

FEARS OF AMERICAN CHILDREN FOLLOWING TERRORISM

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Two months after 9/11, the fears of children and adolescents in Grades 2–12 were examined utilizing the American Fear Survey Schedule for Children and Adolescents (FSSC-AM). Fear intensity scores and age and gender differences are reported. Terrorist-related content on the FSSC-AM (e.g., terrorist attacks, our country being invading by enemies) was also examined in a pre- and post-9/11 comparison. Implications and directions for future research are discussed.

In today's world, terrorism has become a global, ever-present issue. Consequently, terrorist-related research has been abundant in the U.S. For example, the bombing of the Murray Federal Building in Oklahoma City in 1995 (see Pfefferbaum et al., 1999) and the terrorist attacks on September 11, 2001, were synergists for terrorism-related research in the U.S. Specifically, following 9/11, researchers investigated how the attacks impacted children and reported the negative effects (Schlenger et al., 2002; Schuster et al., 2001; Squires, 2002). Thus, the importance of understanding the potential aftereffects of terrorism on children's functioning cannot be overstated. Likewise, because researchers believe that fears of children and adolescents are underestimated after trauma (Hock, Hart, Kang, & Lutz, 2004), this study examined children's reactions to terrorism—specifically fear-related reactions following 9/11.

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Children's Reactions

Trauma-Related Fears

Children respond with specific fears after trauma (Vogel & Vernberg, 1993). For example, Vogel and Vernberg reported that after Hurricane Hugo, children in the hurricane's path were afraid of water. Similarly, after 9/11 children feared the reoccurrence of terrorist attacks and flying in airplanes (Burnham, 2007). In Pfefferbaum and colleagues' (1999) seminal study, they found specific fear-related responses associated with the Oklahoma bombing. Pfefferbaum et al. assessed more than 3,000 Oklahoma City area students for posttraumatic stress symptoms (PSS) and other fear-related responses. With regard to PSS, they found television exposure accounted for the most variance; other factors that contributed to explained variance of PSS included gender and grade level.

Select Demographic Factors: Age and Gender

Cognitive and developmental growth has also been shown to influence how a child or adolescent responds to major trauma (Vogel & Vernberg, 1993). Older children are typically better able to understand and make meaning of traumatic events as compared to younger children because of their stage of cognitive development (Tedeschi & Calhoun, 1995). This age effect has been reported in several studies (National Institute of Mental Health, 2001; Vogel & Vernberg, 1993). With regard to the implications of gender, girls are more prone to reporting greater rates of anxiety, fear, and depression, and boys are more likely to engage in acting out behaviors after trauma (Vogel & Vernberg, 1993). Additionally, researchers have found that girls are traditionally more fearful after traumatic events than boys (Burnham, 2007; Pfefferbaum et al., 1999; Pine & Cohen, 2002). Some researchers have questioned the dynamics of why girls often endorse more fears than boys. Explanations range from the view that girls are literally more fearful, girls are more honest about fears than boys, or such findings result from gender-role stereotyping (Burnham, 2005; Ginsburg & Silverman, 2000; Gullone, 2000; Gullone & King, 1993).

Media Exposure

Other factors that may play an important role in the way children and adolescents respond to terrorism may be related to media exposure and proximity to the disaster site (e.g., 9/11 terrorist attacks). Media exposure after traumatic events, such as 9/11, can be detrimental. In a study conducted by Schuster et al. (2001), stress among Americans after 9/11 was related to television exposure, and trauma-related symptoms lasted up to 2 years. Television exposure has been shown to contribute to posttraumatic stress disorder (PTSD) symptoms in postdisaster situations (Gurwitch, Sitterle, Young, & Pfefferbaum, 2002; Pfefferbaum et al., 1999; Saylor et al., 2003). Given the current findings related to media exposure, some researchers contend that distant trauma and its potential relationship to postdisaster functioning must be considered as well (Costello, Erkanli, Keeler, & Angold, 2004; Gurwitch et al., 2002; Lutz et al., 2007; Schlenger et al., 2002; Schuster et al., 2001).

Distant Trauma

Terr et al. (1999) coined the term distant trauma after observing children in the aftermath of the Challenger explosion. In their study, Terr et al. found that children not present at the site of the Challenger disaster developed distant trauma, or the “the reaction to a disastrous event, experienced at the time of the event, but from a remote and realistically safe distance” (p. 1543). Additionally, differential age effects were evinced in this study; younger children experienced greater rates of negative signs and symptoms as compared to their older adolescent counterparts. Costello et al. (2004) noted that few studies exist on distant trauma, and the fact that 9/11 was “experienced by most of the population of the United States as distant trauma” (p. 211) set the precedent for 9/11 distant trauma research. Of significance, Gaffney (2006) concluded, “Sometimes distance affords a more complete, and therefore more terrifying, view of the entire event” (p. 1004).

