HHS Public Access

Author manuscript

Psychol Trauma. Author manuscript; available in PMC 2017 March 01.

Published in final edited form as:

Psychol Trauma. 2016 March ; 8(2): 165–171. doi:10.1037/tra0000071.

Interview and recollection-based research with child disaster survivors: Participation-related changes in emotion and perceptions of participation

Erin P. Hambrick, PhD[1], **Bridget M. O'Connor, BA**[2], and **Eric M. Vernberg, PhD, ABPP**[2]

[1]University of Colorado-Denver School of Medicine, Departments of Psychiatry and Pediatrics, Kempe Center for the Prevention and Treatment of Child Abuse and Neglect

[2]University of Kansas, Clinical Child Psychology Program

Abstract

Objective—Research suggests that some types of trauma research can be conducted safely with children ages 10 and older. The aim of this project was to learn more about potential risks or benefits of conducting research with younger children or with child disaster survivors, specifically about research that includes children providing trauma recollections.

Method—Fifty 8- to 12-year-old children who experienced a devastating tornado participated in an in-person interview that included both individual and joint (mother-child) recollections of their tornado experiences one year following exposure. These 50 children also rated three emotions at three timepoints and rated their perceptions (e.g., benefit and regret) of research post-participation. Children (N = 28) also participated in phone surveys three months later to assess persistent participation-related emotions and perceptions.

Results—Child reported emotions worsened from pre- to during participation; however, reports of emotions returned to pre-participation levels post-participation and remained so at the 3-month follow-up. Sixty-four percent of children reported at least some participation benefit and no participation regret immediately post-participation, as did 89.3% at the 3-month follow-up. Four percent of children reported some participation regret (no benefit) post-participation, and 0% three months later. No children requested to stop participating, and none required post-research connection with crisis services. Posttraumatic stress symptom severity, tornado exposure, and age were largely unrelated to child-reported emotions and perceptions of research.

Conclusions—Results indicate that carefully planned and executed disaster-related research that includes children providing recollections research can be conducted with preadolescents with little risk and some benefit.

Keywords

research ethics; disaster exposure; children; trauma recollections; research risk; benefit

Corresponding author: Erin Hambrick; erin.hambrick@childrenscolorado.org.

The authors do not have conflicts of interest to report.

Researchers and institutional review boards (IRBs) must consider the risk-to-benefit ratio when determining appropriate research methods to use with children (e.g., Shah, Whittle, Wilfond, Gensler, & Wendler, 2004). Children are considered vulnerable research participants (Federal Policy for the Protection of Human Subjects, 45 CFR $46.401, 2009), partially due to their potential susceptibility to research-related distress (Sieber, 2012). Child trauma survivors are considered to be even more vulnerable, given concerns that research might be re-traumatizing (Newman, Walker, & Gefland, 1999). Older children and adolescents do not report feeling significantly upset following trauma-related survey research (Finkelhor, Vanderminden, Turner, Hamby, & Shattuck, 2014). However, little is known about the potential risks and benefits associated with younger children's participation in trauma research, particularly disaster research during which children provide trauma recollections. This study's aim was to evaluate concurrent and persistent risks and benefits associated with preadolescent disaster survivors' participation in recollection-based disaster research.

Children's reactions to recollection-based research might be more distressing than questionnaire-based research because children likely reflect deeply upon the trauma and associated emotions when providing recollections (Becker-Blease & Freyd, 2006; Fleischman & Wood, 2002). However, child disaster recollections are needed to study how disaster-related thoughts and feelings relate to adjustment (Bonanno, 2013). Although research on specific, potentially alterable thoughts and feelings associated with disasters is needed, researchers have been cautious to conduct these studies due to concerns regarding children's vulnerability.

Disaster Survivors' Reactions to Research

There are differing perspectives on the ethics of disaster research (Legerski & Bunnell, 2010). However, the empirical literature generally suggests that disaster research poses little risk, particularly to adult participants (Boscarino et al., 2004; Griffin, Resick, & Waldrop, 2003; Newman & Kaloupek, 2004). Results from studies on other types of trauma research indicate that adults who complete in-depth interviews report higher levels of participation-related benefit than those who complete questionnaires (Schwerdtfeger, 2009).

While on a smaller scale, research on older children's (ages 10 and above) and adolescents' reactions to trauma, but not disaster, research has also been conducted (Finkelhor et al., 2014; Langhinrichsen-Rohling, Arata, O'Brien, Bowers, & Klibert, 2006; Ybarra, Langhinrichsen-Rohling, Friend, & Diener-West, 2009; Zajac, Ruggiero, Smith, Saunders, & Kilpatrick, 2011) with similar results. Findings from large, nationally representative samples indicate that a minority of youth report that some questions they are asked in trauma research are upsetting, particularly *while* they are completing the research. Other studies have found that as many as 25 – 30% of participants report being at least "rarely" upset by research on interpersonal victimization (Ybarra et al., 2009; Langhinrichsen-Rohling et al., 2006). The proportion of youth reporting any participation-related distress has been shown to be approximately 5% (Zajac et al., 2011; Finkelhor et al., 2014). Very few youth indicate that they would not have assented to the research study had they known the content of the questionnaires beforehand (Finkelhor et al., 2014). Additionally, few youth require

connection with mental health services following trauma research participation (Zajac et al., 2011).

