



## Measurement of post-war coping and stress responses: A study of Bosnian adolescents

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### ABSTRACT

We evaluated the psychometric properties of the Responses to Stress Questionnaire (RSQ; Connor-Smith, Compas, Saltzman, Thomsen, & Wadsworth, 2000) in a sample of Bosnian youth ( $N = 665$ ; age = 15 to 20 years) five years post-war. Participants reported on their coping and involuntary responses to post-war stressors including trauma reminders, loss reminders, and family conflict. Confirmatory factor analysis supported a four-factor model comprised of primary control engagement coping, secondary control engagement coping, disengagement coping, and involuntary stress responses. Results support the reliability and validity of the RSQ to adolescents growing up in stressful post-war contexts.

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Armed conflict and its stressful aftermath constitute a major threat to the physical health and psychological well-being of millions of children and adolescents throughout the world. According to the United Nations, approximately 2 million children died as the direct result of armed conflict, at least 6 million more were seriously injured or permanently disabled, and over 20 million were displaced from 1990–2000 (United Nations (UN), 2000). Civilians, particularly

children, are disproportionately affected by armed conflict in the world today (UN, 2007).

The 1992–1995 Bosnian Civil War powerfully depicts the brutal ravages of modern warfare, including its effects on vulnerable young populations. The war directly resulted in the deaths of nearly 100,000 persons and the serious injury of 200,000 more, including 50,000 children (World Bank, 1999). Children and adolescents who survived the Bosnian war were exposed to high rates of traumatic war-related events, including direct life threat, witnessing gruesome deaths and serious injury, massive destruction of property, and traumatic losses including forcible displacement and the killing or disappearances of loved ones (Allwood, Bell-Dolan, & Husain, 2002; Durakovic-Belko, Kulenovic, & Dapic, 2003). Many students lost years of schooling or were educated in extremely under-resourced “war schools” (World Bank, 1999). Of the country's pre-war population of 4.5 million, more than 1 million left or lost their homes, becoming internally displaced; an additional 1.2 million became refugees abroad (World Bank, 1999). The war reduced Bosnia's economy to the status of a developing country and severely depleted its middle class, with most citizens falling into poverty (Djipa, Muzur, & Lytle, 2002).

The harsh aftermath of the Bosnian conflict exemplifies many of the common consequences of modern armed conflict. Bosnian youth and their families contended with widespread economic strain,

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familial disruptions, and a damaged infrastructure (UNICEF, 1998). Potent reminders of traumatic war-related events were omnipresent, including graphic depictions of war atrocities and reports of ongoing political tensions in the media, people with war-related disabilities, and destroyed buildings (Layne, 2001). By early 1999 (the year this longitudinal study commenced), limited progress had been made in physical reconstruction and economic recovery, with most basic utilities restored. The country nevertheless remained in the grip of economic strain and political turmoil, ranking as the second poorest per capita in the region (World Bank, 1999). Internally displaced persons continued to be at high risk for inadequate health services, overcrowding, and unsanitary living conditions (World Bank, 1999), and serious physical illnesses and domestic violence were more prevalent than before the war (Djipa et al., 2002). Children were among the most at risk for living below the poverty line (UNDP, 2002). In 2003, unemployment rates still ranged from 33% to 47% across the region, and over one million Bosnians had not returned to their homes (UNICEF, 2003).

While a burgeoning literature over the 15 years describes child and adolescent psychological responses to armed conflict (e.g., Fayyad et al., 2004; Kinzie & Sack, 2002; Lustig et al., 2004; Papageorgiou et al., 2000; Shaw, 2003), current research must seek further understanding of post-war factors contributing to the adaptation and developmental trajectory of childhood survivors of war (Layne et al., 2010; Smith, Perrin, Yule, & Rabe-Hesketh, 2001). The consolidation and mastery of self-regulation skills is an essential task of child development. Trauma associated with highly stressful events such as war have the potential to impinge upon the healthy development of these tasks through eliciting responses that may be essential to survival, but may overwhelm, disorganize, or disrupt self-regulatory processes (Ford, Albert, Hawke, 2009; Skinner & Zimmer-Gembeck, 2007). The concept of coping, which refers to a subset of self-regulatory responses that occur in conditions of stress (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001), is central to understanding predictors and mechanisms of resilience and vulnerability in the short, intermediate, and long-term aftermath of war. Such efforts will shed much-needed light on the mechanisms and processes that underlie adaptive versus maladaptive trajectories of posttraumatic adjustment (Layne, Warren, Watson, & Shalev, 2007). An important first step in the study of psychosocial adaptation to war-related stress is the development of empirically supported models of coping and associated measurement tools that can be applied cross-culturally. The current investigation focuses on empirically testing a theory-based measure of adolescent coping and involuntary stress responses (the Responses to Stress Questionnaire (RSQ); Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) as they relate to war-related stress.

Theories of child traumatic stress propose that intervening variables – including trauma and loss reminders, secondary adversities, family climate, and coping strategies – play key roles in mediating or moderating the links between trauma exposure and post-trauma development and adaptation (Layne et al., 2006; Pynoos, Steinberg, & Wraith, 1995). Stressors in the aftermath of war may be potent mediators as they are often serious, chronic, and co-occurring (Karam & Bou Ghosn, 2003; Miller & Rasmussen, 2010). In particular, family conflict may be a salient stressor for adolescents growing up in post-war settings given that familial disruption (e.g., living with a caregiver who has a substance abuse or emotional problem) and altered family roles (e.g., caregiver unemployment) are widespread (Athey & Ahearn, 1991; Hobfoll et al., 1991; Machel, 2001). Similarly, persisting exposure to reminders of traumatic experiences (e.g., passing near the site where a loved one was killed) or painful losses (e.g., encountering his name, photos, or belongings) may constitute chronic, daily stressors (Layne et al., 2006; Smith, Perrin, Yule, Hacam, & Stuvland, 2002).

When faced with chronic or acute stress, children and adolescents tend to react with both *voluntary* (coping) and *involuntary* responses (Compas et al., 2001). Coping efforts are defined as “conscious, volitional efforts to regulate emotion, thought, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas et al., 2001, p. 89). In contrast, involuntary responses to stress include temperamentally-based and conditioned reactions to stress, such as physiological and emotional arousal (Connor-Smith et al., 2000). Coping skills are likely acquired along a developmental continuum; for example, children typically begin to incorporate more cognitive and problem-solving strategies as they enter middle childhood and progress into adolescence (Skinner & Zimmer-Gembeck, 2007). During adolescence youth gain increased ability to flexibly engage in coping strategies, consider the long-term goals, identify when and from whom to seek support, and determine the most effective responses for different situations (Skinner & Zimmer-Gembeck, 2007). Yet, these developmental shifts are vulnerable to disruptions due to highly stressful circumstances (Skinner & Zimmer-Gembeck, 2007). Adolescents and children who have lived through war must contend with stressful conditions related to traumatic events during war, but also to chronic stressors that may exist in the aftermath of war. These chronic war-related stressors may not only disrupt the development of coping skills, but may also severely tax war-exposed youths’ coping resources, leading them to rely on fewer and less effective coping strategies (e.g., Kocijan-Hercigonja, Rijavec, Marušić, & Hercigonja, 1998; Punamaki, Muhammed, & Abdulrahman, 2004). How children cope with a traumatic stressor during one stage of development may also have important implications for understanding their future responses to related stressors, as well as their overall physiology and long-term development (Skinner & Zimmer-Gembeck, 2007).