In summary, the current study—which builds on the extant literature—allows for an examination of several factors that may influence the resultant fears of children and adolescents following terrorism, specifically fear-related reactions following 9/11. Since most 9/11 studies have examined children who were close in

vicinity to traumas, this study offered an opportunity to consider distant trauma effects (Terr et al., 1999) after 9/11.

The Current Study

Within 2 months of 9/11, this study examined the fears of children and adolescents who were geographically distant from the events of that day (i.e., in the southeastern U.S., approximately 680 miles from Washington, D.C., and 900 miles from New York City).

Based on the current literature, the following four aims were put forward: (a) examine fears of American children and adolescents, geographically distant from 9/11, 2 months after 9/11; (b) compare the fears of children and adolescents in a pre- and post-9/11 comparison; (c) analyze three of the terrorist-related items found on the American Fear Survey Schedule for Children (FSSC-AM) (i.e., “terrorist attacks,” “our country being invaded by enemies,” “people carrying guns, knives, and weapons”); and (d) examine the implications of demographic factors (age and gender) on reported fears of children and adolescents in a pre- and post-9/11 comparison. Two hypotheses were examined. First, there will be significant age (i.e., preadolescent [ages 7–10], adolescent [ages 11–14], and older adolescent [ages 15–18]), gender (i.e., male and female), and year (i.e., 1995 vs. 2001) differences between the pre- and post-9/11 children and adolescents. Second, there will be significant differences in the three specific terrorist-related fear items on the FSSC-AM when pre- and post-9/11 comparisons are made (i.e., three specific terrorist-related fear items will be significantly higher for the post-9/11 participants).

Method

Participants

POST-9/11 PARTICIPANTS

The following were obtained prior to data collection: institutional review board approval, parental consent, and student assent. After approval, 122 volunteer participants assented. The post-9/11 sample included 68 girls, 52 boys, and 2 students who did not report gender. Ages ranged from 7–18, representing Grades 2–12. Racial identity included 89 Caucasians, 27 African

Americans, 1 American Indian, and 5 with an unspecified racial background.

PRE-9/11 PARTICIPANTS

A sample taken from Burnham (1995) was used for the pre-9/11 comparison. There were 137 participants. The pre-9/11 sample included 77 girls (56%), 58 boys (42%), and 2 participants who did not report gender. Ages ranged from 7–17, representing Grades 2–12. Racial identity included 128 Caucasians, 5 African Americans, 2 Asian Americans, 1 American Indian, and 1 student with an unspecified racial background.

Instrument

The FSSC-AM (Burnham, 1995) was used to measure the self-reported fears of children in Grades 2–12. This instrument was an adapted version of the Australian Fear Survey Schedule for Children and Adolescents-II (FSSC-II) (Gullone & King, 1992, 1993). Burnham adapted the FSSC-II for use in the U.S., added 20 contemporary fears (e.g., terrorist attacks, drive-by shootings, having to fight in a war), and named the American version the FSSC-AM (see Burnham, 1995, 2005). The FSSC-AM is a 98-item ipsative self-report fear survey typically administered in a classroom setting. Respondents are required to read the fear items and to respond to each by marking an “X” in front of the most accurate choice (i.e., “not scared,” “scared,” or “very scared”). Traditionally, total response time ranges from 20–30 minutes. Sample items on the FSSC-AM are “rats,” “snakes,” “terrorist attacks,” and “my parents getting a divorce.” Gullone and King (1992, 1993) noted that the FSSC-II had sound score validity and good reliability. Gullone and King (1992) reported good convergent, divergent, and construct validity and a Cronbach alpha of .96.

Procedure

Post-9/11 data were collected in an elementary, middle, and high school (Grades 2–12) in a small city (population 40,000) in the southeastern region of the U.S. Data were collected in November 2001, 2 months after 9/11. The 2001 data were also compared to a subset from Burnham (1995) for a pre-9/11 comparison. Identical

testing procedures were followed at each school. With written parental approval and student assent, surveys were given in the classrooms. Directions on the FSSC-AM were read aloud. While the survey was read to Grades 2–3, Grades 4–12 responded independently.

