Are Beslan's Children Learning to Cope? A 3-Year Prospective Study of Youths Exposed to Terrorism

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ABSTRACT

Objective: This longitudinal study aimed to assess the course of psychological symptoms and coping behaviors in 33 adolescents directly and indirectly exposed to the 2004 terrorist attack in Beslan, Russia. We also investigated the role of coping in the development of posttraumatic stress.

Method: At 1.5 and 3 years postattack, youths' psychological distress was measured using the Brief Symptom Inventory 18; emotional and behavioral difficulties were assessed via the Strength and Difficulties Questionnaire; and coping behaviors were measured using the Brief COPE. Three years after the attack, posttraumatic stress symptoms were evaluated via the UCLA Posttraumatic Stress Disorder Reaction Index.

Results: Directly exposed youths showed a significant increase in psychological distress ($P = .05$) and a decrease in active coping ($P = .042$), whereas indirectly exposed youths reported better mental health and more active coping over time. Compared to girls, boys showed a disproportionate increase in psychological distress, emotional and behavioral problems, and avoidant coping. Direct exposure to the attack and the endorsement of avoidant coping behaviors significantly predicted the severity of posttraumatic symptoms at follow-up ($P < .05$ for both).

Conclusions: Our findings highlight the importance of conducting follow-up studies to monitor long-term psychological functioning and to screen for adolescents who may need additional referral for trauma treatment. The long-term detrimental effects of avoidant coping on youths' psychological well-being underscore the need to implement early psychoeducational interventions to minimize adverse outcomes and prevent the chronicity of posttraumatic reactions.

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Adolescents exposed to terrorist attacks are at increased risk of developing long-term mental health problems. However, few published reports have examined the longitudinal course of youths' psychological symptoms and coping behaviors following such events.[1,2] Most studies in the field have tended to follow survivors for relatively short periods of time (eg, < 2 months) or have used cross-sectional designs, thus limiting inferences about the course of psychological symptoms.[3] The current study presents the results of a unique opportunity to follow-up a small sample of adolescents 3 years after the 2004 terrorist attack in Beslan, North Ossetia, Russia. During this attack, more than 1,300 children and adults were taken hostage for 3 consecutive days by a group of armed terrorists at the traditional celebration for the opening school year. The crisis ended in extreme violence with at least 334 hostages being killed, 186 of them children. To date, the sociopolitical situation in Beslan is characterized by tension and controversies, because many aspects of the massacre are still unclear. Although most children now regularly attend school, and adults allow themselves to celebrate weddings and other important rituals, the community is still dominated by a climate of fear, uncertainty, and desire for revenge.[4] The destruction at former School Number 1 remains almost untouched for memorial purposes, and many families worry about future terrorist attacks due to the ongoing conflicts with neighboring Chechnya and Ingushetia. Parfitt[5] defined the Beslan school incident as one of the worst atrocities enacted on a civilian population in Europe's recent history, as it was specifically targeted at children, it occurred in an everyday-life setting (ie, school), and it affected the entire community. Nonetheless, surprisingly little is known about the long-term consequences of this traumatic event.

The few investigations that studied the same youths exposed to disaster and mass violence across multiple assessment periods indicate that mental health problems can persist over several years.[6–9] Physical proximity, intensity, and duration of exposure to terrorism-related trauma are strongly correlated with subsequent psychosocial adjustment,[10] but adolescents who are indirectly exposed to terrorism may also experience severe psychological distress.[11] Gender has also been linked to postattack functioning in adolescents, with girls being more vulnerable to psychological distress and posttraumatic stress disorder (PTSD) symptoms after terrorism than boys[12,13]; in contrast, boys show higher rates of externalizing symptoms and need more time to recover from trauma compared to their female peers.[14] However, these variables only partially explain adverse mental health outcomes in youths after terrorism.

