age, and housing status.

### **III. DATA ANALYSIS**

The goals of the data analysis were: 1) to describe the distribution of emotional and behavioral problems in this population of adolescents; 2) to examine the relationship between social

supports and connectedness and self-reported internalizing problems; and 3) to test for interactions between gender and connectedness/social support on internalizing problems. To test the hypothesis that increased social supports would be associated with lower levels of emotional and behavioral problems in this population, univariate, bivariate, and multivariate associations between study variables were examined. Correlation coefficients were used to examine relationships between all continuous predictors. Pearson correlations were used to investigate relationships between continuous variables and Spearman correlations were used to examine relationships between continuous variables and dichotomous variables. T tests were used to test differences in means on outcomes and predictor variables between males and females in the sample. In multivariate analyses, Ordinary Least-Squares Regression (OLS) was used to evaluate the relative contribution of different forms of social supports on internalizing behaviors using the YSR internalizing score as the outcome of interest.

Model building proceeded by first establishing a baseline model containing the main covariates (control variables) of age, gender and housing status. Each of the four social support and social connectedness measures were then independently added to the baseline model. Next, to examine the independent effects of all social ties measures while controlling for the others, a fully adjusted model was tested which regressed all three connectedness and social support variables on internalizing at once. A final, most parsimonious model containing the most influential connectedness measure (family connectedness) was selected and adjusted for baseline control variables. Finally, interactions between sex and family connectedness were tested in the full sample and the same variables were assessed in analyses stratified by gender.

## **IV. RESULTS**

### **A. Participant Characteristics**

Table 1 presents descriptive information on study variables including the mean, standard deviation, and range for each variable as well as a matrix of zero-order correlations among control variables, the main predictors and outcome of interest. Overall, the sample was composed of an equal number of females (N=92) and males (N=92) between the ages of 11 and 18 years of age. The mean age of study participants was 13.7 years. Sixty percent of the participants were from urban areas such as Chechnya's capital city, Grozny (49%), and its nearby cities of Argun (4%) and Urus-Martan (7%); the remaining 40 % of the participants were from rural villages such as Samashki and Bamut. Despite the fact that very few IDP youth have access to formal education, a majority of the sample, 86 %, indicated that education was of high or very high priority to them. Almost all of the adolescents in the sample (97 %) reported attending some form of classes (even if infrequently) at the time of this data collection. This figure likely represents attendance in the IRC's non-formal education program. When asked about attendance in an education program, 74% reported attending an education program every day, 18% reported attending almost every day or most days of the month, less than 2% of the sample reported attending rarely, while 7% of the total or (N=13) reported never attending the education program or local schools. Participants reporting no or infrequent school attendance showed no difference on internalizing, family connectedness, peer connectedness, or global social support when compared to students with higher levels of participation. Students who

never attended were less likely to rate education as a high priority (Chi Square= 6.44,  $p=.01$ ) and, on average, reported lower community-level connectedness, although this finding only reached borderline statistical significance ( $t=1.93$ ,  $p=.05$ ).

The adolescents surveyed reported being displaced along with many of their family members in the settlements. Sixty-eight percent of adolescents in the sample reported living with both parents at the time of this survey. Nearly all adolescents in the sample reported living with siblings (98%) and other relatives such as aunts, uncles, or cousins (56%) and grandparents (29%). Twenty-two percent of the sample reported that their family lived in an apartment or house where some form of rent was paid. For others, living conditions were poor with 12 % of the sample living in tents, another 12% in hand-made or temporary shelters, and 52% in abandoned buildings such as factories and farms.

## **B. Social Support, Connectedness and Adolescent Mental Health**

Table 2 presents a correlation matrix and summary statistics for all variables of interest. Significant and negative relationships were observed between internalizing mental health problems and family connectedness ( $r= -0.23$ ,  $p=.002$ ), peer connectedness ( $r= -0.19$ ,  $p=.01$ ), and community connectedness ( $r= -0.24$ ,  $p=.004$ ). The relationship between the MSPSS social support measure and internalizing problems was also negative, but minimal and did not reach statistical significance ( $r=-0.04$ ,  $p=.57$ ). Age and housing status were not significantly correlated with internalizing mental health problems. However, as expected, there was a strong correlation between sex and internalizing problems ( $r= -0.35$ ,  $p<.0001$ ) indicating a tendency for boys to report lower internalizing scores. Living in a rented home or apartment within a settlement area was also correlated with higher reports of community connectedness ( $r= 0.23$ ,  $p<.006$ ).