Culture may also play an important role in determining the specific types of coping strategies that youths employ when confronted with post-war stressors. Some societies may encourage outward expression of emotions, whereas other cultures may reinforce coping through avoidance or denial (Angel, Hjern, & Ingleby, 2001; Creamer, 1995). Responses to loss reminders may be moderated by culturally-linked mourning rituals and beliefs about the nature of death (Klass, Silverman, & Nickman, 1996), whereas responses to war-related trauma reminders may be moderated by culturally-linked interpretations about the nature and meaning of armed conflict (Barber, 2009). Further, in some cultures, individuals may be more likely to use strategies such as acceptance, cognitive restructuring, denial, and avoidance in ways that reflect a different underlying coping structure than categorizations defined by measures initially validated in another cultural group. Different cross-cultural developmental expectations regarding childhood and adolescence also have the potential to influence the structure and types of coping strategies engaged by youth. These observations underscore the need for studies that examine the factor equivalence of the structure of coping responses across different cultural groups and types of stressors.

Although some studies have described general coping strategies in post-war Bosnian populations (Durakovic-Belko et al., 2003; Jones, 2002), and the role of religious coping in adult Bosnian refugees resettled in the U.S. (Ai, Peterson, & Huang, 2003), much less is known about culturally or developmentally specific forms of coping or its measurement in this population. Participants in this study would have been in middle childhood at the onset of the war, with some entering adolescence as the war progressed. At the time of the study, participants were in middle to late adolescence. The majority of the participants were identified as a Bosnian Muslim. Adolescents who survived the war in Bosnia were exposed to high frequencies of traumatic events and war-related losses (Allwood et al., 2002; Barber, 2008; Smith et al., 2002). Historically, this culture places value on courage and heroism (Sujoldzic, Božić-Vrbančić, Kulenović, Plavšić, & Terzić, 2006). One study suggests, however, that the war had a profound impact on the individual and collective identity

development of Bosnian adolescents, forcing many to form their sense of identity in the context of sudden assault on their community, resulting in feelings of helplessness and uncertainty about the war and their own self-efficacy related to the war (Barber, 2008). In a related study, Jones (2002) interviewed Bosnian adolescents and found that those who disengaged from a search for meaning related to the war were more likely to appear psychologically healthy. Ai et al. (2003) also found an increase in positive religious coping associated with a sense of optimism in Bosnian and Kosovar adult refugees living in the US. These studies suggest that the coping structure, adaptability, and resources of Bosnian adolescents may be influenced not only by culture, but also their developmental and political context. Further, little is known about the developmental impact of these stressors on involuntary stress responses, although the stress and trauma literatures provide evidence that trauma exposure and chronic stress may heighten physiological responses and significantly impact neurobiological development (DeBellis, 2001; Gunnar & Quevedo, 2007; Kearney, Wechsler, Kaur, & Lemos-Miller, 2010; Teicher, Andersen, Polcari, Anderson, & Navalta, 2002).

Few studies to date have used models and measures of coping responses in youth exposed to war and its aftermath that are developmentally appropriate, theoretically derived, empirically supported, and validated within specific cultural groups. Rather, investigations of coping in post-war populations have primarily relied either on descriptive or qualitative accounts (e.g., Carballo et al., 2004; Halcon et al., 2004; Kline & Mone, 2003) or measures based on conceptual frameworks that have not been consistently replicated across cultural groups (e.g., Abdeen, Qasrawi, Nabil, & Shaheen, 2008; Durakovic-Belko et al., 2003; Kuterovac-Jagodic, 2003; Paardekooper, de Jong, & Hermanns, 1999). This gap in the evidence base is compounded by an overreliance on exploratory factor analysis and its associated risk of sample-idiosyncratic overfitting of measures and factor structures, which make it more difficult to replicate or generalize study findings cross-culturally. While exploratory studies hold remarkable value in cross-cultural literature, there are also benefits to identifying measures that can be replicated and adapted across cultures through confirmatory factor analytic methods that allow for cross-cultural comparisons and testing of cross-cultural equivalence (Connor-Smith & Calvete, 2004). A notable exception in the existing research is a study of Kurdish children (Punamaki et al., 2004) that reported replicating the theoretically-derived coping structure initially developed by Ayers, Sandler, West, and Roosa (1996).

Moreover, most studies of adolescent post-war coping do not specify the stressors with which youth are coping. Rather, studies have examined general coping responses (Hundt, Chatty, Thabet, & Abuataya, 2004; Kuterovac-Jagodic, 2003), or retrospective reports of coping during a focal attack or war-related traumatic event (Durakovic-Belko et al., 2003; Gavrilovic, Lecic-Tosevski, Knezevic, & Priebe, 2002). To date, no published studies have examined the links between specific chronic post-war stressors and specific coping and involuntary stress responses. Accordingly, consistent with calls to specify coping-related stressors (Compas et al., 2001; Skinner, Edge, Altman, & Sherwood, 2003) including post-war adversities (Kuterovac-Jagodic, 2003), this study investigated adolescent coping in relation to three theorized mediators of adolescent post-war adjustment (see Layne et al., 2006), including trauma reminders, loss reminders, and family conflict.

### Study setting and hypotheses

This study empirically tested the structure of Compas et al.'s (2001) model of child and adolescent coping in a sample of war-exposed Bosnian adolescents. This empirically-supported hierarchical model (Connor-Smith et al., 2000) proposes that both volitional coping and involuntary responses to stress contain *engagement*- and

*disengagement*-related elements (cf. Tobin, Holroyd, Reynolds, & Wigal, 1989). The model specifies that *involuntary engagement* responses consist of physiological and emotional arousal, rumination, intrusive thoughts, and impulsive action; whereas *involuntary disengagement* responses include escape, emotional numbing, involuntary avoidance, and cognitive interference. Further, (volitional) *disengagement* coping responses consist of avoidance, denial, and wishful thinking. The model partitions engagement coping responses into primary and secondary control strategies. *Primary control engagement* coping is characterized by efforts to directly influence the stressor or one's reactions to it and consists of emotional expression, problem solving, and emotional regulation. In contrast, *secondary control engagement coping* is characterized by attempts to adapt to the stressor or one's reactions to it and consists of acceptance, distraction, cognitive restructuring, and positive thinking.

Studies using confirmatory factor analysis (CFA) support the structure of this model in a variety of populations. These include Euro-American adolescents coping with social stress, low-income Euro-American middle adolescents coping with economic stress and family conflict, children coping with chronic pain, and adult women coping with breast cancer (Compas et al., 2006; Connor-Smith et al., 2000; Thomsen et al., 2002; Wadsworth & Compas, 2002). Initial support for the cross-cultural generalizability of the model's structure has been found in samples of Navajo adolescents coping with peer-related social stress (Wadsworth, Rieckmann-James, Benson, & Compas, 2004) and Spanish older adolescents coping with interpersonal stress (Connor-Smith & Calvete, 2004).

This study tested the structure of coping and involuntary stress responses in a sample of Bosnian adolescents who completed the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). CFA was chosen as the primary analytic strategy because it is theory-driven, suitable for examining cross-group factorial invariance, and minimizes the impact of chance and minor variations across samples (Skinner et al., 2003). Based on previous findings that this structure is robust across cultural groups and in the absence of cultural data that suggests specific changes to the structure of this model we expected to confirm a correlated five-factor model of coping and involuntary stress responses consisting of two engagement coping factors (primary control and secondary control); one disengagement coping factor; and two involuntary stress response factors (involuntary engagement and involuntary disengagement) consistent with the factor structure identified by Connor-Smith et al. (2000). Second, to test the generalization and relevance of the model, we predicted that the model would replicate across three stressor-specific subsamples comprised of youths who identified trauma reminders, loss reminders, or family conflict as their most distressing stressor.