Statistical Procedures

A $2 \times 2 \times 3$ ANOVA was used to examine the terrorist-fear intensity scores (from nine terrorist-related fear items on the FSSC-AM) for the pre-9/11 and the post-9/11 sample. Differences across age (i.e., preadolescent, adolescent, and older adolescent), gender (i.e., male and female), fear intensity (i.e., summation of the “very scared” fears), and year (i.e., 1995 vs. 2001) were analyzed. For further examination, year differences for three specific terrorist-related fear items were analyzed with a $2 \times 2 \times 3$ MANOVA across the pre-9/11 and post-9/11 samples.

Results

To consider whether or not there were significant age, gender, and year differences between the pre- and post-9/11 children and adolescents, the following analysis was performed. A 2 (gender [female and male]) \times 2 (year [1995 vs. 2001]) \times 3 (age group [preadolescent, adolescent, older adolescent]) factorial ANOVA was used to examine the nine terrorist-related fear intensity scores on the FSSC-AM. Independent variables were gender, age, and year. The total score of the nine terrorist items was the dependent variable. The test was performed with a corrected significance level ($\alpha/3 = .0167$). There were significant main effects: gender, $F(1, 236) = 67.44$, $p = .000$, $\eta^2 = .22$, and age group, $F(2, 236) = 11.42$, $p = .000$, $\eta^2 = .09$. Girls ($M = 21.65$, $SD = 3.69$) were significantly more fearful than boys ($M = 17.50$, $SD = 5.21$) in both 1995 and 2001. Fears were highest for the youngest age group (7–10) and decreased as age increased for both years. The pre-9/11 means were as follows: 7–10 age group ($M = 20.40$, $SD = 4.35$), 11–14 ($M = 19.93$, $SD = 4.75$), and 15–18 ($M = 17.74$, $SD = 5.54$). The post-9/11 means were: 7–10 age group ($M = 22.32$, $SD = 4.36$), 11–14 ($M = 20.08$, $SD = 4.51$), and 15–18 ($M = 18.66$, $SD = 5.04$). For age group comparisons, post hoc tests were performed using Tukey’s HSD method. Significant differences were found between

the 7–10 age group and the 15–18 age group ($p = .000$) and between the 11–14 age group and the 15–18 age group ($p = .026$). The hypothesis was rejected. There were significant age and gender differences between the pre- and post-9/11 children and adolescents, but the year differences were not significant. There were no two- or three-way interactions.

To examine whether or not there were significant differences in terrorist-related fear items on the FSSC-AM when pre- and post-9/11 comparisons were made to test whether fear items would be significantly higher for the post-9/11 participants, the following procedures were completed. To examine the differences between fears in the pre-9/11 and post-9/11 groups, three of the nine terrorist-related fear items on the FSSC-AM were analyzed further (i.e., “terrorist attacks,” “our country being invaded by enemies,” and “people carrying guns, knives and weapons”). A 2 (year) \times 2 (gender) \times 3 (age group) MANOVA was used to determine fear differences between the pre-9/11 and post-9/11 years for the three fear items. Independent variables were age group, gender, and year. The dependent variables were the three fear item scores.

Main effects for gender, Wilks' $\Lambda = .825$, $F(3, 238) = 16.83$, $p = .000$, $\eta^2 = .18$; year, Wilks' $\Lambda = .945$, $F(3, 238) = 4.62$, $p = .004$, $\eta^2 = .06$; and age group, Wilks' $\Lambda = .885$, $F(6, 476) = 5.02$, $p = .000$, $\eta^2 = .06$), were significant. Follow-up tests including univariate ANOVAs and Tukey's post hoc tests were completed. The univariate tests were performed with a corrected significance level ($\alpha/3 = .0167$). The MANOVA results indicated one significant interaction, Gender \times Year, Wilks' $\Lambda = .961$, $F(3, 238) = 3.21$, $p = .024$, $\eta^2 = .04$. For the Gender \times Year interaction, there was a significant difference between 1995 and 2001 for “our country being invaded by enemies,” $F(1, 240) = 7.77$, $p = .006$, $\eta^2 = .03$. Univariate ANOVAs for year were significant for “our country being invaded by enemies,” $F(1, 240) = 6.40$, $p = .012$, $\eta^2 = .03$, and “terrorist attacks,” $F(1, 240) = 10.78$, $p = .001$, $\eta^2 = .04$. The univariate ANOVAs were significant for all three fear items for gender: “our country being invaded,” $F(1, 240) = 25.53$, $p = .000$, $\eta^2 = .10$; “terrorist attacks,” $F(1, 240) = 31.59$, $p = .000$, $\eta^2 = .12$; and “people carrying guns, knives, and weapons,” $F(1, 240) = 38.23$, $p = .000$, $\eta^2 = .14$.