Older children and adolescents' endorsement of feeling upset during research has been linked to age (with younger participants being more upset; Ybarra et al., 2009), history of trauma and posttraumatic stress symptoms (Finkelhor et al., 2014; Langhinrichsen-Rohling et al., 2006; Ybarra et al., 2009; Zajac et al., 2011) and severity of mental health problems (Zajac et al., 2011). Thus, it is important to consider potential risks involved in asking children about trauma when designing research projects (Ybarra et al., 2009). However, given the infrequency with which children report high levels of distress, most researchers have concluded that participation in trauma research poses little risk to trauma-exposed older children and adolescents (Finkelhor et al., 2014; Langhinrichsen-Rohling et al., 2006; Zajac et al., 2011).

Yet, important gaps in knowledge about children's risk and benefit of participation in trauma research – particularly disaster research – remain. Research with young children has not been conducted. Additionally, all studies have been questionnaire-, not recollection-, based. Reactions to research have only been assessed immediately post-participation, and have typically assessed changes in emotions during, but not post, participation. Assessments have also only measured negative emotions during participation. Finally, research has not been conducted in samples that were uniquely trauma-exposed samples, but instead in samples that included youth exposed to trauma as well as non-exposed youth.

Current Study

This study evaluated the effect of research participation on three emotions (happiness, upset, and nervousness) and of participants' perceptions of risk and benefit of participation in a sample of preadolescents who experienced an EF5 tornado. Participants reported on emotions several times: pre, during, and post-data collection, and at a three-month follow-up. Perceptions of research were obtained post-participation and at the 3-mo follow-up. It was expected that children would report negative changes in emotion during participation, but that emotions would return to and remain at pre-participation levels thereafter. It was also hypothesized that some children would regret participation, but that children would generally report more benefit than regret. Finally, it was expected that exposure and posttraumatic stress (PTSS) severity would positively relate to participation-related distress and regret of participation, and that younger children would exhibit more participation-related negative emotions and post-participation regret.

Method

Participants

Participants were recruited via social networking websites, news advertisements, and on-site by researchers at community centers (i.e. YMCAS®, Boys and Girls Clubs of America®. The target age range was 8 – 12 year olds who were living with their mother at the time of the tornado. This study was embedded within a larger study of preadolescents' post-tornado adjustment and the relation between aspects of child recollections and mother-child

conversations about the tornado and adjustment. Fifty children (24 female, 26 male) ages 8 to 12 (M = 9.42) participated in in-person interviews about their experiences with the deadly tornado that struck Joplin, Missouri in May, 2011. Interviews were completed between 14 to 18 months post-tornado. Ethnicity was 80% White, 8% Hispanic, 4% African American, and 8% bi-racial. Twenty-eight participants completed a follow-up phone call three months later (13 female; 15 male; *M* age = 9.86). Ethnicity was 78 % White, 11% Hispanic, and 11% Biracial.

Procedures

This project was approved by three human subjects review boards: the University of Kansas, the Missouri Department of Mental Health, and a local mental health agency, Will's Place. This study's methods followed the NIMH task force recommendations for ethical research with child disaster victims (Collogan et al., 2004). For example, prior to scheduling data collection visits, interested families were informed that this research was not a clinical service, and that children were going to be asked to provide open-ended recollections of tornado experiences. Five families who initially expressed interest declined once learning about the project's methods. All data collectors were graduate students in clinical child psychology who were trained in how to identify participation-related distress and who were aware of how to make referrals to community-based emergency and non-emergency mental health services. Research was conducted in confidential settings under the supervision of a licensed clinical child psychologist.

In-person interviews—Interviews were conducted at neutral sites such as YMCAs or within participants' homes, depending on participant preference. Two interviewers were present so that children and mothers could complete most of the research tasks separately. Two-hour blocks were scheduled per interview so that researchers could build initial rapport, allow ample time for participant responses to the open-ended questions, and to allow ample time for connection with local mental health resources, if needed. Following initial rapport building, parental consent and child assent were obtained. No participants declined participation following hearing about potential research risks and benefits. Following consent/assent, mothers and children each followed an interviewer into a separate research room. Then, with the help of the interviewer, children reported on their current feelings of happiness, nervousness, and upset. They were asked to report on how they felt in the moment, not on how they felt about the tornado, and were assisted in discriminating between these emotions by the interviewers as needed. The research study then began with a non-tornado-related activity, a measure of verbal reasoning, in an effort to help children adjust to the interviewer before being asked to talk about the tornado. Then, children completed questionnaire-based interviews about their current mental health functioning.