### Method

#### Participants

Participants consisted of 665 students attending one of two 4-year technical secondary schools located in Sarajevo, Bosnia. Each participant completed one of three versions of the RSQ as part of the third wave of a four-wave longitudinal study of adolescent post-war psychosocial adaptation (Layne, 2001). A total of  $N = 701$  students participated in the third wave (age range = 15–20,  $M = 17.0$ ,  $SD = 1.1$ ). One school was comprised primarily of male students, the other of primarily female students. Both schools have competitive admissions procedures requiring at least average intellectual functioning. Ninety-seven percent of participants identified their ethnicity as Bosnian Muslim (most families of other ethnic backgrounds left the city before or during the war); the remaining participants identified themselves as either ethnic Croat (1.1%) or Serb, Albanian, Gypsy, or "other" (each <1.0%). Twelve classrooms at each school comprised of second-, third-, and fourth-

year students participated. Four classrooms, averaging 30 students per class, participated from each grade in each school.<sup>5,6</sup> Each of the 665 participants completed one of three versions (*Trauma Reminder [RSQ-TR]*, *Loss Reminder [RSQ-LR]*, or *Family Conflict [RSQ-FC]*) of the RSQ based on their perception of which of the three war-related stressors reflected their most serious source of stress. Students self-selected into one of three RSQ subgroups by selecting one of three stressors (trauma reminders, loss reminders, or family conflict) they perceived as “the most serious source of stress I have faced within the past six months”. Only students reporting a significant loss (through death, disappearance, or forced separation) could complete the RSQ-LR. Students who reported not experiencing any war-related stressors ( $n = 34$ )<sup>7</sup> in Part I, the “Sources of Stress” section, of the RSQ were excluded from the analyses; two other participants were excluded due to incomplete RSQs. Descriptions of the full sample and the three stressor-specific subsamples are described below.

### Measure

The *Responses to Stress Questionnaire* (RSQ; Connor-Smith et al., 2000) is a two-part self-report measure of voluntary coping and involuntary responses theorized to measure five coping-related factors, including *primary control engagement coping*, *secondary control engagement coping*, *disengagement coping*, *involuntary engagement*, and *involuntary disengagement*. Three versions of the RSQ were adapted in reference to the three focal stressor domains of Trauma Reminders (RSQ-TR), Loss Reminders (RSQ-LR), and Family Conflict (RSQ-FC). Previous studies with Euro-American youth found evidence supporting the reliability and validity of the RSQ as a measure of coping and involuntary stress responses (Connor-Smith et al., 2000). In initial test validation studies, the internal consistency reliabilities of the five RSQ factors ranged from  $\alpha = .70$  to  $.92$  (Connor-Smith et al., 2000). All versions of the RSQ were forward and back-translated by doctoral-level psychology students at the University of Sarajevo. Consistent with van de Vijver and Leung (1997)’s recommendations, a cultural consultant adjusted item wordings where needed to enhance cultural appropriateness.

#### Part 1: Sources of stress

The first section of each version of the RSQ includes 11 to 12 items specific to the stressor domain (*trauma reminders*, *loss reminders*, or

<sup>5</sup> To enhance generalizability, classrooms were purposively sampled using the same risk screening procedure (described in Layne et al., 2008) used in the UNICEF School-Based Psychosocial Program for War-Exposed Adolescents, in which the two schools were taking part. This procedure relied on counselors’ professional knowledge and school records to select classrooms with the highest proportions of severely war-exposed students.

<sup>6</sup> Due to limited resources, 2 schools were chosen out of 7 total secondary schools located in Sarajevo, and 10 total secondary schools located in the region (Bosnia and Herzegovina), that were implementing the school-based program. No data are available with which to investigate potential differences between students attending schools that did or did not participate. However, all seven Sarajevo schools were located within war-besieged areas.

<sup>7</sup> Participants who selected one of the three versions of the RSQ, but denied any stressors within the last six months on Part I (“Sources of Stress”) of the RSQ, were excluded from analyses due to the lack of a referent stressor for measuring coping and involuntary stress responses. Participants who reported no stressor items in Part I ( $n = 34$ ) were compared to those reporting one or more stressor items by subsample using MANOVAs. No significant differences were found among relevant variables between (excluded) participants reporting no stressors versus (included) students reporting stressors in the *trauma reminder* and *family conflict* subsamples. In contrast, in the loss reminder subsample, participants did not reliably differ on basic demographic variables, but students who reported experiencing no significant current stressors ( $n = 20$ ) reported significantly lower rates of total war trauma exposure and total war-related losses compared to students who reported loss reminder-related stress ( $n = 140$ ) within the last six months. The results of this study thus have limited generalizability for Bosnian secondary school students who report low levels of exposure to war-related trauma and loss.

*family conflict*) being assessed. Participants are asked to rank the frequency with which they experienced the stressors within the past six months on a 4-point scale ranging from 0 (*Never*) to 3 (*Almost every day*). Three items then ask respondents to rate the degree of perceived stressfulness of the stressors, how much they believe the stressors were caused by the war, and how much control they perceive exerting over the stressors, on a 4-point scale ranging from 1 (*Not at all*) to 4 (*A lot*). Part I of the RSQ-TR contained 12 items (e.g., seeing soldiers, tanks, or guns) adapted from the UCLA War-Related Trauma Reminders Screening Scale (TRSS; Layne et al., 1999a). The TRSS was developed, in collaboration with Bosnian expert clinicians, through clinical interviews and open-ended questionnaires administered to Bosnian adolescents inquiring about their most distressing post-war adversities and reminders. Part I of the RSQ-LR contained 11 items (e.g., seeing pictures or videotapes of him or her) adapted from the UCLA Loss Reminders Screening Scale (LRSS; Layne et al., 1999b), which was developed using the same methodology as the TRSS. Similarly, Part I of the RSQ-FC contained 12 family conflict and domestic stress items (e.g., members of my family had serious conflicts with each other) developed using the same methodology.

#### Part 2: Coping and stress responses

Part II of each version of the RSQ contains 57 self-report items measuring coping and involuntary responses in reference to the stressors listed in Part 1. Item stems are identical across all RSQ versions, with the exception of wording modifications to orient the participant to the specific stressor domain (e.g. “I deal with the reminders by wishing they would just go away, that everything would work itself out”). Respondents record the frequency with which each coping or involuntary stress response occurred over the last six months on a 4-point scale ranging from 1 (*Not at all*) to 4 (*A lot*). Table 1 contains sample items.

#### Procedure

Data were collected in Fall 2000, nearly five years following the formal cessation of hostilities in the 1992–1995 Bosnian conflict. Data were collected every six months between Fall 1999 and Spring 2001 and were used to inform a UNICEF-sponsored psychosocial program for war-exposed adolescents (Layne et al., 2008). Data collection tools included student self-report questionnaires, and caregiver self- and observational-report questionnaires. To maximize the generalizability of study findings to post-war intervention efforts, the longitudinal study followed the same purposive sampling procedure used in a post-war intervention program (detailed in Layne et al., 2008). Trained school counselors (RK & HP) gave presentations to school and student councils, reviewed school records, and gleaned other information from their professional duties to select candidate classrooms containing relatively high proportions of war-exposed students. Informed consent was obtained by school directors, participating teachers, and caregivers; informed assent was obtained from participating students. As in other studies conducted in the region (e.g., Allwood et al., 2002; Durakovic-Belko et al., 2003), no students, parents, or teachers declined the invitation to participate. Participating students and caregivers received modest monetary compensation, which was pooled to fund a class excursion. Participating teachers and school counselors were also modestly compensated. School counselors administered questionnaires in a classroom setting. Although administering only one RSQ version to each respondent partitioned N into three subgroups it reduced participant burden and permitted the study of *domain-specific* coping and involuntary stress responses.