Measures of association between gender, the YSR internalizing scale and all key covariates and predictors at the individual, family and environmental level were examined using  $t$  tests. No differences were found between girls and boys on MSPSS social support or on family connectedness. Overall, reports of social support were skewed towards high values for both boys and girls (mean=51.77). The means of peer and family connectedness were similarly high (mean=21.28, 12.37 respectively). However, on average males reported higher peer connectedness ( $t= -2.5$ ,  $p=.01$ ) and community connectedness ( $t= -3.91$ ,  $p=.0002$ ) than females.

## **C. Relationship between Social Supports and Distress**

Table 3 presents the results of a series of ordinary least squares regression models in which adolescent internalizing is regressed on measures of MSPSS global social support and connectedness with family, peers, and the larger community. In Model 1, after controlling for gender, age, and housing status, the degree of family connectedness reported by an adolescent was significantly and negatively related to internalizing. Each additional standardized unit gained on the family connectedness measure (a one standard deviation increase) was associated with a  $-1.54$  unit lower average internalizing score ( $p=.003$ ). The adjusted model containing family connectedness alone was able to account for 14.3% of the variability in YSR internalizing emotional and behavioral problems in this sample.

In Model 2, peer connectedness demonstrated borderline significance and a negative association with internalizing upon adjusting for the main covariates ( $\beta = -0.96$ ,  $p = .07$ ). In Model 3, community connectedness was not significantly related to internalizing; however, the relationship was in the expected direction and approached borderline significance ( $\beta = -1.10$ ,  $p = .10$ ). As the earlier correlation matrix indicated, although the global social support measure demonstrated construct validity and was strongly and positively correlated with the measures of connectedness, it was not proven to be a significant predictor of internalizing in adjusted models. Thus, in an adjusted model regressing the MSPSS measure on internalizing, (not shown) the total MSPSS score was not found to be a significant predictor of internalizing in either univariate or adjusted models.

Model 5 regressed all connectedness measures (family, peer and community) on internalizing at once. In this model, the standardized measures of peer and community connectedness did not demonstrate statistical significance upon adjusting for family connectedness and control variables. However, sex and family connectedness remained significantly associated with internalizing. Thus, in this adjusted model, family connectedness demonstrated an important protective relationship with internalizing problems, even upon adjusting for other forms of connectedness. In the adjusted model, each standard deviation increase in family connectedness was associated, on average, with a  $-1.81$  unit lower internalizing problem score. Being male was associated with a  $-4.74$  unit lower average internalizing score, upon adjusting for all forms of connectedness and all control variables. Overall, this model accounted for 16.3% of the variation in internalizing in the adolescents in this sample.

Analyses stratified by gender were performed to investigate whether or not family support operated in the same manner among subgroups of girls and boys in the sample. It must be noted that these analyses were constrained by limited power due to the reduction in sample size in each group upon stratification. In these sub analyses, a model regressing family connectedness along with the control variables of age and housing status on internalizing mental health problems demonstrated that family connectedness maintained a significant protective relationship (negative) with internalizing in boys, but not girls. In a sub analysis of boys in the sample, each single standard deviation unit increase in family connectedness was associated with a  $-0.68$  unit lower average internalizing mental health problem score ( $p = .01$ ). For girls, the direction of the relationship between family support and internalizing problems was also negative ( $B = -.35$ ) but did not maintain statistical significance ( $p = .16$ ).

## V. DISCUSSION

The intent of this study was to investigate whether social supports and connectedness at the peer, family and community level demonstrated a protective relationship against internalizing problems (anxiety/depression, withdrawal, and somatic complaints) in this sample of IDP adolescents. The results reinforce theory and prior research that points to family connectedness as a factor that has a positive influence on the mental health and adjustment of war-affected youth, even when the influence of other variables is held constant. Although the size of the study sample posed serious limitations for conducting sub analyses by gender, stratified analyses indicated a trend whereby the protective relationship between family connectedness and



internalizing was more robust for boys. This finding is consistent with the other research indicating gender differences in the role of social support and family support in war-affected youth; however, stronger protective effects of social support have been more commonly observed in girls compared to boys (Llabre & Hadi, 1997; Kleiwer et. al, 2001).