Next, children provided open-ended recollections to the following prompts from a standardized, structured protocol: 1) "Tell me about some of the things that happened to you and your family because of the tornado"; 2) "Describe some challenging or difficult things that happened to you or your family because of the tornado"; 3) "What positive things, if any, happened to you and your family because of the tornado"; and, 4) "Compared to your life before the tornado, how are things different for you and your family now?" When

providing recollections, some children evidenced transient changes in affect such as tearfulness, decreased frequency of smiling, slowed speech, and closed body postures. However, no children appeared significantly distressed (e.g., no extensive crying was observed) nor asked to discontinue participation. Mothers completed the same tasks as the children, but in a separate room with a different interviewer.

Children and mothers were next brought into the same room, and engaged in conversations about the following two standardized prompts: 1) "Talk about some challenging or difficult things that happened to you or your family because of the tornado"; and, 2) "Talk about some positive things, if any, that happened to you and your family because of the tornado." The interviewers left the room during the mother-child conversations. Then, the mothers and children again each followed an interviewer into separate rooms, and each completed questionnaire-based interviews about the specifics of their tornado exposure. Post-participation, children were asked to recall how they felt during participation, and then how they felt now that the research was over. Finally, children were asked about perceived benefit and regret of participation and whether or not they would have participated had they known how the study would make them feel. All participants were given opportunities to ask questions, were provided with information about mental health and other resources within their community, and were asked if they would be willing to participate in a follow-up phone interview. No children required connection with local crisis services due to participation distress, and all families agreed to participate in the three-month follow-up. Participants were compensated $30 ($10 child, $20 mother).

3-month follow-up—Mothers and children were contacted three months later to participate in a 20-minute phone interview. Phone interviews instead of in-person interviews were conducted due to the three-hour driving distance between the researchers and the participants. Following receipt of maternal consent and child assent, children and mothers were separately administered the same measures of mental health functioning that they completed previously. Children were then asked about how upset, happy, and nervous they still felt about participating in the open-ended questions three months prior. Then, children were asked if and why they benefited from participation, if and why they regretted participation and whether or not they would have agreed to participate had they known how the study would make them feel. No children required connection with crisis services regarding participation-related distress. Participants were compensated $20 ($10 mothers, $10 children).

Measures

Emotion ratings and perceptions of research—Three items from the Positive and Negative Affect Scale for Children (PANAS-C, Laurent et al., 1999), were adapted to measure participation-related changes in emotion. The Negative Affect scale of the PANAS-C has achieved good internal consistency (α = .92-.94), as has the Positive Affect scale (α = .90–.89). PANAS-C items prompted participants to report levels of happiness, upset, and nervousness on a 5-point Likert scale (1 (not at all), 2 (a little), 3 (some), 4 (quite a bit), and 5 (extremely)). Exact question stems changed per time point. Pre participation, children were asked, "*How (happy, upset, nervous) do you feel now?*" Post participation, children

were asked, "*How (happy, upset, nervous) did you feel while completing the measures?*" and then, "*How (happy, upset, nervous) do you feel now that the survey is over?*" Three months post-participation, children were asked, *"How (happy, upset, and nervous) do you still feel because of completing the in-person open-ended questions three months prior?"*

Participants were also asked to rate how much they regretted participation, *("How much, if at all, do you regret completing this study on a scale of 1 to 5, with 1 being not at all and 5 being extremely?"*) and how much they benefitted from participation, *("How much, if at all, do you feel you benefitted from completing this study on a scale of 1 to 5, with 1 being not at all and 5 being extremely?"*) both post- and three months post-participation. Item responses fell on the same 5-point Likert scale described above. Participants were also asked, *"If you had known how this study would make you feel, would you have agreed to participate?"* (yes or no) immediately post-participation and three months post. Finally, children were given open-ended prompts eliciting reasons for the perceived regret and/or benefit of participation that they reported on the questions of regret and benefit three months post-participation.

Tornado-Related Traumatic Experiences (TORTE; Vernberg & Jacobs, 2005)— The TORTE was administered to assess whether children with higher exposure reported experiencing more participation-related distress, regret, or benefit. The TORTE was modeled after the Hurricane-Related Traumatic Experiences (HURTE) questionnaire (Vernberg et al., 1996) that was created to measure exposure to traumatic events during and after hurricanes. The 23-item TORTE was used to assess child-reported objective exposure to life-threatening experiences and disruptive life experiences during and after the tornado. Because the TORTE is a frequency count of distinct, potentially unrelated aspects of a person's tornado experiences, internal consistency is not an appropriate measure of scale reliability. In this study, the TORTE's M = 6.10, SD = 4.44, and range = 0 – 15.