Researchers have recently proposed that coping styles may play an important role in adolescents' psychological responses to terrorism.[15] The scant number of published studies on this issue reports that active and problem-focused strategies are linked with better youth mental health compared to emotion-focused coping.[16–18] In contrast, other authors suggest that emotion-focused coping may predict better outcomes than problem-focused coping, especially in conditions of political instability and chronically stressful conditions.[19] To our knowledge, only 2 studies have prospectively investigated the associations between coping styles and adolescents' responses to terrorism. Gil[20] found that the endorsement of emotion-focused and avoidant coping strategies significantly predicted the diagnosis of PTSD among

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Clinical Points

- Despite initial comparable levels of psychological distress, adolescents directly exposed to a terrorist attack show an increase in mental health problems over time compared to their indirectly exposed peers.
- Endorsement of avoidant coping plays a major role in the development and maintenance of posttraumatic symptoms, whereas active and support coping are not related to youths' PTSD symptoms 3 years postattack.
- In the aftermath of terrorism, clinicians can help adolescents enhance their proactive coping skills to minimize adverse outcomes and prevent the chronicity of posttraumatic reactions.

Israeli undergraduate students 6 months after a terrorist explosion. In a study of undergraduates indirectly exposed to the September 11, 2001 World Trade Center attack, Baschnagel and colleagues[21] reported that emotion-focused coping before the September 11 attack predicted increased PTSD symptomatology 1 and 3 months following the attack, whereas avoidance coping did not.

Our previous study of Beslan adolescents who were evaluated 18 months after the terrorist attack revealed similar overall levels of psychological distress and emotional and behavioral problems among directly and indirectly exposed groups, whereas girls reported more psychological symptoms than boys. In addition, avoidance coping was related to increased symptomatology, but only for directly exposed adolescents.[22] The present study is a 3-year postattack follow-up of a subgroup of those adolescents. The first aim of this small-scale prospective study was to assess whether psychological distress, emotional and behavioral problems, and coping would diverge in time between youths who were directly exposed to the traumatic event and those who were not and between girls and boys. The second aim was to examine whether level of exposure, gender, and coping would predict the severity of posttraumatic stress symptoms at follow-up.

METHOD

Participants and Procedure

The study is part of a larger project on the mental health of children and families who survived the 2004 terrorist attack against School Number 1 in Beslan, North Ossetia, Russia. Written permission and ethical approval for conducting the original larger study were secured from the North Ossetian Ministry of Education together with informed consent from the principal and the psychologist of Beslan's new School Number 1. In addition, verbal consent was obtained from parents and youths during a meeting in which the purpose and the methods of our work were explained.

The initial study has been described in detail elsewhere.[19] At time 1 (1.5 years postattack), the sample consisted of 171 students (89 girls, 82 boys) aged 14–17 years who were attending grades 8, 9, and 10. Of these, 71 (42%) were held as hostages during the attack, and 100 (58%) were not. Directly exposed groups (42 girls, 29 boys) had a mean age of 15.1 years (SD = 0.90), and indirectly exposed groups (47 girls, 53 boys) had a mean age of 15.2 years (SD = 0.96). Because of the constraints imposed by the local government, at time 2 (3 years postattack) we were allowed to work with a maximum of 3 classes of adolescents in small groups. The classes were randomly selected based on teachers' availability to collaborate.

Among the 62 students involved in the assessment, 33 (18 boys, 15 girls) also had participated in the time 1 assessment and thus were included in the present study. Of the 33 participants, 48.5% (n = 16) were in the school at the time of the terrorist attack (direct exposure group), and 51.5% (n = 17) were not (indirect exposure group). Participants were attending 10th and 11th grades and had a mean age of 16 years (SD = 0.80). None of the subjects had received psychological treatment. At both time points, adolescents completed a 45-minute battery of questionnaires assessing psychological distress, emotional and behavioral problems, and coping strategies under the supervision of trained clinical psychologists and a professional interpreter.

To compare the students who participated only at time 1 (n = 138) and those who participated at both time points (n = 33), we used 2 analytic approaches. First, nonparametric analyses (ie, Fisher exact test and Mann-Whitney test) were conducted. Second, to assess whether the 33 participants could be considered a random sample of the larger group, a resampling procedure was used. We randomly selected 33 participants from the remaining 138 for 1,000 times, and computed the proportions and means for categorical and continuous variables, respectively. For each variable, the 95% confidence interval (CI) was estimated using the 2.5% and the 97.5% quantiles of the obtained distribution. If, in our follow-up sample, the proportions and means fell outside the 95% CIs, the difference was considered significant (ie, $P < .05$). Both approaches yielded no significant differences between the 2 groups in terms of both demographic and outcome variables.