In addition to finding that family connectedness was significantly and negatively related to internalizing mental health problems, regression models containing all forms of social supports demonstrated that peer and community connectedness approached significance and were also negatively associated with internalizing distress. If indeed all these forms of connectedness operate in the manner observed in this data, the implications for policy and intervention efforts are important. Further investigations of these multiple forms and sources of social support warrant attention in research with larger samples of war-affected youth. In the field of international humanitarian aid, several program models have been explored within refugee and IDP settlements to provide additional support services for youth with a particular focus on mental health (Stichick, 2001). The findings of this study underscore the importance of designing programs that do more than target youth individually. In addition to individually-focused programs, the data suggest that improving opportunities for children to deepen connections to family, peers, and the larger community might provide young people with an important coping resource against the distress associated with war and displacement. Examples of possible interventions could include organizing collective activities such as sporting or cultural events where friends, family, and community members are all encouraged to be involved. As many of the Chechen families in this sample had several children, it could be valuable to explore collective arrangements for childcare on an intermittent basis to increase opportunities for some parents to spend time with their adolescent children. Such interventions might also reduce stressors faced by parents and older children in the family by lessening childcare concerns.

Several limitations must be discussed in interpreting the findings of this study. First of all, the data presented were derived solely from self-reports by adolescents and are cross-sectional in nature. This design does not allow determinations to be made about the directionality of relationships between variables, as they are all measured at the same point in time. Furthermore, reliance on self-reports is problematic given the risk of social desirability in responses as well as recall bias. Future research could be strengthened by collecting information from multiple sources, including parents and teachers as well as adolescents. Furthermore, the lack of a comparison group in this study is a major limitation as there is no reference point by which to compare the findings on adolescent mental health and social supports in this IDP population.

Issues of translation and back translation also present important limitations to the findings of this study. The Chechen language is commonly spoken, but infrequently written. Most Chechens read and speak Russian as well. Therefore, all of our research documents were written and prepared in Russian. In instances where a participant was unfamiliar with or unclear about a particular Russian term, a verbal explanation in Chechen was provided. In some cases, surveys were conducted entirely in Chechen. Although agreed-upon Chechen translations and explanations for each survey item were reviewed in the research training, some errors and inconsistencies may have been introduced by the research assistants in their verbal clarifications.

Translation issues may also explain the inconsistent performance of the standardized social support measure, the MSPSS, in this population. In contrast to other studies in Russian adolescent populations (Ponizovsky et al., 1999), scores on the MSPSS were not found to be a significant predictor of internalizing mental health problems in this adolescent Chechen IDP sample. However, unlike the other connectedness measures designed specifically for this study, the Russian translation of the MSPSS came from researchers who had used it in study of Russian adolescents in Israel (Ponizovsky, Ritsner & Modai, 1999). The validity of the MSPSS for Chechen youth was reviewed and discussed with the Chechen staff, and in the end, no changes were made to its wording. However, translation of the MSPSS into Russian by a Chechen/Russian speaker may have better captured linguistic subtleties more familiar to Chechens as opposed to using a translation done by a solely Russian speaker, as was the case in this study.

Additional limitations to the findings of this study include the possibility of ordering effects or ordering bias in responses provided to survey questions. Specifically, the MSPSS was located at the very end of the survey, which in some cases took more than two hours to administer when the literacy of a participant was low. The MSPSS also followed the section of the survey containing the pilot connectedness measures; many participants may therefore have felt that they were being asked extremely similar questions repeatedly. Due to its placement at the end of the survey, some “fatigue” bias (Fowler & Mangione 1990) might have been introduced, which would explain the uniformly high ratings given to most questions on the MSPSS.

Other limitations to the findings are posed by the very nature of conducting research within the context of a humanitarian emergency. Instability in the region at the time of this data collection prevented the primary investigator from traveling to the IDP settlements. As a result, the data had to be collected in a concentrated period of time by a team of Chechen research assistants trained by the primary investigator. These constraints presented challenges for the timing of data collection and the completeness of all survey records, as the ability to monitor data collection was compromised.

Secondly, difficulty in transporting research materials from the IDP camp first to Moscow and then to the U.S. for processing also posed further challenges for the integrity of the data. In the process of transport from the field, nearly one-fourth of the data cover sheets containing participant identifiers were inadvertently destroyed. Without the cover sheets to retrieve missing demographic information, six surveys had to be excluded due to incomplete information on sex and gender. Thus, as a result of these particularities intrinsic to working in a conflict zone, a smaller analytic sample resulted. The small sample size presented serious implications for the loss of statistical power to examine relationships between variables. Given this experience, it is recommended that future researchers working in refugee, IDP, or other conflict-affected settings should be aware that the risk of incomplete data collection may be greater than that under more stable working conditions. This risk has implications for establishing appropriate sample sizes in order to attain adequate statistical power in comparative analyses by groups of interest. Likewise, in research conducted amidst humanitarian emergencies, careful mechanisms need to be established for the transfer and storage of all research documents to avoid misplaced or lost data and above all, to protect the confidentiality of the subjects involved.