UCLA Reaction Index for Children-Self Report Version, Diagnostic and Statistical Manual – IV Revision (RI, DSM-IV Revision; Pynoos & Steinberg, 2002)—To assess whether children with higher symptoms of posttraumatic stress (PTSS) reported experiencing more participation-related distress, regret, or benefit, the PTSD-RI was administered. This measure is appropriate for use with children ages 7 to 18. The symptom scale (PTSS Severity) of the RI contains 22 items with five response options: 0 (none) to 4 (most of the time). Children were asked to answer questions on the RI symptom scale based on their feelings about their tornado experiences in the past month. Convergent validity for the RI has been cited at .70 (as cited in Steinberg, Brymer, Decker, & Pynoos, 2004), and internal consistency is approximately .90 (Steinberg et al., 2004). The PTSS severity score had a Cronbach's α of .81 in this study.

Results

Mean levels of child-reported emotion pre, during, post, and three months post participation were obtained (Figure 1). Repeated measures *t*-tests were conducted to determine mean differences in each mood variable from Pre to During, Pre to Post, and Pre to 3-mo Post (*N* of the *t*-tests between Pre and 3-mo Post was 28; *N* of the other *t*-tests was 50). Child ratings

of happy significantly decreased from Pre to During (t = 4.94; p = .01) but did not differ from Pre to Post (t = −.101; p = .92) or from Pre to 3-mo Post (t = 1.86; p = .07). Child ratings of upset significantly increased from Pre to During (t = −2.62; p = .01) but did not differ from Pre to Post (t = 1.39; p = .17) or from Pre to 3-mo Post (t = .77; p = .45). Child ratings of nervous did not differ from Pre to During, Post, or 3-mo Post (t values ranged from −.43 to 1.54; p values ranged from .13 to .67). Repeated measures t-tests were also conducted comparing mean differences in the three mood ratings within time points (Pre, During, Post, and 3-mo Post). Child ratings of happy were significantly higher than both upset and nervous at all four time points. Child ratings of nervous were significantly higher than upset at Pre, Post, and 3-mo Post, but did not differ during participation (t = −.20, p = .84).

Four percent of participants reported feeling “quite a bit” or “extremely” upset Pre, 16% During, 0% Post, and 0% 3-mo Post participation. Six percent reported feeling “quite a bit” or “extremely” nervous Pre, 16% During, 4% Post and 0% 3-mo Post. Ten percent reported feeling “not at all” or “somewhat” happy Pre, 36% During, 8% Post, and 7.1% 3-mo Post. None of the children who felt “quite a bit” or “extremely” upset or nervous Pre continued to feel that way Post. Of the two children who felt “quite a bit” or “extremely” nervous Post, both participated in the 3-mo follow-up, and both reported feeling “not at all” nervous 3-mo Post. Child-reported PTSS severity and tornado exposure were largely unrelated to emotion (Table 1). Age was also unrelated to emotion (r values between age and happy, upset, and nervous ranged from −.323 to .135, p > .05).

Percent of children endorsing each level of the 5-point Likert scales of benefit and regret post-participation are presented in Figure 2, and child-reported benefit and regret three months post-participation are presented in Figure 3. Post-participation, 64% of children reported only participation benefit, 24% of children reported some regret and some benefit, 4% reported only participation regret, and 8% reported neither regret nor benefit. Three months post-participation, 89.3% of children reported only participation benefit, 3.6% reported both some regret and benefit, 7.1% reported neither, and 0% reported only regret. Corresponding to Figure 3, Table 2 presents children’s qualitative reasons for perceived benefit of participation reported at three months post-participation grouped by major themes that emerged in children’s responses: 1) self-expression, reflection, and emotional release, 2) helping others, and 3) other reasons. Only one child reported any perceived regret, and they did not provide a reason for regret, so qualitative responses for regret are not presented. Child perceived benefit was related to PTSS severity Pre (r = −.311, p =.03) but not 3-mo Post (r = −.310, p = 0.84). Child perceived regret was unrelated to PTSS severity Pre or 3-mo Post (r = .247, p = .08 and r = .298, p = .123, respectively). Neither benefit nor regret related to exposure Pre or 3-mo Post (r values ranged from −.060 to .218; p values > .05); nor did age (r values ranged from .048 to .293, p values > .05).

Child-reported willingness to participate in the research had they known how the study would make them feel was 98% Post and 92.9% 3-mo Post. The one child who said they would not have wanted to participate Post elaborated that they meant that they did not want to “participate in the same project again.” Of the two children who said they would not have

participated 3-mo Post, one reported that they had felt “too busy” to participate, and the other said that they preferred not to talk about the tornado.

No children declined the follow-up phone call. Differences in children who participated in in-person interviews and phone interviews versus in-person interviews only were determined with independent samples *t*-tests of Pre-participation differences in posttraumatic stress (PTSS) severity, tornado exposure, and emotion. Children who completed both time points were less highly exposed to the tornado ($t = -2.45$, $p = .02$). No group differences were found regarding PTSS severity ($t = -1.63$, $p = .11$) or Pre, During, or Post-participation emotion (*t* values ranged from −1.94 to 2.30, $p < .05$).

