



Insights, Images, and Inspiration: How Children Make Meaning of Terrorismⁱ

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1. Learning Objectives

Identify major findings of research on children's responses to mass trauma caused by terrorism.

Identify how children express their understandings of terrorism.

Identify ways that adults can support children's understanding of terrorist acts.

2. Children react to terrorism.

Post 9/11 50-80 % of parents studied reported at least one emotional or behavioral reaction in their child as a result of terrorism (Schlenger et al., 2002 Stein et al., 2004).

Israeli children with chronic exposure exhibit development effects such as insecurity, safety concerns, and dread (Shaw, 2003).

3. So, what do we think we know?

4. And what does it mean for our practice?

Before we can consider insights from prior research, we must consider

Definitional issues

Disciplinary approaches

Measures

Constraints

5. Terrorism is a complicated research topic.

We are limited by a surprise attack.

This attack was unprecedented in US, so there was no real *a priori* research.

Reliance on retrospective accounts.

There are no widely accepted definitions.

6. How do researchers define children's exposure?

Proximity

Could smell the fires and/or chemical from the WTC collapse;

Heard sirens from rescue vehicles going to/at the WTC;

Saw the fires from WTC;

Was in the cloud of smoke and dust from the WTC collapse;

Heard or felt the impact of the planes hitting the WTC;

Heard or felt the WTC tower collapse (Bannon et al., 2009)

Experiencing one or more of the following: seeing people jumping out of the towers, seeing dead bodies, seeing injured people, witnessing the towers collapsing." (Chemtob, et al. 2008)

Residence and School Enrollment

they lived in Lower Manhattan

whether they were students in the two schools closest to the site (Chemtob et al., 2010)

Concerns

worry on 9/11 about safety

worry on 9/11 about safety of loved ones

whether they knew anyone killed in the attack

whether their parents were having trouble meeting responsibilities post 9/11

(Chemtob et al., 2010)

(Hoven et al. (2002) working with NYC Schools & CDC):

Direct exposure, count of nine potential experiences with the event (e.g., seeing the planes crash into the towers or the towers fall down, having to leave where they were for safety concerns, breathing the smoke after the event)

Media exposure, average of three items asking how much the adolescents reported learning about the event from (a) TV; (b) newspapers, radio, or magazines; or (c) the Internet

Family exposure, a count of three ways family members may have been affected (e.g., someone in their family escaped the WTC unharmed, someone in their family was killed in the attack)

Oklahoma City Study (Pfefferbaum et al., 1999)

direct exposure, such as immediate personal physical proximity and danger

indirect exposure, such as witnessing the events on television

family exposure: family members killed or injured

other forms of exposure (events led to parent's job loss or a residential move)

7. How do researchers measure children's reactions? Who are they studying?

Participants, methodologies, and measures vary across within disciplines

Psychiatry examples

WTC Questionnaire given to schoolchildren (Hoven et al., 2002, as cited in Comer et al., 2010)

Studies of life disruption

Post Traumatic Stress Disorder Reaction Index – Child Revision

Parents as respondents (Fairbrother, Stuber, Galea, Fleischman, & Pfefferbaum, 2003)

9. Parental influences

More parental conflict = greater trauma; After one year for indirectly exposed kids, more parental support = less trauma (Gil-Rivas et al., 2004; 2007)

Maternal worry leads to more fear for pre-teens (Hock, Hart, Kang, & Lutz, 2004).

Maternal PTSD leads to greater risk for behavioral problems, emotionally reactive behavior, and somatic complaints in preschool children (Nomura & Chemtob, 2009), especially if combined with depression (Chemtob et al., 2010).

“Children’s parents are likely to play a substantial role in moderating how children respond to terrorism, and in few other types of traumatic events are the potential threat to both parent and child so similar. Further research examining how parent-child dyads and family units respond to and are affected by terrorism will begin to

build an evidence base that will allow more informed recommendations to parents about how to help their child cope with terrorism” (Stein et al., 2004).