#### Description of subsamples

This method resulted in three subsamples and a combined *Full Sample* that included participants from all three subgroups. The *Full*

**Table 1**  
Sample items from the Responses to Stress Questionnaire—trauma reminders version.

Factor and Scale	Sample Item
<i>Primary control engagement coping</i>	
Emotional expression	When I am reminded of something terrible that happened, I let someone or something know how I feel.
Emotional regulation	I keep my feelings under control when I have to, then let them out when they won't make things worse.
Problem solving	When I get reminded of something terrible that happened, I try to think of different ways to change the situation. ( <i>describe</i> )
<i>Secondary control engagement coping</i>	
Acceptance	I realize that I just have to live with things the way they are
Cognitive restructuring	I think about the things that I am learning from the situation, or something good that will come from it
Distraction	I think about happy things to take my mind off the reminder or how I'm feeling.
Positive thinking	I tell myself that everything will be all right.
<i>Disengagement coping</i>	
Avoidance	I try to stay away from people and things that make me feel upset or remind me of what happened.
Denial	When I get reminded, I try to believe the terrible things never happened.
Wishful thinking	When I get reminded of something bad that happened, I wish that someone would just come and get me out of here.
<i>Involuntary engagement</i>	
Emotional arousal	When I experience these reminders, I get upset by things that don't usually bother me.
Impulsive action	When I experience these reminders of terrible things that happened during the war, sometimes I can't control what I do or say.
Intrusive thoughts	When I experience a reminder, I keep remembering what happened, or I can't stop thinking about what might <i>still</i> happen.
Physiological arousal	When I experience these reminders, I feel sick to my stomach or get headaches.
Rumination	When I experience these reminders, I can't stop thinking about how I am feeling.
<i>Involuntary disengagement</i>	
Cognitive interference	When I experience these reminders, I can get so upset that I can't remember what happened or what I did.
Emotional numbing	When I am reminded, I don't feel anything at all, it's like I have no feelings.
Inaction	I just freeze when I experience these reminders of terrible things that happened, I can't do anything.
Involuntary avoidance	I just have to get away when I experience these reminders, I can't stop myself.

Sample was composed of 665 adolescents aged 15–20 ( $M = 17.0$ ,  $SD = 1.1$ ) who completed one of the three versions of the RSQ and acknowledged experiencing at least one stressor in the initial Sources of Stress section; 44.7% were female. The *Family Conflict subsample* was comprised of students ( $n = 370$ ; age = 15–20,  $M = 17.0$ ,  $SD = 1.1$ ; 42.6% female) who completed the RSQ-Family Conflict (RSQ-FC). The *Trauma Reminder subsample* consisted of students ( $n = 155$ ; age = 15–19,  $M = 17.1$ ,  $SD = 1.1$ ; 53.5% female) who completed the RSQ-Trauma Reminder (RSQ-TR). The *Loss Reminder subsample* included students ( $n = 140$ ; age = 15–19,  $M = 17.0$ ,  $SD = 1.1$ ; 45% female) who completed the RSQ-Loss Reminder (RSQ-LR).

## Results

### Confirmatory factor analysis of coping (voluntary) stress responses

#### Preliminary data preparation

Prior to analysis, the full sample and three subsamples were checked for normality and found to be within normal limits.<sup>8</sup> Following the procedure used by Connor-Smith et al. (2000), the 57 RSQ item responses were grouped into 19 parcels of 3 items each. These included 10 parcels theorized to measure voluntary coping responses (problem solving, emotional regulation, emotional expression, distraction, acceptance, positive thinking, cognitive restructuring, avoidance, wishful thinking, and denial) and 9 parcels theorized to measure involuntary stress responses (emotional arousal, physiological arousal, intrusive thoughts, rumination, impulsive action, emotional numbing, inaction, involuntary avoidance, and cognitive interference). A parcel score was not calculated when responses on 2 or more of the 3 items were missing. Missing data on one or more of the parcels occurred in less than 7% of

the full sample. The hypothesized five-factor RSQ structure was then tested using maximum-likelihood CFA in AMOS 4.0 (Arbuckle & Wothke, 1999). Missing data were handled in subsequent CFA analyses using the AMOS procedure of full-information maximum likelihood (FIML; Arbuckle, 1996). The number of participants ( $N = 665$ ) used in the CFA full sample provided sufficient power for the number of estimated parameters in the coping model.

A variety of indices can be used to evaluate the goodness of fit of a hypothesized model in CFA. The Chi-square statistic is conventionally reported; however, because this index tends to reject adequate-fitting models in large samples (Byrne, 2001; Hu & Bentler, 1995), it is typically used in conjunction with other fit indices, including Bentler-Bonnet's Non-Normed Fit Index (NNFI; Bentler, 1990; Bentler & Bonnett, 1980), Bentler's (1990) Comparative Fit Index (CFI), and Steiger and Lind (1980) Root Mean Square Error of Approximation (RMSEA). CFI and NNFI values above 0.90 are considered an adequate fit, whereas values of 0.95 generally reflect good fit (Hu & Bentler, 1999). For the RMSEA, values below 0.10 are considered an adequate fit, whereas values below 0.06 are considered a good fit (Hu & Bentler, 1999). Prior studies of the voluntary coping factor structure of the RSQ across multiple samples produced fit indices ranging CFI = 0.92 to 0.95 and RMSEA = 0.08 to 0.09, which were superior in fit to alternative coping models (Connor-Smith et al., 2000; Wadsworth et al., 2004).

#### Testing the 5-factor model

The correlated five-factor model for the full sample ( $N = 665$ ) is presented in Fig. 1. Standardized regression weights for loadings of the 19 parcels ranged from  $\beta = 0.57$  to 0.88, suggesting that the parcels generally served as sensitive indicators of their respective latent variables (McDonald, 1999). As shown in Table 2, the results from the full sample suggested a good fit to the hypothesized five-factor integrated model. The magnitudes of correlations among the five factors (ranging from 0.52 to 0.97; see Fig. 1) are consistent

<sup>8</sup> Tests for multivariate outliers did reveal multiple cases of Mahalanobis Distance multivariate outliers with critical chi-square values ( $df = 19$ ,  $p < .001$ ), however, subsequent analyses revealed outliers did not impact confirmatory factor analysis outcomes, therefore these cases were included in the analyses to optimize sample size.