Discussion

The risks of not conducting disaster research with children are potentially commensurate to the risks of conducting such research (Becker-Blease & Freyd, 2006). Despite the need for research with child disaster survivors, procedures should be designed to ensure that participants are not harmed (Federal Policy for the Protection of Human Subjects, 45 CFR $46.401, 2009) or re-traumatized (Newman et al., 1999), and should be informed by findings from children’s perceptions of and reactions to disaster research. Aspects of children’s trauma recollections relate to post-trauma mental health outcomes in children (Sales et al., 2005), and trauma related thoughts and feelings are typically best examined via open-ended recollections than participant responses to questionnaires (Bonanno, 2013). While recollection-based research is potentially distressing, such research is needed in order to identify potentially alterable disaster-related thoughts and feelings.

The aim of this study was to fill several gaps, including examining the risk of harm and benefit in preadolescents completing recollection-based research about their experiences with a devastating tornado. This study aimed to measure both immediate and persistent participation-related changes in emotion as well as child perceptions of regret and benefit of participation, and the persistence of these perceptions over time.

It was expected that negative changes in emotion would occur during research participation, but that these changes would be transient. This hypothesis was supported (Figure 1). Children reported feeling more upset and less happy during participation than pre-participation, but their reported feelings of upset decreased and happiness increased to pre-levels post-participation. Feelings of nervousness did not change during participation. Thus, changes in mood during participation were transient and likely not indicative of research-related harm. It was also hypothesized that children would report both participation-related regret and benefit, but that children would report more benefit than regret. This hypothesis was also supported (Figures 2 & 3). Many participants perceived both participation benefit and regret, endorsing perceived benefit more frequently than perceived regret. Three participants indicated that they would not have participated had they known how the study would make them feel. Only one participant indicated that their disinterest in participation was due to their preference to not talk about the tornado. Additionally, a few participants perceived only regret of participation, while almost a quarter of participants perceived both benefit and regret, and most participants perceived only benefit.

Finally, PTSS severity and tornado exposure were expected to relate to negative emotion changes during participation and to participation regret, and younger children were expected to evidence increased negative emotion during participation and increased participation regret compared to older children. Severity of trauma symptoms and trauma exposure were not consistently related to emotion or to participation benefit or regret, unlike findings from previous studies (Table 1; Finkelhor et al., 2014; Ybarra et al., 2009). This could be because all participants in this sample had experienced the same disaster. Thus, within a homogenously trauma-exposed sample, severity of exposure and PTSS may not increase the risk of participation-related harm. Age was also unrelated to emotion and perceived risk or benefit, potentially due to the restricted age range of this sample.

Children who completed both the in-person and phone interviews as opposed to children who completed only the in-person interviews only differed on severity of exposure. Because inability to contact participants for the phone interview was the most common reason for phone interview non-completion, disaster-related disruptions in phone service and living situations may account for this difference. However, families of children who were distressed by the in-person interviews may have ignored requests to participate in the follow-up.

Although results are promising regarding the potential to safely conduct recollection-based disaster research with preadolescent children, *and* the potential for disaster research to confer participation benefits (Table 2), results should be interpreted with caution. This study was conducted by researchers who were focused on preventing participation distress. If future research is conducted by researchers who do not take significant precautions during participant recruitment, participation, and post-participation discussions about the research, results may not generalize. For example, participants were told about the project's methods before data collection visits were scheduled, and five families who initially indicated interest in the project declined to set up a data collection appointment due to concerns that participation would be distressing to their child. Time since disaster exposure may also influence risk of harm. This study was purposefully conducted a year following exposure, with the intent of allowing time for children to heal and for families to understand their children's reactions to discussing the event before asking them to participate in discussions about their experiences. Collecting disaster recollections while the disaster is fresh or when the child has yet to discuss disaster-related events with trusted adults might confer more risk of harm and less benefit. Regardless of the researchers' focus on prevention of harm, some children reported only participation regret and that they would not have participated had they known how the study would make them feel – indicating a need for methods to determine which children may regret participation.

Study strengths include the assessment of child reactions to providing recollections alongside questionnaires, measuring diverse emotions (not just upset), measuring mood and reactions to research at several times, and conducting research with preadolescents within a homogenously disaster-exposed sample. Limitations include the fact that emotions "during" participation were actually assessed immediately post-participation, that children may have felt the need to respond to questions about changes in emotion and participation perceptions in a socially desirable manner given that they provided verbal responses to interviewers'

questions, and that many children who felt highly distressed by the tornado may have chosen not to participate. Additionally, mothers were on-location with their children throughout the duration of the study and even had a chance to discuss the tornado with their children as part of their research participation. Thus, mothers may have buffered participation distress reported by children.

Most children reported that they benefitted some from participation, but some reported only regret. Ways to identify such participants, then, should be prioritized. One way might be to assess the degree to which children have adequate decision-making capacity, or the ability to fully understand the potential risks of research, and to decline participation if they feel uncomfortable (Rosenstein, 2004). Relatedly, it is necessary to develop ways to help parents (who provide consent for their children to participate) understand under which circumstances their children may not be able to provide assent and/or might become emotionally overwhelmed by research participation. A study of maternal reactions to and perceptions of the distress associated with their children's participation in trauma research could help answer this question.