10. Media exposure: Amount is directly correlated to . . .
 - amount of fear and sense of revenge (Beauchesne et al., 2002)
 - sociopolitical attitudes toward immigrants, Muslims, current events even when one parent was not born in the US
 - greater social mistrust (Gershoff et al., 2010; Aber et al., 2004)
 - more PTSD symptoms among adolescents in NYC (Aber et al., 2004)
11. Other Exposure
 - Life disruption and economic hardship may also be traumatizing to kids who themselves are not directly exposed to attacks (Comer et al., 2010)*
12. Symptoms likely to be present after exposure to trauma
 - Young children:
 - experience social anxiety disorder (Hoven et al., 2004)
 - Young boys more likely to have behavior problems than girls when mother has depression and PTSD post 9/11 (Nomura & Chemtob, 2009)
 - Directly exposed boys in general more likely to have behavioral problems and internalization of feelings post 9/11 (Bannon et al., 2009)
 - fear, unsafe feelings (Beauchesne et al., 2002)
 - sadness (Beauchesne et al., 2002)
 - revenge (Beauchesne et al., 2002)
 - Adolescents:
 - Greater social mistrust (Aber et al., 2004)
 - Greater feelings of vulnerability soon after attack (Halpern-Felsher & Millstein, 2002)
 - 5- to 19- fold increase in incidence of substance abuse in adolescents directly correlated to amount of exposure to WTC attacks, including witnessing event and life disruption after (Chemtob et al., 2008)
 - an increase in smoking in adolescents with PTSD symptoms (Wu et al., 2006)
 - Preexisting conditions
 - Mental health problems leading to more distress after 9/11 (Gil-Rivas et al., 2007)
 - Preschool children with prior trauma exposure had an increase in behavioral problems post-witnessing WTC attacks in person, while non-previously exposed kids did not (Chemtob et al., 2008)
13. Major conclusions for practice
 - Direct exposure is not the only factor that may traumatize children.
 - Parent response to trauma affects children, especially maternal PTSD and depression.
 - Preexisting conditions are important.
 - Prior trauma can aggravate experience.
 - Effects on young children and adolescents are different.
14. Studies of directly exposed children on 9/11 focus on those affected by the World Trade Center destruction, not the children near Shanksville, PA or the Pentagon

15. Our Flight 93 Research Team wanted to know. . .

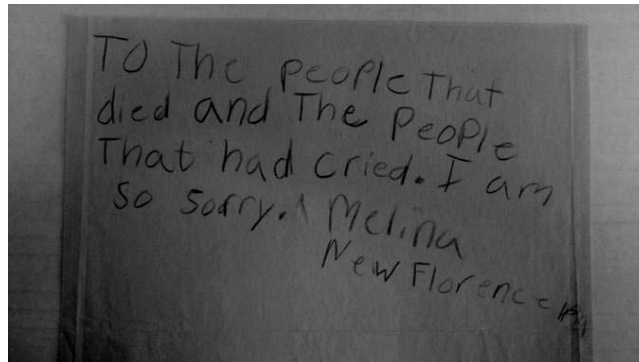
What do children themselves tell us?

What happened to children living near Shanksville?