Despite significant limitations, because there is very little information on the mental health of Chechen IDP youth, the results of this study provide an important snapshot of internalizing problems and social supports in this sample. A finding of particular interest is the important negative association observed between family connectedness and internalizing symptoms, even when all other covariates and forms of support were controlled. This finding has particular implications for the concept of resilience in war-affected children as presented earlier. Discussion of resilience as a construct of relevance to understanding the mental health of children exposed to adversity has been marked by debate. Indeed, the orientation of many early resilience theorists and researchers towards identifying traits in individual children seen as “invulnerables” elicits considerable criticism. In the study of children affected by armed conflict, Dawes, Tredoux and Feinstein (1985) warn investigators that the resilience perspective on children and war risks becoming as fashionable as the focus on trauma that has dominated the field. They caution that researchers should not be blinded by the seduction of resilience and miss the undeniable, often long-term mental health impacts of exposure to war-time violence on children. The finding in this study that social support available to a young person in their family environment was related to better mental health reinforces the need to shift the focus of resilience beyond qualities inherent solely in the individual child to consider the wider context of child development.

The very challenge of responding to the mental health needs of large populations of children under duress justifies rethinking resilience to move from an individual focus to one that is population-based and promotes supports to children in the broader aspects of the social ecology including families and communities. In such settings, a more useful interpretation of resilience might be one that seeks to qualify the characteristics of environments or social ecologies that can promote better social and emotional outcomes for children despite formidable exposure to risk factors in the population at large. Future research on processes of vulnerability and protection operating in the mental health of children in difficult circumstances must explore contextual factors at the family, community, and even societal level (Earls & Carlson, 2001; Maksoud & Aber, 1996; Stichick, 2001).

Future studies of family support and children’s mental health in war-affected populations could also be strengthened by collecting data on qualitative aspects of family functioning to help clarify the mechanisms by which family support operates in these settings. For instance, the function of family support would be better understood if it could be disentangled from other aspects of family functioning. Potentially related processes that merit further examination and may need to be considered in models examining the operation of family support, include parental mental health, loss or separation from close family members, parenting styles, and family conflict.

Other aspects of community functioning such as collective trust and cohesion also merit attention both in intervention and research. For instance, the IRC’s education program in Ingushetia prioritizes the involvement of youth beneficiaries, their families, and the larger community in developing and shaping the program. “Empowered collaboration” of this manner is thought to both foster a sense of ownership of the program among beneficiaries and recreate a sense of belonging (Fullilove, 1998). Although they were not available for this study, objective measures of community functioning, such as an independent survey of trust and cohesion at the

community level and objective measures of the degree of actual participation by beneficiaries in program leadership, would have provided insight into some of the theory behind the intervention model. Without question, future research exploring the potential benefits of forms of interpersonal processes on the mental health of war-affected populations would be improved by considering social processes operating at the peer, family, and community levels.

In summary, this study provides an important preliminary glance at the situation of one population of IDP adolescents coping with displacement and stressors related to the war in Chechnya during the fall of 2000. Common themes reverberate between this study and other studies of war-affected children. First of all, there is a compelling need to explore and understand the factors contributing to vulnerability and protection in these populations in order to better inform policy and intervention. The finding that family support had enduring protective functions and was associated with lower levels of internalizing mental health problems, adjusting for all other factors, is particularly compelling. However, further research would be needed to deepen our understanding of how such protective processes operate in relationship to formidable risk exposure. It is only through such systematic exploration of protective processes in the lives of war-affected children that improved responses can be made to war and its toll on human suffering.

Table 1. Descriptive Information and Correlation Among Study Variables for N=182 Chechen Adolescents

	2	3	4	5	6	7	8	M	SD	RANGE
1. YSR internalizing score	-0.23 **	-0.19 *	-0.24 **	-0.04	-0.35 ***	0.014	.098	16.21	7.42	1-36
2. Family connectedness		0.53 ***	0.45 ***	.42 ***	0.11	.07	.05	21.28	2.80	10-24
3. Peer connectedness			0.42 ***	0.42 ***	0.13 ~	0.07	-0.04	12.37	2.83	0-14
4. Community connectedness				0.26 **	0.29 **	0.01	.23 **	13.41	3.87	1-20
5. MSPSS social support					0.05	-0.10	.10	51.77	6.95	21-60
6. Sex ^ (1 male, 0 female)						-0.03	-0.01	.50	.50	0-1
7. Age							-0.15 *	13.67	1.95	11-18
8. Housing status ^								.24	.43	0-1