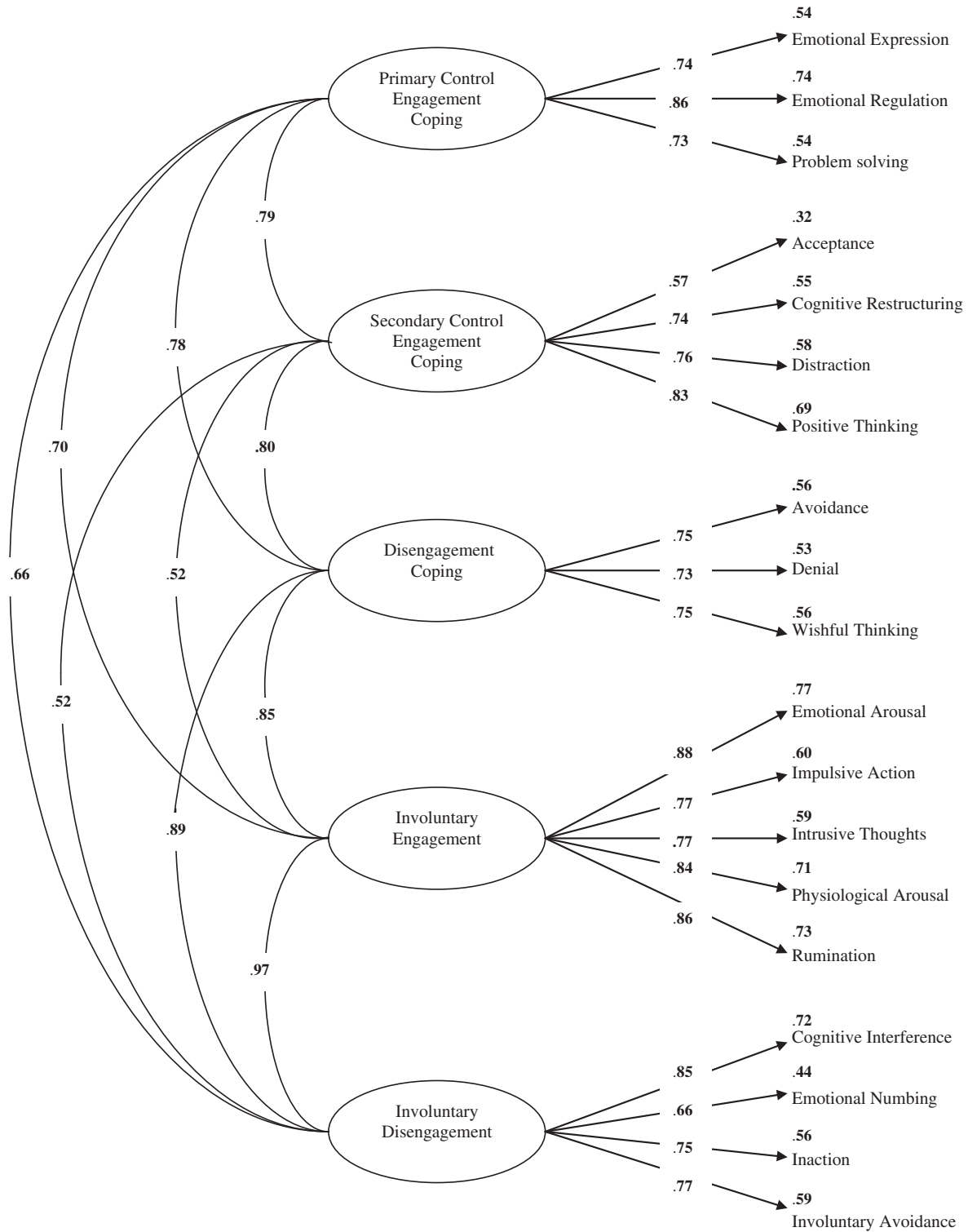


Fig. 1. Full sample: Five-factor confirmatory factor analysis of RSQ Coping Responses.

with those reported in previous studies (e.g., Wadsworth et al., 2004).

Testing alternative models

The high observed intercorrelation between the two involuntary stress response factors suggested that they could be combined to form a

four-factor model. A test of the resultant model (see Fig. 2) in the full sample and independent subsamples produced very similar fit indices (see Table 2). A two-factor model was then tested, which examined the structure of voluntary coping vs. involuntary coping responses. The results of this model were adequate, but slightly worse than the 4-factor or 5-factor models (see Table 2). Given that the four-factor and five-factor models presented the best fit statistics, but the 4-factor model was

**Table 2**  
Goodness of fit indices for Responses to Stress Questionnaire (RSQ) confirmatory factor analyses.

Sample	N	$\chi^2$	df	p-value	CFI	NNFI	RMSEA
<i>Full sample</i>							
5-Factor model	665	670.71	142	<.001	.99	.98	.08
4-Factor model	665	698.94	146	<.001	.99	.98	.08
2-Factor model	665	1151.62	151	<.001	.97	.96	.10
<i>Subsample 4-factor models</i>							
Family conflict RSQ	370	515.15	146	<.001	.98	.98	.08
Trauma reminder RSQ	155	260.32	146	<.001	.99	.98	.07
Loss reminder RSQ	140	356.84	146	<.001	.97	.97	.10

slightly more parsimonious, the decision was made to retain this model, which identified three voluntary coping and one involuntary stress response factors.<sup>9</sup>

#### Testing multiple groups and factorial invariance

CFA was used to independently test the retained four-factor model within each subsample (family conflict, trauma reminders, and loss reminders) to estimate baseline models for each subsample. This methodology is suggested prior to testing for factorial invariance across multiple groups (Byrne, 2001). The independent models of the three subsamples revealed good to adequate fit indices (see Table 2; Fig. 3).

#### Factor equivalence

A baseline multiple groups model in which the four-factor model was tested simultaneously across the three subsamples without any cross-group parameter constraints was first tested (see Table 3). Factor equivalence was then tested by comparing the four-factor model with unconstrained factor loadings to a model in which factor loadings were constrained to be equal across the three subsamples (see Table 3). The comparison of the constrained to unconstrained models resulted in a significant chi-square value, suggesting that factor loadings differed significantly across subsamples. Factor loadings were then constrained to be equal, one latent variable at a time, to determine the source of discrepancy. No significant chi-square differences ( $p < .01$ ) among the three subsamples were identified when the factor loadings for the latent Coping factors were separately constrained and tested against unconstrained models. The model containing constrained factor loadings for Involuntary Stress Responses however, significantly differed from the unconstrained model. These differences were examined among the three groups by comparing two subsamples at a time. Results indicated that the family conflict subsample differed significantly from both the trauma and loss reminders subsamples on factor loadings for Involuntary Disengagement. The model in Fig. 3 suggests that *cognitive interference*, *inaction*, and *involuntary avoidance* loaded more strongly in the loss and trauma reminder subsamples.

#### Internal consistency

Cronbach's alphas were generated for the four voluntary and involuntary stress response factors in each of the samples used in CFA. These values ranged from  $\alpha = .77$ –.95 (see Table 4), suggesting good to excellent internal consistency. Further, alphas for the three sources of stress scales found in Section I of each RSQ version were good to excellent (RSQ-FC  $\alpha = .72$ ; RSQ-TR  $\alpha = .93$ ; RSQ-LR  $\alpha = .93$ ), showing a high degree of perceived event co-occurrence.

<sup>9</sup> Although previous studies have found similar findings of a high correlation between the involuntary factors and have opted to retain either the five factor model (Wadsworth et al., 2004) or a separate two factor involuntary stress response model (Connor-Smith et al., 2000) the current analyses suggested that the 4-factor model was a more parsimonious fit for this population.

#### Descriptive statistics

##### Coping and involuntary stress responses

Descriptive statistics (means and SD's) for the raw computed factor scores on each the four factors are presented by subsample in Table 5. Consistent with past studies (e.g., Connor-Smith et al., 2000) girls reported higher raw scores on all coping and involuntary stress response factors (means range from 1.8 to 2.5 on the 4-point Likert scale) compared to boys (means range from 1.7 to 2.2) in the full sample. A multivariate analysis of variance (MANOVA) of the full sample in which gender served as a between-subjects grouping variable and the four factor subscale scores served as dependent variables revealed a significant gender effect,  $p < .01$ . In a second step, the MANOVA was repeated within each of the three subsamples. The subsample tests in the RSQ-FC and RSQ-LR subsamples yielded results generally consistent with those of the full sample. In the RSQ-TR subsample, girls reported significantly higher rates of primary control engagement and secondary control engagement coping than boys ( $p < .01$ ). These gender-linked differences are consistent with Connor-Smith et al. (2000) findings that female adolescents reported higher levels of all types of coping and stress responses on the RSQ compared to male adolescents. This finding underscores the utility using proportional scoring (e.g., sum of *primary control engagement* items/sum of all stress response items) when analyzing coping responses because it controls for overall response bias related to the tendency to report using high levels of all types of coping responses and are thus useful for studying differential relationships between specific types of coping and external variables. (Forsythe & Compas, 1987; Osowiecki & Compas, 1999; Vitaliano, DeWolfe, Maiuro, Russo, & Katon, 1990; Wadsworth et al., 2004). Coping and involuntary stress proportional scores are presented in Table 6.

Bivariate correlations among the four coping and involuntary stress response raw and proportional scores are presented by subsample in Table 7. Consistent with Connor-Smith et al. (2000), the proportion-based intercorrelations were both lower in magnitude and inverse in sign (with the exception of primary and secondary control coping) compared to the raw scores. This finding reflects the nature of the transformation (i.e., the four-factor total coping score served as the denominator of each proportion).