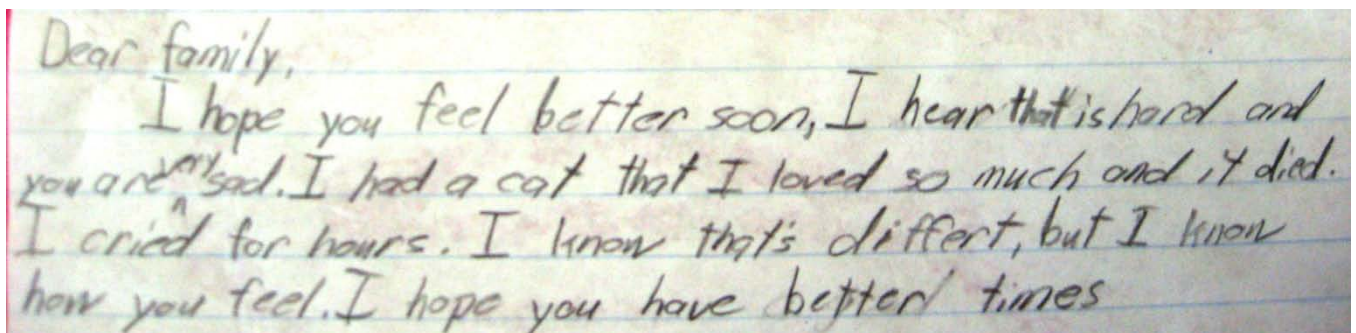
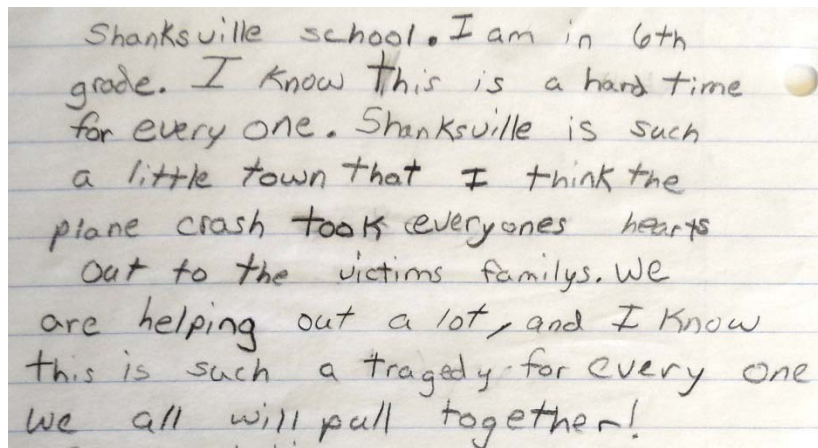
What about those who visited or heard about the Flight 93 crash site?

16. A little about our research . . . We study artifacts left or sent by children and teens. The National Park Service archives these tributes.

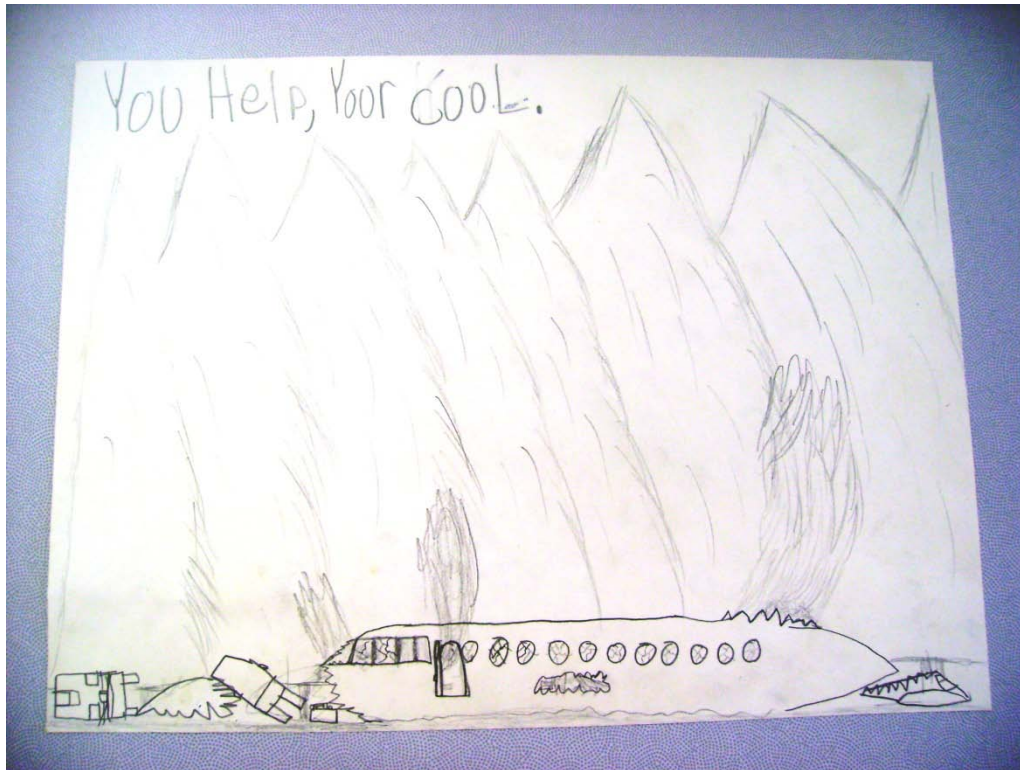
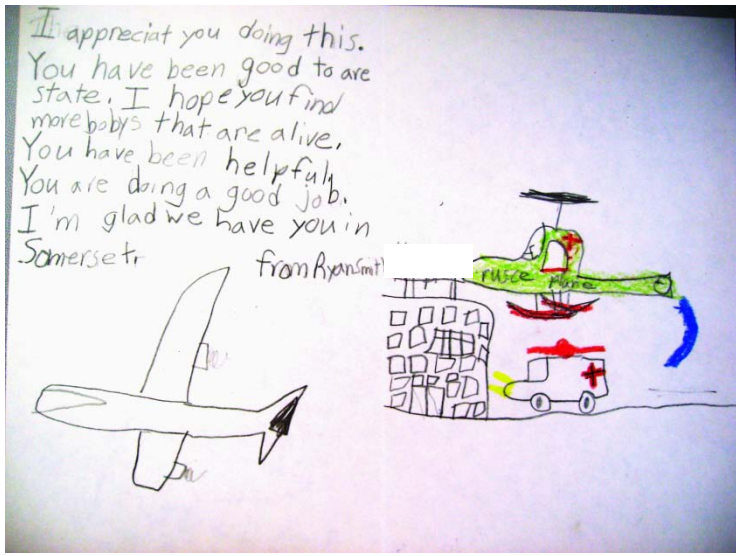
1. Comment cards left by young visitors