~p<=.10; \*p<=.05; \*\*p<=.01; \*\*\*p<=.001; two-tailed significance test

^ Correlations for these variables calculated with Spearman correlation coefficients

Note: Community connectedness N=139

Table 2. Means and Standard Deviations of Child Variables by Gender

	Total (N=183)		Girls (N=92)		Boys (N=91)	
	M	SD	M	SD	M	SD
YSR internalizing score	16.21	7.41	18.66	6.40	13.74	7.57
Family connectedness	17.92	2.16	17.95	1.99	17.90	2.34
Peer connectedness	16.38	3.13	16.22	3.31	16.54	2.95
Community connectedness*	13.41	3.86	12.12	4.14	14.59	3.18
MSPSS social support	51.76	6.95	51.75	6.34	51.78	7.55

\*Note: Community connectedness N=139

Table 3. Results of Ordinary Least Squares Regression Analyses Predicting Internalizing Problem Scores in Chechen Adolescents (N=182)

Model 1: Association between Internalizing Problem Score and Family Connectedness (Standardized) Adjusted for Covariates

	(N=182)		
	b	p value	CI
Intercept	16.35 ***		8.87, 23.84
Family Connectedness	-1.54 **		-2.54, -0.53
Sex	-4.62 ***		-6.63,-2.61
Age	0.13		-0.39, 0.65
Housing status	1.83		-0.55, 4.21
R <sup>2</sup> (adj)	0.14		
~p<=. 10; *p<=.05; **p<=.01; ***p<=.001			

Model 2: Association between Internalizing Problem Score and Peer Connectedness (Standardized) Adjusted for Covariates

	(N=182)		
	b	p value	CI
Intercept	16.73 ***		9.12, 24.34
Peer Connectedness	-0.96 ~		-2.54, -0.53
Sex	-4.52 ***		-6.59,-2.44
Age	0.10		-0.43, 0.63
Housing status	1.64		-0.78, 4.06
R <sup>2</sup> (adj)	0.12		
~p<=. 10; *p<=.05; **p<=.01; ***p<=.001			

Model 3: Association between Internalizing Problem Score and Community Connectedness (Standardized) Adjusted for Covariates

	(N=137)		
	b	p value	CI
Intercept	18.20 ***		9.5, 26.89
Community Connectedness	-1.10 ~		-2.43, 0.22
Sex	-4.87 **		-7.46,-2.29
Age	0.005		-0.60, 0.61
Housing status	3.81		-2.44, 10.05
R <sup>2</sup> (adj)	0.13		

~p<=. 10; \*p<=.05; \*\*p<=.01; \*\*\*p<=.001

Model 4: Association between Internalizing Problem Score, Family and Peer Connectedness (Standardized) Adjusted for Covariates

	(N=182)		
	b	p value	CI
Intercept	16.29 ***		8.78, 23.81
Family Connectedness	-1.44 *		-2.63, -0.25
Peer Connectedness	-0.19		-1.39, 1.02
Sex	-4.56 ***		-6.61,-2.51
Age	0.13		-0.39, 0.66
Housing status	1.81		-0.58, 4.19
R <sup>2</sup> (adj)	0.14		

~p<=. 10; \*p<=.05; \*\*p<=.01; \*\*\*p<=.001



Model 5: Association between Internalizing Problem Score and All Connectedness Variables (Standardized) Adjusted for Covariates

	(N=137)		
	b	p value	CI
Intercept	16.62 **		8.00, 25.22
Family Connectedness	-1.80 *		-3.28, -0.34
Peer Connectedness	-0.15		-1.61, 1.30
Community Connectedness	-0.21		-1.70, 1.27
Sex	-4.74 **		-7.30, -2.17
Age	0.11		-0.49, 0.71
Housing status	4.32		-1.82, 10.46
R <sup>2</sup> (adj)	0.16		

~p<=. 10; \*p<=.05; \*\*p<=.01; \*\*\*p<=.001

Model 5: Association between Internalizing Problem Score, All Connectedness Variables and Global Support Variable (Standardized) Adjusted for Covariates

	(N=137)		
	b	p value	CI
Intercept	12.39		-3.36, 28.14
Family Connectedness	-1.91 *		-3.43, -0.40
Peer Connectedness	-0.22		-1.69, 1.26
Community Connectedness	-0.29		-1.79, 1.22
MSPSS global support	0.07		-0.15, 0.29
Sex	-4.61 **		-7.21, -2.00
Age	0.15		-0.46, 0.77
Housing status	4.37		-1.78, 10.53
R <sup>2</sup> (adj)	0.16		

~p<=. 10; \*p<=.05; \*\*p<=.01; \*\*\*p<=.001

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