Measures

Brief Symptom Inventory 18. The Brief Symptom Inventory 18 (BSI 18) is an 18-item self-report measuring psychological and psychiatric problems.[23] The questionnaire includes 3 subscales assessing symptoms of depression, anxiety, and somatization. Adolescents indicated how frequently they had been distressed or bothered by symptoms in the past month using a scale ranging from 0 (*not at all*) to 4 (*always*). A global severity index was obtained by summing all of the scores, with possible scores ranging from 0 to 72. The questionnaire was translated into Russian for purposes of the present study using the translation-backtranslation method. The BSI 18 has been widely used with psychiatric, medical, and community populations,[23] also demonstrating good internal consistency and reliability for adolescent

samples.[24] In this study, Cronbach α for the total score was .91 at time 1 and .89 at time 2.

Strength and Difficulties Questionnaire. The Strength and Difficulties Questionnaire (SDQ) is a 25-item self-report measure covering areas of emotional and behavioral difficulties. The questionnaire includes 5 subscales of 5 items each, generating scores for emotional symptoms, conduct problems, hyperactivity-inattention, peer problems, and prosocial behavior.[25] Items are rated on a scale ranging from 0 (*not true*) to 2 (*certainly true*). A total difficulty score is obtained by summing all of the scale scores except the last, with possible scores ranging from 0 to 40. The Russian version has been used in clinics and research studies, indicating good acceptability and internal consistency.[26] In the present study, we used the total difficulty score as an index of adolescents' psychological adjustment. Internal consistency measured by Cronbach α for this score was .65 and .68 at time 1 and time 2, respectively.

Brief COPE. The Brief COPE consists of 28 self-rating questions that yield 14 subscale scores describing a range of theoretically based coping responses.[27] Respondents are asked to rate each item (0 = *I haven't been doing this at all* to 3 = *I've been doing this a lot*) in relation to how they had been "dealing with stress in (their) life, including stress related to the terrorist attack" during the past month. Scale scores are calculated by simply adding the item scores. The Brief COPE has been widely used with clinical and community samples.[27,28] Following previous research,[22] the 14 subscales were aggregated into 3 summary scales: (1) *Active coping* (α = .78 at time 1, α = .60 at time 2) included positive reframing, planning, taking action, acceptance, and humor; (2) *Support coping* (α = .66 at time 1, α = .73 at time 2) included seeking emotional and instrumental support and seeking comfort from religion; (3) *Avoidant coping* (α = .69 at time 1, α = .71 at time 2) included behavioral disengagement, self-distraction, denial, self-blame, venting, and substance use.

University of California at Los Angeles Posttraumatic Stress Disorder Reaction Index for* DSM-IV*, Revision 1, Adolescent Version, is a self-report questionnaire assessing PTSD symptoms in adolescent populations.[29] At time 2, participants were asked to rate the frequency of 22 PTSD symptoms experienced during the past month on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*most of the time*). A total posttraumatic severity score was computed as the sum of the responses to 20 of the 22 items, α = .87. The University of California at Los Angeles Posttraumatic Stress Disorder Reaction Index has proven good psychometric properties and has been used in a variety of cultural settings,[29] including Russia.[30]

Statistical Analysis

Prior to conducting the analyses, all study variables were tested for univariate normality. None was significantly skewed or kurtotic. Changes in scores on the BSI 18, the SDQ, and the Brief COPE were analyzed by means of repeated measures analyses of variance (ANOVAs), with exposure group and gender as between-subject factors and time as within-subject factor. We used multiple regression analysis to evaluate the extent to which the severity of posttraumatic symptoms at follow-up was predicted by gender, exposure, and the endorsement of coping strategies between time 1 and time 2. Because the BSI 18 and SDQ total scores were stable over time ($r = 0.53$, $P = .001$ and $r = 0.52$, $P = .002$, respectively), and given that these variables were significantly associated with the posttraumatic symptoms severity score (r values ranging from 0.55 to 0.78), they were not included in the analyses. Due to intercorrelations among coping strategies at both time points, we estimated separate models for each coping strategy at time 1 and time 2. Thus, 6 models were calculated. In each regression model, time 2 posttraumatic symptoms were regressed on gender, exposure to the terrorist attack, and coping. In each model, all of the predictor variables were entered simultaneously in one step.

Before conducting these analyses, we also created (a) an exposure × coping interaction term in order to test whether coping moderated the relationship between exposure and posttraumatic symptoms and (b) a gender × coping interaction term to examine whether coping moderated the relationship between gender and posttraumatic symptoms severity scores. These interaction terms were regressed on the main outcome variable in each of the 6 regression models, but none of them emerged as a significant predictor. Hence, they were excluded from subsequent analyses.