Identification of the best ways to measure research-related risk of harm and to determine acceptable levels of upset and regret is also needed. Children may be hesitant to share negative perceptions of research with researchers. Other children may not understand terms used by researchers to assess for post-participation distress, such as benefit and regret, and their reactions might be better assessed by more developmentally sensitive and comprehensive measures of post-trauma research participation distress (see Kassam-Adams & Newman, 2002, for an example). Also, some researchers have concluded that the frequency of youth indications of participation-related upset during participation is concerning (e.g., Ybarra et al., 2009), whereas other studies in which similar rates of upset have been found have concluded that research poses minimal risk of harm (e.g., Langhinrichsen-Rohling et al., 2006), indicating a difference in opinion among researchers as to the threshold for acceptable levels of participation distress. There is also a need for research regarding which post-participation methods best prevent participation-related harm. Research conducted with child disaster survivors should increasingly measure participation-related risk and benefit. This would improve the understanding of which methods convey the least amount of risk and the most benefit, and allow children who have become distressed by research to be identified and connected with ameliorative services.

Acknowledgments

This work was funded in part under grant T32 MH015442, institutional postdoctoral research training program, for Dr. Hambrick. This work was also funded in part by the Pioneer Classes Dissertation Award, administered by the University of Kansas Endowment Association on behalf of the KU Clinical Child Psychology Program, the Scott Mesh Honorary Scholarship for Research in Psychology, administered by the American Psychological Association of Graduate Students, the Doctoral Student Research Fund, administered by the KU Graduate School, and the Psychology Strategic Initiatives Research Grant, administered by the KU Psychology Department, all awarded to Dr. Hambrick.

References

Becker-Blease KA, Freyd JM. Research participants telling the truth about their lives. American Psychologist. 2006; 61:218–226.10.1037/0003-066X.61.3.218 [PubMed: 16594838]

Bonanno GA. Meaning making, adversity, and regulatory flexibility. Memory. 2013; 21:150–156.10.1080/09658211.2012.745572 [PubMed: 23311413]

Boscarino JA, Figley CR, Adams RE, Galea S, Resnick H, Fleischman AR, Gold J. Adverse reactions associated with studying persons recently exposed to mass urban disaster. The Journal of Nervous and Mental Disease. 2004; 192:515–524.10.1097/01.nmd.0000135476.20580.ae [PubMed: 15387153]

Collogan LK, Tuma FK, Fleischman AR. Research with Victims of Disaster: Institutional Review Board Considerations. IRB: Human and Ethics Research. 2004; 26:9–11.

DePrince AP, Chu A. Perceived benefits in trauma research: Examining methodological and individual difference factors in responses to research participation. Journal of Empirical Research on Human Research Ethics. 2008; 3:35–47.10.1525/jer.2008.3.1.35 [PubMed: 19385781]

Federal Policy for the Protection of Human Subjects, 45 CFR $46.401 l(a) (3) (2009).

Finkelhor D, Vanderminden J, Turner H, Hamby S, Shattuck A. Upset among youth in response to questions about exposure to violence, sexual assault and family maltreatment. Child Abuse & Neglect. 2014; 38:217–223.10.1016/j.chiabu.2013.07.021 [PubMed: 24004683]

Fleischman AR, Wood EB. Ethical issues in research involving victims of terror. Journal of Urban Health. 2002; 79:315–321.10.1093/jurban/79.3.315 [PubMed: 12200500]

Griffin MG, Resick PA, Waldrop AE, Mechanic MB. Participation in trauma research: Is there evidence of harm? Journal of Traumatic Stress. 2003; 16(3):221–227. doi: http://dx.doi.org/10.1023/A:1023735821900. [PubMed: 12816333]

Kassam-Adams N, Newman E. The reactions to research participation questionnaires for children and for parents (RRPQ-C and RRPQ-P). General Hospital Psychiatry. 2002; 24:336–342.10.1016/S0163-8343(02)00200-1 [PubMed: 12220800]

Langhinrichsen-Rohling J, Arata C, O'Brien N, Bowers D, Klibert J. Sensitive research with adolescents: Just how upsetting are self-report surveys anyway? Violence and Victims. 2006; 21:425–444.10.1891/vivi.21.4.425 [PubMed: 16897911]

Laurent J, Catanzaro SJ, Joiner TE Jr, Rudolph KD, Potter KI, Lambert S, Gathright T. A measure of positive and negative affect for children: Scale development and preliminary validation. Psychological Assessment. 1999; 11(3):326–338. doi: http://dx.doi.org/10.1037/1040-3590.11.3.326.