##### Perceived control over exposure to stressors

Students who completed the RSQ-FC reported a moderate level of perceived control ( $M = 2.5$ ,  $SD = 1.0$  on a 4-point Likert scale ranging from 1, *not at all*, to 4, *a lot*) over the family-related stressors they reported experiencing during the previous six months. Those who completed the RSQ-TR ( $M = 3.0$ ,  $SD = 0.9$ ) and RSQ-LR ( $M = 3.0$ ,  $SD = 0.8$ ) also reported a moderate level of control over experiencing external reminders related to trauma or loss, respectively, over the previous six months.

#### Discussion

This study is one of the first empirical studies to test the use of a theoretically based, psychometrically sound measure of adolescent coping and involuntary stress responses in relation to specific post-war stressors. The measure was examined in a culture with a history of political violence, with youth who had lived through war during their middle childhood and were surviving as adolescents in the post-war environment of a city destroyed by the war. Although some previous studies of traumatic war related stress in children and adolescents include measures of coping (Ajdukovic & Ajdukovic, 1998; Almqvist & Hwang, 1999; Paardekooper et al., 1999), few published studies have utilized empirically and cross-culturally validated measures to assess these constructs in post-war youth. Further, relatively few studies have attempted to replicate models of coping across different cultural groups (e.g., Prelow, Tein, Roosa, & Wood,

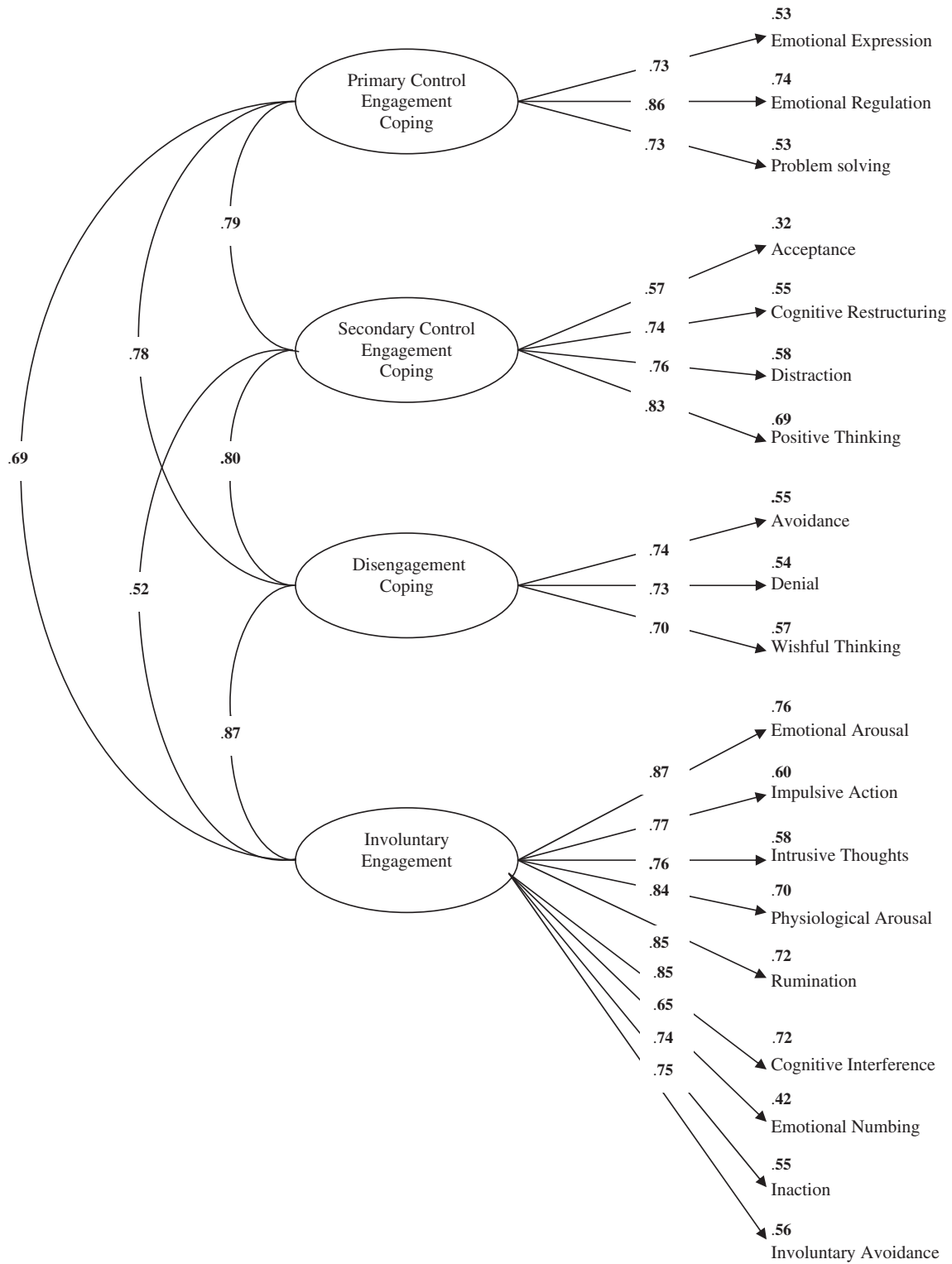


Fig. 2. Full sample: Four-factor confirmatory factor analysis of RSQ Coping Responses.

2000; Tolan, Guerra, & Montaini-Klov Dahl, 1997; Wadsworth et al., 2004) or in the context of war-related settings (e.g., Hudek-Knezevic, Kardum, & Vukmirovic, 1999; Punamaki et al., 2004).

While the initial test of this model supported the 5-factor model of Coping and Involuntary Stress Responses found in studies with Euro-American adolescents and adults (Connor-Smith et al., 2000), Euro-American adults (Compas et al., 2006), Native American

adolescents (Wadsworth et al., 2004), and Spanish college students (Connor-Smith & Calvete, 2004); a decision was made to retain a more parsimonious model that distinguished between the three forms of coping (primary control engagement, secondary control engagement, and disengagement) and one factor representing involuntary stress responses. Although previous studies found similar high rates of correlation between the two original involuntary stress response