RESULTS

Table 1 shows the mean scores for adolescents' reported psychological distress, emotional and behavioral difficulties, and coping strategies 1.5 and 3 years after the terrorist attack separately for directly and indirectly exposed groups and for boys and girls.

We found a significant time × exposure interaction for the BSI 18 psychological distress score ($F_{1,29} = 4.20$, $P = .050$, $\eta_p^2 = .126$). As shown in Figure 1, the indirectly exposed group reported a moderate decrease in psychological symptoms, whereas the directly exposed group showed a marked increase in BSI 18 scores between time 1 and time 2. Psychological distress scores significantly differed as a function of gender ($F_{1,29} = 5.01$, $P = .033$, $\eta_p^2 = .147$), with girls reporting significantly more psychological symptoms than boys. The interaction between time and gender was also significant ($F_{1,29} = 4.99$, $P = .033$, $\eta_p^2 = .147$). Overall, girls reported similar levels of psychological distress across time points, whereas boys became more distressed over time.

A similar pattern of results emerged for the SDQ total difficulties score. A marginally significant interaction effect of time and exposure emerged ($F_{1,29} = 3.87$, $P = .059$, $\eta_p^2 = .118$), with the directly exposed group reporting more total difficulties and the indirectly exposed group showing a decrease in SDQ scores over time. There were significant differences between girls and boys ($F_{1,29} = 5.80$, $P = .023$, $\eta_p^2 = .167$), with girls scoring higher than boys on total difficulties. In addition, the interaction between time and gender was significant

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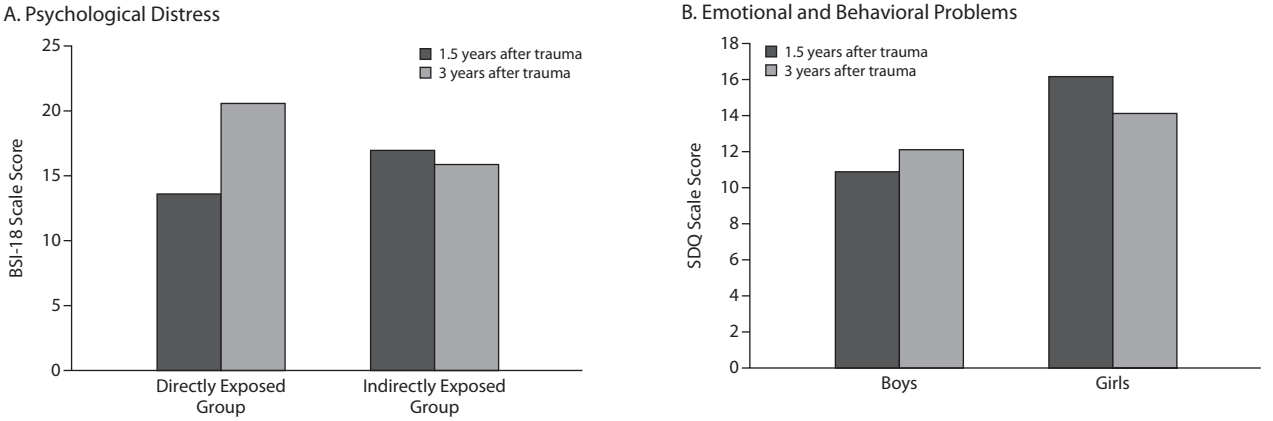
Table 1. Psychological Distress, Emotional and Behavioral Difficulties, and Coping Strategies in Beslan Adolescents 1.5 and 3 Years After the Terrorist Attack[a]