Legerski JP, Bunnell SL. The risks, benefits, and ethics of trauma-focused research participation. Ethics & Behavior. 2010; 20:429–442.10.1080/10508422.2010.521443

Newman E, Kaloupek DG. The risks and benefits of participating in trauma-focused research studies. Journal of Traumatic Stress. 2004; 17:383–394.10.1023/B:JOTS.0000048951.02568.3a [PubMed: 15633917]

Newman E, Walker E, Gefland A. Assessing the ethical costs and benefits of trauma-focused research. General Hospital Psychiatry. 1999; 21:187–196.10.1016/S0163-8343(99)00011-0 [PubMed: 10378112]

Pynoos, RS.; Steinberg, A. UCLA PTSD Reaction Index for Children and Adolescents: DSM – IV (Revision). University of California; Los Angeles: 2002. Unpublished manuscript

Rosenstein DL. Decision making capacity and disaster research. Journal of Traumatic Stress. 2004; 17:373–381.10.1023/B:JOTS.0000048950.36359.a2 [PubMed: 15633916]

Sales JM, Parker J, Fivush R, Bahrick L. Stressing memory: Long-term relations among children's stress, recall, and psychological outcome following Hurricane Andrew. Journal of Cognition and Development. 2005; 6(4):529–545.10.1207/s15327647jcd0604_5

Schwerdtfeger KL. The appraisal of quantitative and qualitative trauma-focused research procedures among pregnant participants. Journal of Empirical Research on Human Research Ethics: An International Journal. 2008; 4:39–51.10.1525/jer.2009.4.4.39

Shah S, Whittle A, Wilfond B, Gensler G, Wendler D. How do institutional review boards apply the federal risk and benefit standards for pediatric research? Journal of the American Medical Association. 2004; 291:476–482.10.1001/jama.291.4.476 [PubMed: 14747505]

Sieber, J. Research with vulnerable populations. In: Knapp, S., editor. APA Handbook of Ethics in Psychology. Vol. 2. Washington, DC: APA; 2012. p. 335-365.

Vernberg, EM.; Jacobs, AK. Tornado Related Traumatic Exposure Scale. University of Kansas; Lawrence, Kansas: 2005. Unpublished Manuscript

Vernberg EM, LaGreca AM, Silverman WK, Prinstein MJ. Prediction of Posttraumatic Stress symptoms in children following Hurricane Andrew. Journal of Abnormal Psychology. 1996; 105:237–248.10.1037/0021-843X.105.2.237 [PubMed: 8723005]

Ybarra ML, Langhinrichsen-Rohling J, Friend J, Diener-West M. Impact of asking sensitive questions about violence to children and adolescents. Journal of Adolescent Health. 2009; 45:499–507.10.1016/j.jadohealth.2009.03.009 [PubMed: 19837357]

Zajac K, Ruggiero KJ, Smith DW, Saunders BE, Kilpatrick DG. Adolescent distress in traumatic stress research: Data from the national survey of adolescents-replication. Journal of Traumatic Stress. 2011; 24:226–229.10.1002/jts.20621 [PubMed: 21412852]