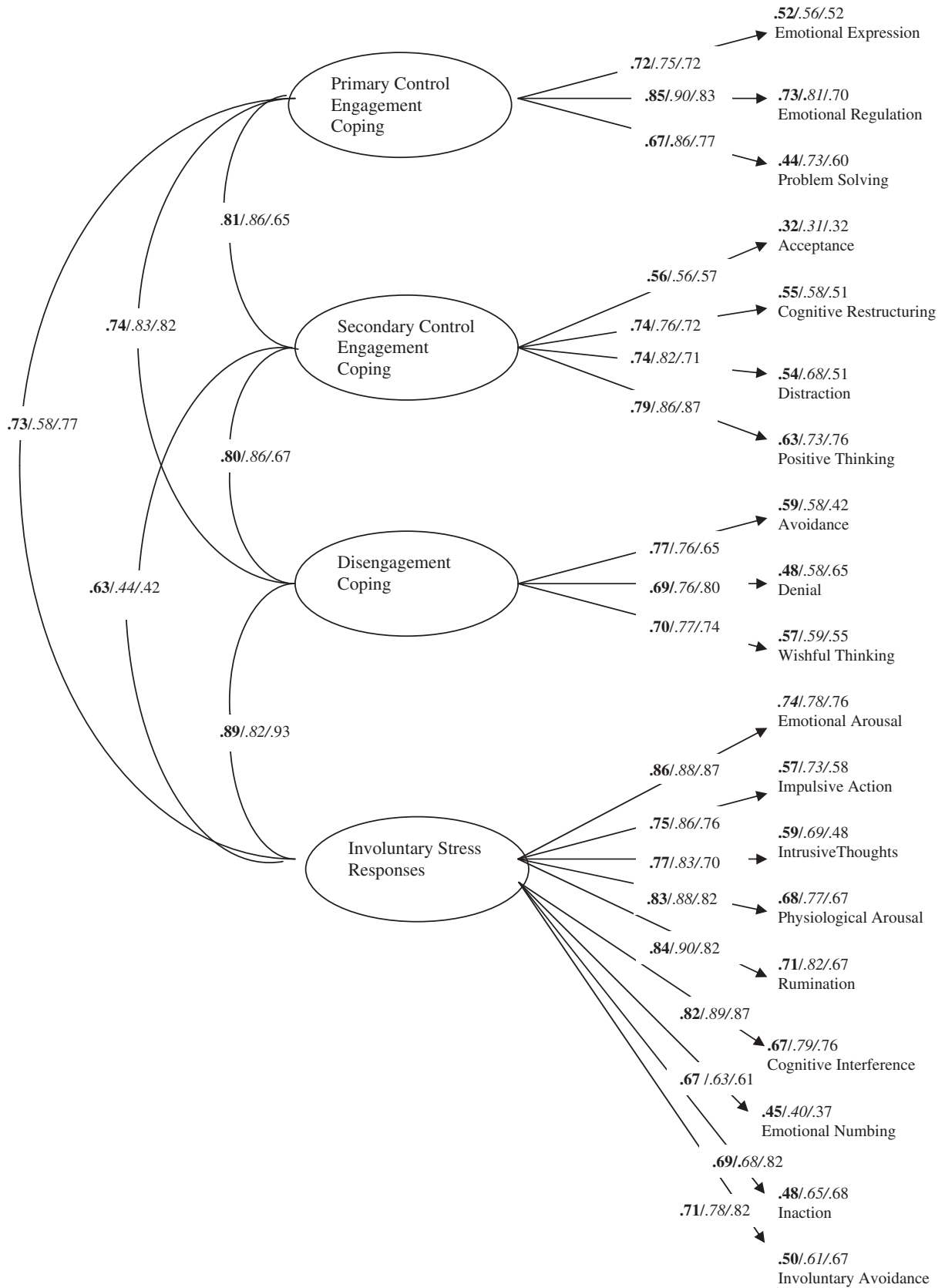


Fig. 3. Subsamples: Four-factor confirmatory factor analyses of family conflict (bold typeface), trauma reminder (italic typeface), and loss reminder (regular typeface) subsamples.

factors, given the unique cultural and psychosocial background of this population this 4-factor model may more accurately depict the nature of coping and involuntary stress responses exhibited by these youth.

Similarly, a two-factor model distinguishing between only coping and involuntary stress responses produced an adequate fit, confirming that this distinction is important, but also suggesting that the different

**Table 3**  
Goodness of fit indices for Factor Equivalence Models Responses to Stress Questionnaire (RSQ).

Model	n	$\chi^2$	df	p-value	CFI	NNFI	RMSEA	$\Delta\chi^2$	$\Delta df$
All factors unconstrained (between groups)	665	1132.83	438	$p < .001$	.98	.98	.05		
All factors constrained (between groups)	665	1209.33	468	$p < .001$	.98	.98	.05	76.5*	30
Primary control engagement coping constrained (between groups)	665	1138.97	442	$p < .001$	.98	.98	.05	6.14	4
Secondary control engagement coping constrained (between groups)	665	1134.79	444	$p < .001$	.98	.98	.05	1.96	6
Disengagement coping constrained (between groups)	665	1142.53	442	$p < .001$	.98	.98	.05	9.70	4
Involuntary stress responses (between groups)	665	1191.31	454	$p < .001$	.98	.98	.05	58.48*	16
Family/Trauma subsamples unconstrained	525	775.58	292	$p < .001$	.98	.98	.06		
Family/Trauma subsamples constrained (between groups)	525	812.42	307	$p < .001$	.98	.98	.06	36.84*	15
Family/Trauma subsamples disengagement coping constrained	525	776.55	294	$p < .001$	.98	.98	.06	0.97	2
Family/Trauma subsamples involuntary stress Responses constrained	525	804.75	300	$p < .001$	.98	.98	.06	29.17*	8
Family/Loss subsamples unconstrained	510	872.52	292	$p < .001$	.98	.97	.06		
Family/Loss subsamples constrained (between groups)	510	925.59	307	$p < .001$	.98	.97	.06	53.07*	15
Family/Loss subsamples disengagement coping constrained	510	881.62	294	$p < .001$	.98	.97	.06	9.10	2
Family/Loss subsamples involuntary stress responses constrained	510	913.45	300	$p < .001$	.98	.97	.06	40.93*	7
Trauma/Loss subsamples unconstrained	295	617.20	292	$p < .001$	.98	.98	.06		
Trauma/Loss constrained (between groups)	295	635.06	307	$p < .001$	.98	.98	.06	17.86	15
Trauma/Loss disengagement coping constrained	295	622.06	294	$p < .001$	.98	.98	.06	4.86	2
Trauma/Loss subsamples involuntary stress responses constrained	295	628.45	300	$p < .001$	.98	.98	.06	11.25	8

\* $p < .01$ .

forms of coping identified in the four factor model provide additional valuable information about the structure of coping in this sample.

The participants in this study can be viewed as belonging to Bosnian culture, but also as part of a unique culture of childhood and adolescent survivors of the war in Bosnia; a war which significantly impacted their community and family life during an important stage of development. The overlap in involuntary stress responses in these youth could be indicative of cultural distinctions in adolescent responses to stress, but may also suggest support for biological models of developmental responses to trauma and chronic stress (e.g., DeBellis, 2001; Teicher et al., 2002). In this case, the lack of distinction between engagement and disengagement categorizations of involuntary stress responses may reflect an overall heightened response in systems that are overwhelmed and dysregulated. Future studies examining these involuntary stress responses in relation to symptoms of PTSD and biobehavioral measures could further inform our understanding of the relationship between these variables, as well as the long-term impact of war trauma and chronic stressors on physiological and emotional development.

Findings also suggest there is a distinction in terms of how these involuntary responses manifest in response to family stressors as compared to reminders of trauma and loss. These findings may further support the notion of a post-traumatic response, as reminders are theorized to activate physiological and automatic responses associated with the original experience of exposure to trauma, whereas family conflict can be viewed as a more chronic post-trauma stressor which may solicit slightly different involuntary responses in these youth. Specifically, the involuntary avoidance, inaction, and cognitive interference items loaded more strongly on the Involuntary Disengagement factor in Trauma Reminders and Loss Reminders subgroups. These distinctions highlight potentially important distinctions in how Bosnian youth involuntarily respond to family conflict versus trauma or loss

**Table 4**  
Internal consistency reliability coefficients (Cronbach's Alpha).

	Family conflict sample	Trauma reminder sample	Loss reminder sample
Primary control engagement coping	.79	.85	.85
Secondary control engagement coping	.84	.86	.81
Disengagement coping	.78	.80	.77
Involuntary stress responses	.95	.96	.95

Note. Cronbach's alphas were calculated using individual items loading within each factor.

reminders. These variations in involuntary stress responses may be important areas to further explore and consider when working with youth cross-culturally in post-war settings and have important implications for psychological assessment and intervention.

The successful replication of the three coping factors in the 4-factor model across the full sample, as well as across three subsamples of adolescents reacting to family conflict, trauma reminders, and loss reminders, underscores the structural robustness structure of coping in the RSQ across a range of cultural groups and stressors types. This range of coping responses is especially notable given exposure to traumatic and chronic stressors during this critical stage of development.