Variable	Overall (N=33)	Directly Exposed Group (n = 16)	Indirectly Exposed Group (n = 17)	Boys (n = 18)	Girls (n = 15)
BSI-18 score					
Psychological distress, T1	14.67 (13.52)	12.56 (12.35)	16.65 (14.64)	8.89 (9.44)	21.60 (14.68)
Psychological distress, T2	17.82 (12.17)	19.81 (11.51)	15.94 (12.82)	16.22 (10.61)	19.73 (13.95)
SDQ score					
Total difficulties, T1	13.30 (5.58)	12.44 (5.11)	14.12 (6.02)	10.89 (3.63)	16.20 (6.21)
Total difficulties, T2	12.94 (4.84)	13.69 (4.67)	12.24 (5.03)	12.11 (4.01)	13.93 (5.66)
Brief COPE score					
Active coping, T1	3.50 (1.23)	3.85 (1.10)	3.17 (1.28)	3.89 (1.28)	3.08 (1.05)
Active coping, T2	3.52 (0.73)	3.38 (0.79)	3.66 (0.67)	3.90 (0.65)	3.07 (0.55)
Support coping, T1	2.23 (1.57)	2.04 (1.44)	2.40 (1.71)	1.71 (1.19)	2.78 (1.77)
Support coping, T2	2.83 (1.29)	2.65 (1.48)	3.00 (1.11)	3.00 (1.40)	2.62 (1.17)
Avoidant coping, T1	2.25 (1.12)	2.09 (1.05)	2.39 (1.20)	1.81 (1.13)	2.71 (0.93)
Avoidant coping, T2	2.68 (0.98)	2.60 (1.00)	2.75 (0.99)	2.88 (0.99)	2.44 (0.99)

[a]All values presented as mean (SD).
Abbreviations: BSI-18 = Brief Symptom Inventory-18, SDQ = Strength and Difficulties Questionnaire, T1 = time 1 (1.5 years postattack), T2 = time 2 (3 years postattack).

Figure 1. Interaction Effects of Time × Exposure and Time × Gender on Adolescent Mental Health (N = 33)



($F_{1,29} = 4.10$, $P = .050$, $\eta_p^2 = .124$). Girls reported a decrease in emotional and behavioral problems, whereas their male counterparts displayed an increase in SDQ total scores between time 1 and time 2 (Figure 1).

Adolescents' endorsement of coping strategies showed a somewhat different pattern. The interaction between time and exposure was significant for active coping ($F_{1,29} = 4.58$, $P = .042$, $\eta_p^2 = .145$). The endorsement of this strategy became less frequent among directly exposed adolescents and more frequent among their indirectly exposed counterparts over time (Figure 2). We also found significant gender differences ($F_{1,29} = 11.70$, $P = .002$, $\eta_p^2 = .302$), with boys reporting use of active coping more frequently compared to their female peers. No main or interaction effects emerged for support seeking. However, there was a significant time × gender interaction for avoidant coping ($F_{1,29} = 5.54$, $P = .026$, $\eta_p^2 = .170$): endorsement of this strategy decreased for girls and increased for boys over the 18-month interval (Figure 2).

Table 2 presents the regression coefficients of the model in which coping emerged as a significant predictor of PTSD symptoms. This model explained 27% of the sample variance in time 2 posttraumatic symptoms ($F_{3,27} = 3.25$, $P = .037$). Results indicated that direct exposure to the traumatic event and the endorsement of avoidant coping 1.5 years after the trauma significantly predicted severity of posttraumatic symptoms 3 years after the attack.

DISCUSSION

This prospective study aimed to assess the longitudinal course of psychological symptoms and coping strategies in adolescents 1.5 years and 3 years after the 2004 terrorist attack in Beslan, North Ossetia, Russia. In addition, we evaluated the role of active-, support-, and avoidance-focused coping in the development of posttraumatic stress reactions.

Although directly and indirectly exposed adolescents reported initial comparable levels of psychological distress, problems diverged in time as a function of exposure. Consistent with previous research,[10,31] we found that adolescents' mental health outcomes followed a dose-of-exposure

Figure 2. Interaction Effects of Time × Exposure and Time × Gender on Adolescent Coping Behaviors (N = 33)