2. Letters addressed to the passengers and crew, their families, the first responders, or the volunteers.



3. Art with and without words



References

- Aber, J. L., Gershoff, E. T., Ware, A., & Kotler, J. A. (2004). Estimating the effects of September 11th and other forms of violence on the mental health and social development of New York City's youth: A matter of context. *Applied Developmental Science, 8*(3), 111–129.
- Bannon, W., DeVoe, E. R., Klein, T. P., & Miranda, C. (2009). Gender as a moderator of the relationship between child exposure to the World Trade Centre disaster and behavioural outcomes. *Child and Adolescent Mental Health, 14*(3), 121–126.
- Beauchesne, M. A., Kelley, B. R., Patsdaughter, C. A., & Pickard, J. (2002). Attack on America: Children's reactions and parents' responses. *Journal of Pediatric Health Care, 16*(5), 213–221.
- Burnham, J. J., & Hooper, L. M. (2008). Fears of American children following terrorism. *Journal of Loss and Trauma, 13*(4), 319–329.
- Chemtob, C. M., Conroy, D. L., Hochauser, C. J., Laraque, D., Banks, J., Schmeidler, J., & ... Landrigan, P. J. (2007). Children who lost a parent as a result of the terrorist attacks of September 11, 2001: Registry construction and population description. *Death Studies, 31*(1), 87–100.
- Chemtob, C. M., Nomura, Y., & Abramovitz, R. A. (2008). Impact of conjoined exposure to the World Trade Center attacks and to other traumatic events on the behavioral problems of preschool children. *Archives of Pediatrics & Adolescent Medicine, 162*(2), 126–133.
- Chemtob, C. M., Nomura, Y., Josephson, L., Adams, R. E., & Sederer, L. (2009). Substance use and functional impairment among adolescents directly exposed to the 2001 World Trade Center attacks. *Disasters, 33*(3), 337–352.
- Chemtob, C. M., Nomura, Y., Rajendran, K., Yehuda, R., Schwartz, D., & Abramovitz, R. (2010). Impact of maternal posttraumatic stress disorder and depression following exposure to the September 11 attacks on preschool children's behavior. *Child Development, 81*(4), 1129–1141.
- Comer, J. S., Fan, B., Duarte, C. S., Wu, P., Musa, G. J., Mandell, D. J., & ... Hoven, C. W. (2010). Attack-related life disruption and child psychopathology in New York City public schoolchildren 6-months post-9/11. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, 39*(4), 460–469.
- Demaria, T., Barrett, M., Kerasiotis, B., Rohlih, J., & Chemtob, C. (2006). Bio-psycho-social assessment of 9/11-bereaved children. *Annals of the New York Academy of Sciences, 1071*, 481–483.
- DeVoe, E. R., Bannon, W. M., & Klein, T. P. (2006). Post-9/11 helpseeking by New York City parents on behalf of highly exposed young children. *The American Journal of Orthopsychiatry, 76*(2), 167–175.
- Fairbrother, G., Stuber, J., Galea, S., Fleischman, A. R., & Pfefferbaum, B. (2003). Posttraumatic stress reactions in New York City children after the September 11, 2001, terrorist attacks. *Ambulatory Pediatrics: The Official Journal of the Ambulatory Pediatric Association, 3*(6), 304–311.
- Gershoff, E. T., Aber, J. L., Ware, A., & Kotler, J. A. (2010). Exposure to 9/11 among youth and their mothers in New York City: Enduring associations with mental health and sociopolitical attitudes. *Child Development, 81*(4), 1142–1160.
- Gil-Rivas, V., Holman, E. A., & Silver, R. C. (2004). Adolescent vulnerability following the September 11th terrorist attacks: A study of parents and their children. *Applied Developmental Science, 8*(3), 130–142.
- Gil-Rivas, V., Silver, R., Holman, E. A., McIntosh, D. N., & Poulin, M. (2007). Parental response and adolescent adjustment to the September 11, 2001 terrorist attacks. *Journal of Traumatic Stress, 20*(6), 1063–1068.