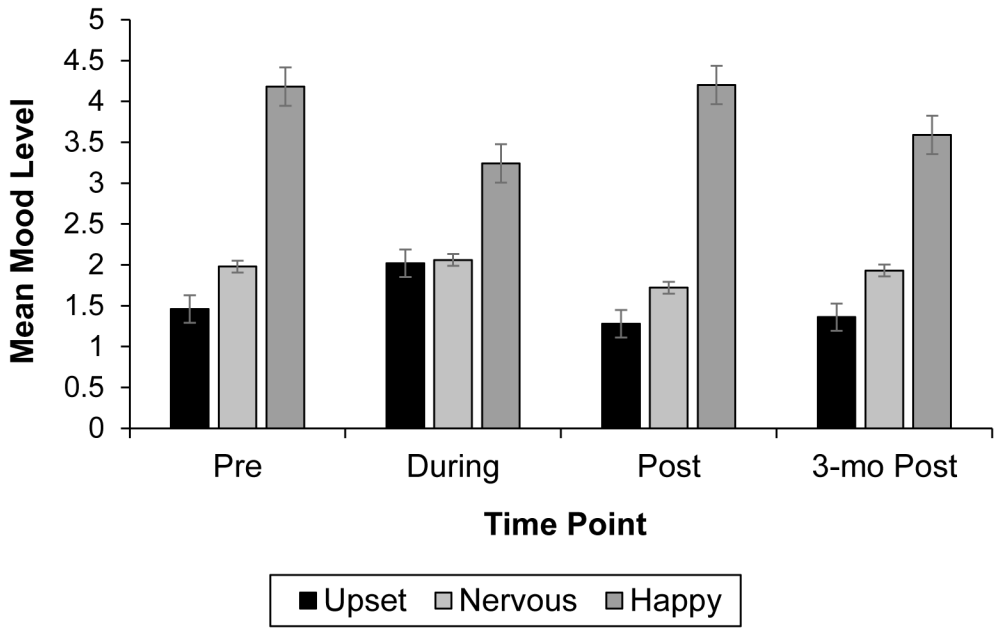

Figure 1.
Mean emotion ratings

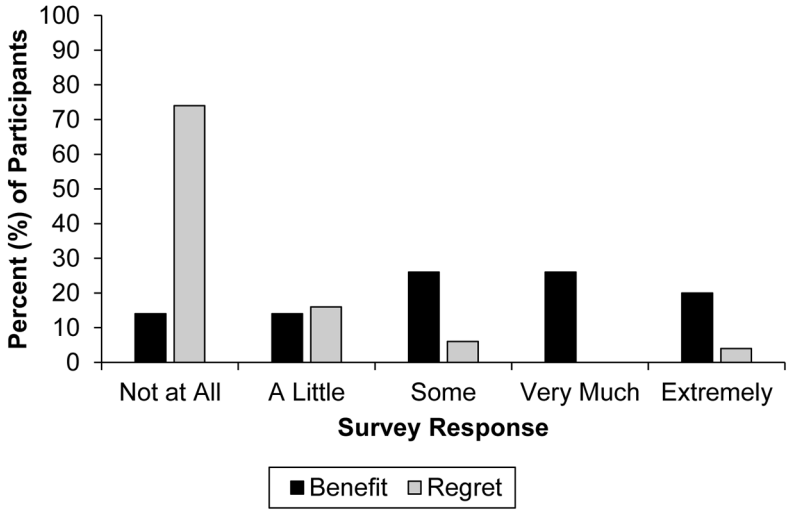

Figure 2.
Child-reported participation benefit and regret at post-participation

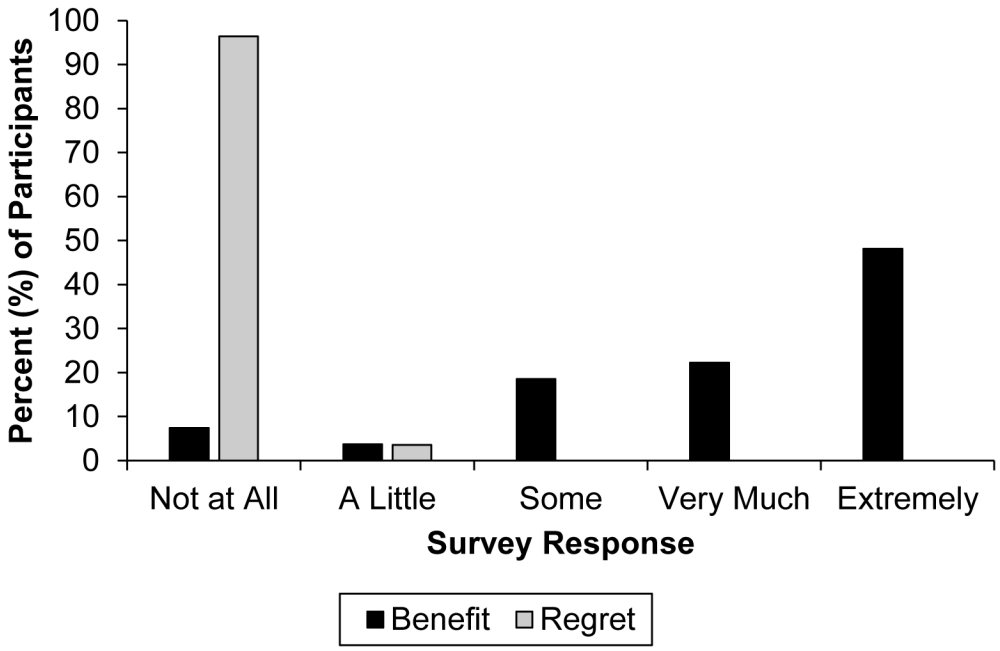

Figure 3.
Child-reported participation benefit and regret at three months post-participation

Table 1

Correlations: Emotion, PTSS severity, tornado exposure

	Pre			During			Post			3-mo Post		
	Happy	**Nervous**	**Upset**	**Happy**	**Nervous**	**Upset**	**Happy**	**Nervous**	**Upset**	**Happy**	**Nervous**	**Upset**
PTSS Severity	−.080	.139	.174	−.064	.166	.190	.011	.100	.222	.408*	−.081	−.071
Tornado Exposure	−.189	.149	−.062	.021	.115	.141	−.006	.013	.281*	.305	.040	.354

Note. PTSS severity and exposure were measured during in-person interviews.

* $p < .05$

Table 2

Reasons for child-reported participation benefit

Level of benefit (1 – 5)	Reason for Benefit
	Self-expression, reflection, and emotional release
5	Because it's awesome-to get my feelings out It made me sad. Because I could tell [about] what happened to me. So I could express my feelings It got it off my back. It sort of took it off my shoulders. It made me feel better.
4	Gets out all the bad feelings about the tornado, to tell someone about it Helped me get through everything that's happened It is good for me to talk about it and to face my fears
3	Good to speak out about what I thought Talking about it is helpful
	Helping others
5	It might help out people
4	Because it helps other people
3	I helped a lot of people
	Other
5	It was not long, pretty good questions I got talked to and asked questions and stuff like that It was good
4	I got to get a gift card

Note: One child's response was not included due to the potential for the comment to be identifiable.