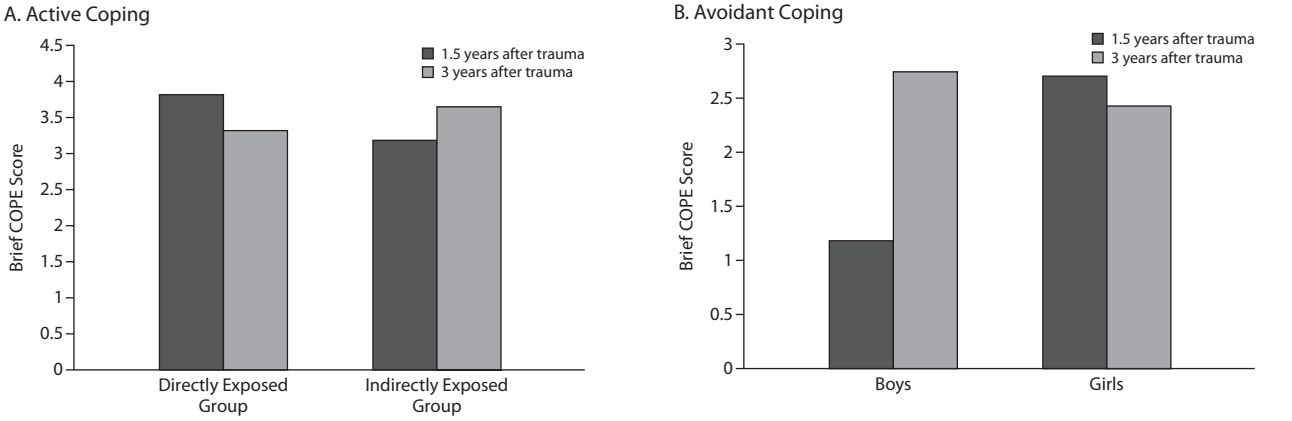


Table 2. Multiple Regression Model Predicting Severity of Posttraumatic Symptoms 3 Years After the Terrorist Attack (N = 33)[a]

Variable	B[b]	SE	β
Gender[c]	0.54	4.18	.02
Exposure[d]	9.35	3.85	.40*
Avoidant coping, time 1	3.86	1.91	.37*

[a]Predictor variables entered simultaneously. [b]Unstandardized coefficient. [c]Gender coded as dummy variable (0 = boys, 1 = girls). [d]Exposure coded as dummy variable (0 = indirectly exposed group, 1 = directly exposed group).
*$P < .05$.

pattern, with directly exposed adolescents showing a significant increase in symptoms over time compared to their indirectly exposed counterparts. This finding supports prior research indicating that for individuals less directly exposed to terrorism, initial responding may be severe, but clinical levels of distress tend to dissipate with time and support.[32] In contrast, directly exposed youths may continue to experience symptoms of anxiety and depression, especially in the absence of psychological treatment.[1] The increase of symptoms in this group may be related to the severity of traumatic experiences during the hostage-taking, the extensive deaths of family members and friends, and a sense of guilt for having survived the attack instead of other loved ones.[33] Furthermore, the presence of pervasive trauma reminders may have contributed to exacerbate mental health symptoms, since the destroyed school building is still standing in town, adults frequently recall the event during informal gatherings and traditional celebrations, and the community suffers from internal divisions and conflicts due to inequities in the assignment of indemnities. Another explanation is related to coping styles. Indeed, our results indicate that the endorsement of active coping became less frequent among directly exposed adolescents and more frequent among their indirectly exposed counterparts over time. Active coping, or problem-focused coping, involves the engagement in activities aimed at solving, altering, or mentally restructuring the problem.[27] In this sample, adolescents who suffered from less severe trauma showed an increased ability to use this strategy, thus leading to lower levels of symptomatology in the long term. This finding lends support to those studies showing a link between active coping and better psychological well-being,[16] and it suggests that, in areas of political conflict, such as the Northern Caucasus, professionals may guide adolescents toward the use of more problem-solving strategies to effectively manage the threat of terrorism.

Gender also had a decisive effect on youths' psychological functioning. In line with prior studies,[12,13,21] girls reported overall higher levels of distress and emotional and behavioral difficulties compared to boys. Interestingly, however, BSI 18 and SDQ scores remained substantially similar across the 2 time points in girls, whereas boys showed a significant increase in mental health problems at follow-up. This pattern is attributable to differences in emotional experience, a tendency of girls to be more expressive about their emotions than boys, or a combination of both. The reluctance of males to report emotional and/or behavioral difficulties has been observed in societal contexts characterized by a polarization of sex roles,[34] and it is particularly pronounced in North Ossetia, where men are expected to restrain their emotions in front of others and to demonstrate their physical and moral strength.[35] In the long term, the boys' tendency to withhold their psychological distress may have interfered with the recovery process or may have contributed to the onset of symptoms. Alternatively, it could be that boys use less effective coping strategies than girls. In this sample, boys reported a disproportionate increase of avoidance-focused coping compared to girls over the 18-month interval. Given that avoidance has a negative effect on psychological adaptation after terrorism,[17] it is not surprising that boys fared less well on the outcome measures compared to their female counterparts.