- Halpern-Felsher, B., & Millstein, S. (2002). The effects of terrorism on teens' perceptions of dying: The new world is riskier than ever. *Journal of Adolescent Health, 2*, 308–311.
- Henry, D. B., Tolan, P. H., & Gorman-Smith, D. (2004). Have there been lasting effects associated with the September 11, 2001, terrorist attacks among inner-city parents and children? *Professional Psychology: Research and Practice, 35*(5), 542–547.
- Hock, E., Hart, M., Kang, M. J., & Lutz, W. J. (2004). Predicting children's reactions to terrorist attacks: The importance of self-reports and preexisting characteristics. *American Journal of Orthopsychiatry, 74*(3), 253–262.
- Hoven, C. W., Duarte, C. S., Wu, P., Erickson, E. a., Musa, G. J., & Mandell, D. J. (2004). Exposure to trauma and separation anxiety in children after the WTC attack. *Applied Developmental Science, 8*(4), 172–183.
- Nomura, Y., & Chemtob, C. M. (2009). Effect of maternal psychopathology on behavioral problems in preschool children exposed to terrorism. *Archives of Pediatrics & Adolescent Medicine, 163*(6), 531–539.
- Pfefferbaum, R.L., Gurwitch, R.H., Nagumalli, S., Brandt Jr, E.N., Robertson, M.J., & Saste, V.S. (2003). Children's response to terrorism: A critical review of the literature. *Current Psychiatry Reports, 5*(2), 95-100.
- Stein, B. D., Jaycox, L. H., Elliott, M. N., Collins, R., Berry, S., Marshall, G. N., & ... Schuster, M. A. (2004). The emotional and behavioral impact of terrorism on children: Results from a national survey. *Applied Developmental Science, 8*(4), 184–194.
- Stuber, J., Galea, S., Pfefferbaum, B., Vandivere, S., Moore, K., & Fairbrother, G. (2005). Behavior problems in New York City's children after the September 11, 2001, terrorist attacks. *The American Journal of Orthopsychiatry, 75*(2), 190–200.
- Whalen, C. K., Henker, B., King, P. S., Jamner, L. D., & Levine, L. (2004). Adolescents react to the events of September 11, 2001: Focused versus ambient impact. *Journal of Abnormal Child Psychology, 32*(1), 1–11.
- Wu, P., Duarte, C. S., Mandell, D. J., Fan, B., Liu, X., Fuller, C. J., & ... Hoven, C. W. (2006). Exposure to the World Trade Center attack and the use of cigarettes and alcohol among New York City public high-school students. *American Journal of Public Health, 96*(5), 804–807.

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