The univariate ANOVAs were significant for all three fear items for age group: “our country being invaded,” $F(2, 240) = 13.57$,

$p = .000$, $\eta^2 = .10$; “terrorist attacks,” $F(2, 240) = 6.64$, $p = .002$, $\eta^2 = .05$; and “people carrying guns, knives, and weapons,” $F(2, 240) = 6.77$, $p = .001$, $\eta^2 = .05$. Tukey’s post hoc test was used to examine the differences between the three age groups. For “our country being invaded by enemies,” the youngest and oldest age groups ($p = .000$) and the middle and oldest age groups ($p = .003$) were significantly different. For “people carrying guns, knives, and weapons,” the youngest and oldest age groups were significantly different ($p = .002$). The hypotheses were retained. There were significant differences with the terrorist-related fear items on the FSSC-AM when pre-9/11 and post-9/11 comparisons were made. The three terrorist-related fear items were significantly higher post-9/11.

Discussion

This study examined a group of participants who were not geographically near the events of 9/11, and thus were exposed to 9/11 via television, home, school, and community interactions within 2 months of 9/11. The pre-9/11 and post-9/11 comparisons for the fear items “our country being invaded by enemies,” “people carrying guns, knives, and weapons,” and “terrorist attacks” were revealing. An examination of the Gender \times Year interaction clearly showed that “our country being invaded by enemies” contributed to the overall significance of the interaction. Additionally, there were several trends that were evident for the fear item “our country being invaded by enemies.” For example, the fear scores for boys were very similar in the pre-9/11 and post-9/11 comparisons. However, post-9/11 girls had fear scores on “our country being invaded by enemies” that increased significantly, indicating that post-9/11 girls were much more frightened after the terrorist attacks. Differences in gender are often found in trauma-related research (Pine & Cohen, 2002; Vogel & Vernberg, 1993). Thus, consistent with other studies (Pfefferbaum et al., 1999; Saylor et al., 2003), girls were more fearful than boys in the pre-9/11 and post-9/11 comparisons. Nonetheless, this study did not clearly distinguish why girls endorsed more fears than boys (e.g., literal fear, more honest than boys, endorsed expected stereotypical responses; Ginsburg & Silverman, 2000; Gullone, 2000; Gullone & King, 1993).

Another expected finding was related to age. In both the pre- and post-9/11 comparisons, the youngest participants (ages 7–10) were the most fearful, followed by the middle (11–14) and then the oldest (15–18). For the year effect (i.e., 1995 vs. 2001), “our country being invaded by enemies” and “terrorist attacks” contributed to the significance. Not surprisingly, the fears of children and adolescents in the post-9/11 study were significantly higher than fears of the children and adolescents in the pre-9/11 study.

This study had limitations. First, a small sample of children and adolescents from three schools in one southeastern state in the U.S. was used. For purposes of generalizability, a more racially diverse and larger sample size from other regions of the U.S. was needed. The design of the study also had limitations (i.e., a convenience sample from a neighboring school was used for the pre- and posttest comparisons). Finally, we did not link the self-reported fears with specific Axis I diagnoses and other posttraumatic stress symptomatology. Future studies would benefit from linking fear intensity and severity with specific outcomes. Given the stated limitations, there were important findings from this study.

Implications and Directions for the Future

Similar to Prinz and Feerick (2003), this study found evidence of the “pivotal influence of 9/11” and the “exposure to . . . terrorism” (p. 222), even though the participants in this study were not in the vicinity of the terrorist attacks. By showing the influence of 9/11 on children who were geographically distant from the attacks, this study affirms the need for more distant trauma research (Costello et al., 2004; Gurwitsch et al., 2002; Lutz et al., 2007; Schlenger et al., 2002; Schuster et al., 2001; Terr et al., 1999). Distant trauma research is still sparse (Costello et al., 2004).

This study suggests that helping professions should be aware that as major traumas—such as terrorist attacks—happen, children and adolescents are impacted, even when geographically distant. Numerous events since 9/11 have occurred that may cause similar distant trauma symptoms (e.g., Hurricane Katrina, the massacre at Virginia Tech, the Iraq war). Because parents, teachers, and students are often unaware of the vulnerability of children and the negative impact of watching television in posttrauma situations, counselors, psychologists, and other mental health professionals

should remain diligent in the quest to educate and support in posttrauma circumstances.

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