Adolescents who were directly exposed to the terrorist attack and who more frequently endorsed avoidance-focused coping behaviors 1.5 years after the traumatic event

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were more likely to report high levels of posttraumatic stress symptoms at follow-up. Specifically, the frequent use of strategies such as behavioral disengagement, denial, self-blame, and venting of emotions 1.5 years following the attack was related to greater levels of overall PTSD symptomatology 3 years after the trauma. This relationship was expected, and it lends support to cognitive-behavioral models of PTSD,[36] which posit that avoidance- and emotion-focused coping strategies play a major role in the development and maintenance of PTSD after a traumatic event as well as in the recovery process. However, we found no significant association between active- and support-oriented coping and adolescent PTSD symptoms at follow-up. These results are congruent with some research in this field reporting no association between active coping and youths' psychological well-being after terrorism,[21] but they conflict with research in the context of ongoing terrorism that has indicated that this type of strategy is related to fewer symptoms.[16] Such differences in results highlight the need to consider the specific ecological context in which the violence occurs, as political and cultural influences are likely to affect the usefulness of various coping strategies in the aftermath of a terrorist attack.[1] In particular, there is increasing evidence that appraisal of personal threat and perceived control—more than actual exposure to a traumatic event—are key variables determining what coping behaviors are most helpful to individuals.[15] From this perspective, it is possible that the large extent of resource losses experienced by Beslan inhabitants after the attack (eg, ongoing financial problems, high prevalence of physical and psychological trauma, and disrupted social support networks) as well as the frequency of terrorist attacks occurring in the region of North Ossetia (eg, repeated suicide bombings against the market in Vladikavkaz in 1999, 2001, 2004, and again in 2010) created a situation in which active and support-seeking coping may simply not be effective to cope with an overall sense of threat and helplessness, which in turn represents a risk factor for developing or maintaining PTSD. Future research needs to examine the transactional relationships among terror acts, contextual influences, and coping to capture the developmental trajectory and interplay of demands and coping over time.

There are several limitations to the present study that need to be considered. First, the absence of preattack data on psychological functioning limits the possibility of determining whether adolescents' traumatic reactions are fully attributable to the terrorist attack or to other preexisting symptoms not considered in this study. However, this standard is particularly challenging due to the unexpected nature of terrorist attacks, the lack of population studies prior to such events in this region, and the absence of clinical research or services. The exclusive reliance on self-report measures raises issues of social desirability, recall bias, and translation problems, although we followed standard translation-backtranslation procedures and reviewed all measures with the local school personnel to check for their appropriateness and cultural sensitivity. Further studies should involve multiple informants (eg, parents and teachers) and other data sources (eg, psychophysiological indicators, behavior observations, and social context data) to increase the validity of findings. Finally, generalization of findings is limited due to reduced sample size. Nonetheless, we believe that our study is unique, as the within-subject longitudinal follow-up of direct and indirectly exposed groups provides the opportunity to assess the long-term consequences of an extremely violent event that was directed specifically at children, occurred in an everyday-life setting (ie, school), and involved the entire community.

The current findings have relevant implications for clinical interventions with youths surviving terrorism. First, the increase of mental health difficulties over time among adolescents directly exposed to the violence supports the importance of conducting follow-up studies to monitor long-term psychological functioning and screen for individuals who may need additional referral for trauma treatment. Second, the less favorable mental health outcomes among boys suggest that gender-specific issues need to be taken into account when working with adolescent populations. For example, boys may benefit from interventions helping them to express their emotions (eg, feelings of anger, fear, insecurity, and guilt) individually or in groups to gain control over their feelings and reduce the time needed for recovery. Third, the long-term detrimental effect of avoidant coping on adolescent psychological well-being underscores the need to implement early psychoeducational interventions aimed at teaching proactive coping skills to minimize adverse outcomes and prevent the chronicity of posttraumatic reactions. Future research should investigate longitudinal effects and the long-term impact on development in youths exposed to terrorism to determine the directionality of associations between coping strategies and postterrorism symptomatology. This information will be valuable for reliable mental health response planning as well as for initial and later treatment interventions.

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Editor's Note: We encourage authors to submit papers for consideration as a part of our Focus on Childhood and Adolescent Mental Health section. Please contact Karen D. Wagner, MD, PhD, at kwagner@psychiatrist.com.