#### Study strengths

This study both replicated a model of adolescent coping and identified a new structure of involuntary stress responses measured five years post-war in relation to theorized determinants of long-term post-war adjustment (i.e., trauma reminders, loss reminders, and family conflict) developed over four years of field research. Allowing students to self-select into trauma reminder, loss reminder, and family conflict groups also increased the likelihood that they were

**Table 5**  
Coping scores on the Responses to Stress Questionnaire (RSQ).

Sample	n	Primary control coping M (SD)	Secondary control coping M (SD)	Disengagement coping M (SD)	Involuntary stress responses M (SD)
<i>Family conflict</i>					
Total	370	2.2 (.59)	2.3 (.54)	2.0 (.55)	1.9 (.76)
Boys	210	2.0 (.49)	2.1 (.52)	1.9 (.51)	1.7 (.43)
Girls	156	2.4 (.58)**	2.5 (.51)**	2.2 (.57)**	2.0 (.57)**
<i>Trauma reminder</i>					
Total	155	2.2 (.64)	2.5 (.61)	2.1 (.56)	1.8 (.56)
Boys	72	2.0 (.58)	2.3 (.65)	2.1 (.57)	1.7 (.55)
Girls	83	2.4 (.65)**	2.6 (.56)*	2.1 (.57)	1.8 (.57)
<i>Loss reminder</i>					
Total	140	2.3 (.60)	2.5 (.53)	2.0 (.55)	1.9 (.54)
Boys	77	2.1 (.57)	2.4 (.48)	1.9 (.54)	1.8 (.54)
Girls	63	2.5 (.58)**	2.6 (.56)	2.1 (.54)	2.1 (.52)

\* $p < .01$ . \*\* $p < .001$ .

**Table 6**  
Proportional scores on the Responses to Stress Questionnaire (RSQ).

Sample	n	Primary control M(SD)	Second control M(SD)	Dis-engage M(SD)	Invol. stress responses M(SD)
<i>Family conflict</i>					
Total	370	.17 (.03)	.24 (.04)	.16 (.02)	.43 (.05)
Boys	210	.17 (.03)	.24 (.03)	.16 (.02)	.43 (.04)
Girls	156	.17 (.03)	.24 (.04)	.15 (.02)	.43 (.05)
<i>Trauma reminder</i>					
Total	155	.17 (.03)	.26 (.05)	.16 (.02)	.41 (.06)
Boys	72	.16 (.02)	.25 (.04)	.16 (.02)	.42 (.06)
Girls	83	.18 (.03)*	.27 (.05)	.16 (.02)	.40 (.07)
<i>Loss reminder</i>					
Total	140	.17 (.03)	.25 (.04)	.15 (.02)	.43 (.05)
Boys	77	.17 (.03)	.25 (.05)	.15 (.02)	.43 (.05)
Girls	63	.17 (.03)	.25 (.05)	.15 (.02)	.43 (.05)

Note. Proportional scores are computed as a ratio of total (across all 4 factors) voluntary and involuntary responses on the RSQ.

\* $p < .01$ .

reporting on post-war stressors they perceived as personally relevant and stressful.

#### Study limitations and proposed directions for future research

We qualify our discussion with several important caveats. First, the purposive sampling of secondary school classes with a high prevalence of severely war-exposed students carries both strengths and limitations. With respect to strengths, this design feature enhanced the generalizability of the findings to “high risk” groups targeted by post-war interventions (Layne et al., 2008). Further this feature increased the variances of “high magnitude” but infrequently endorsed trauma exposure variables (e.g. father killed, mother killed) that are necessary in order to successfully “unpack” pathways of influence that differentially link specific post-war outcomes (Layne et al., 2010). However, this same feature limits the generalizability of the study results to more severely war-exposed youths residing

**Table 7**  
Bivariate correlations of four coping and stress response factors (by subsample).

	Raw primary	Raw second.	Raw diseng.	Prop. primary	Prop. second.	Prop. diseng.
<i>Raw scores</i>						
Secondary control coping	<b>.63**</b>					
	<i>.72**</i>					
	<i>.51**</i>					
Disengagement coping	<b>.56**</b>	<b>.63**</b>				
	<i>.69**</i>	<i>.71**</i>				
	<i>.64**</i>	<i>.50**</i>				
Involuntary stress responses	<b>.59**</b>	<b>.53**</b>	<b>.78**</b>			
	<i>.51**</i>	<i>.37**</i>	<i>.72**</i>			
	<i>.67**</i>	<i>.34**</i>	<i>.80**</i>			
<i>Proportional</i>						
Secondary control coping			<b>.09</b>			
			<i>.26*</i>			
			<i>-.06</i>			
Disengagement coping			<b>-.35**</b>	<b>-.19*</b>		
			<i>-.16</i>	<i>.05</i>		
			<i>-.28*</i>	<i>-.25*</i>		
Involuntary stress responses			<b>-.53**</b>	<b>-.77**</b>	<b>-.09</b>	
			<i>-.60**</i>	<i>-.87**</i>	<i>-.27*</i>	
			<i>-.36**</i>	<i>-.84**</i>	<i>.02</i>	

Note. Correlations are presented in bold for the Family Conflict Sample ( $n = 303$ ), italics for the Trauma Reminder Sample ( $n = 134$ ), and plain text for the Loss Reminder Sample ( $n = 118$ ).

\* $p < .01$ . \*\* $p < .001$ .

in this region, and directs the focus of the study towards the question of how youths with the most severe histories of war-related trauma and loss cope with reminders of those experiences (in the case of trauma and loss reminders) or with more normative post-war stressors (in the case of the family conflict subsample). Second, the cross-sectional study design precludes the formal testing of causal pathways linking coping responses to post-war psychosocial adaptation and the longitudinal analysis of adjustment trajectories and underscores the need for longitudinal investigation.

The empirical support for the RSQ's structure of coping with adolescents exposed to potent post-war stressors provides impetus for conducting additional studies of the psychological and emotional correlates of child and adolescent exposure to war and its aftermath—a field that is still in its infancy in many respects (Ehnholt & Yule, 2006; Fayyad et al., 2004). Specifically, additional studies are needed focusing on the selection, use, and differential effectiveness of coping strategies in war-exposed youths. Such studies can shed further light on the relationships between specific types of stressors, specific coping strategies, involuntary responses to stress, culture, and psychological outcomes. In addition, futures studies focused on the impact of trauma and chronic stress at different stages of child and adolescent development on later use of coping strategies and involuntary stress responses will lend important information to the creation and adaptation of developmentally sensitive interventions.

A potentially promising avenue of future research is revealed in findings that Bosnian adolescents reported engaging in coping strategies identified across a variety of populations as adaptive when confronting uncontrollable stressors (e.g., Thomsen et al., 2002; Wadsworth & Compas, 2002). Accordingly, we will investigate the associations between specific coping strategies and specific psychosocial outcomes, both concurrently and longitudinally, in future studies. An additional avenue of research involves studying the pathways through which exposure to trauma or loss reminders, paired with associated involuntary responses, may encroach upon adaptive grieving tasks and lead to traumatic grief (Layne et al., 2008). Thus, studying the ways in which youths cope with secondary adversities, loss reminders, and trauma reminders, as well as their involuntary responses to these reminders and adversities, may shed valuable light on factors influencing long-term adaptation to major losses and trauma (Layne et al., 2006).

In conclusion, this study introduced a measure of coping in relation to specific types of post-war stressors theorized to contribute to severe, persisting psychological distress and developmental disruption. It is hoped that this theoretically-based measure of adolescent coping and involuntary stress responses will shed light on the ways in which youths' coping strategies promote or detract from positive adaptation, in the aftermath of disasters. The resulting findings carry considerable promise for developing interventions that foster positive psychosocial adaptation and healthy development in the context of disasters and their aftermath.

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