Do flashbulb memories transmit across generations? 9/11 as a case study

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Do flashbulb memories transmit across generations? 9/11 as a case study

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for the Masters in Forensic and Mental Health Counseling
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Abstract

Psychologists have only recently begun to examine the extent to which personal memories transmit across generations. When they have, they typically focus on family stories (see Merrill & Fivush, 2016) or memories of historical events (Svob & Brown, 2012). The present study extends this line of research to flashbulb memories, or memories of an individual’s circumstances when first learning about a consequential, historical event (Brown & Kulik, 1977). To this end, the present study examines the extent to which flashbulb memories surrounding the events of the terrorist attacks on 9/11 transmit to the next generation. The results suggest that flashbulb memories do transmit, this transmission is driven by the child’s conversations with the parent and these transmitted memories are associated with the child’s social identification as an American. These results are discussed in terms of the importance of understanding how and when personal memories transmit across generations and their role in shaping the next generation’s social identity.

Keywords: Intergenerational transmission, flashbulb memory, social identity
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Do flashbulb memories transmit across generations? 9/11 as a case study

People often can talk to each other about historical events, producing a form of collective memory, what Assmann and Czaplicka (1995) have called communicative memory. Communicative memory may include memories of the event itself or memories of an individual’s personal experiences, or most likely, a mixture of the two. A discussion about the recent terrorist attack in Manhattan, for instance, might include a memory of the event, that the terrorist used a rental truck to kill innocent bikers, and a personal memory, that the discussant was running along Riverside Park at 72nd street at the time of the attack. Most psychologists interested in such personal memories surrounding historical events have examined not only the memories for the events themselves, but what are known as flashbulb memories (FBMs; Brown & Kulik, 1977; Finkenauer et al., 1998). Flashbulb memories refer to memories of the circumstances in which individuals first learned of a historical event, not the memories for the event itself (see, for example, studies by Bohannon, 1988; Hirst et al., 2009; Neisser & Harsch, 1992; Talarico & Rubin, 2003).

We are interested here in the extent to which such flashbulb memories of a recent, historical event transmit to the next generation. Such transmissions can preserve these memories beyond the lifetime of people who experienced the event (e.g., Stone, van der Haegen, Luminet & Hirst, 2015; Svob & Brown, 2012). A mother might tell her daughter about the terrorist attack and how she was running along Riverside Park. Such a memory might shape the identity of the mother (Paez & Liu, 2011). What is less clear is whether such a communicative memory surrounding a historical event might transmit to the daughter and, if so, shape the daughter’s identity. Few studies have examined this possibility (but see Stone et al., Svob & Brown, 2012). The extent to which researchers have has largely focused on the former, that is, whether the memories transmit (but see
The present study will fill this gap in the literature by examining the extent to which flashbulb memories surrounding 9/11 terrorist attack transmit to the next generation and, in turn, shape and/or shaped by the next generation’s social identity.

**Flashbulb Memories & Social Identity**

FBMs are memories for when and where an individual was when learning about a public event (Brown & Kulik, 1977). These memories tend to be vivid, detailed, and confidently held (Talarico & Rubin, 2003) and tend to stem from consequential (Brown & Kulik, 1977; Talarico & Rubin, 2003), surprising events (Conway, 1996). Flashbulb memories are often described as a type of autobiographical memory (see, e.g., Stone & Jay, 2018). Critically, autobiographical memories refer to memories related to the self and possess identity-relevant information.

Researchers examining FBMs and identity have primarily focused on how one’s social identity acts as a mechanism *leading* to the formation of FBMs rather than how FBMs might shape an individual’s identity and social identity (see Berntsen, 2009; 2018 Brown & Kulik, 1977; but see Hirst & Phelps, 2016). For example, Curci, Luminet, Kinkenauer & Gisle, (2001) examined FBMs for the death of former French President Mitterrand. In their study they recruited both French and Belgian participants and asked them to report the circumstances surrounding where they were when they learned about President Mitterrand’s death. Curci et al. found that the French population reported more flashbulb memories than the Belgian population. Additionally, Kvavilashvili, Mirani, Schlagman, and Kornbrot (2003) found that while both British and Italian held vivid and accurate memories for both 9/11 terrorist attack and the death of Princess Diana, for Italians flashbulb memories were reliably higher for 9/11 than for the death of Princess Diana.

However, the extent to which social identities forge FBMs is more nuanced. For example, research by Luminet and Curci (2009) found that both US and non-US participants forged FBMs
for 9/11. However, the path by which they were formed differed: for the US participants, the novelty/surprise of the event drove the formation of FBM$s$ whereas emotions and rehearsal drove the formation of FBM$s$ for the non-US group. Alternatively, work by Pezdek (2003) and Hirst and colleagues (Hirst et al., 2009, 2015) found that the New York group exhibited greater recall of event memories or memories of the facts surrounding 9/11 (e.g., 4 planes were involved, etc.), but no difference in terms of flashbulb memories relative to non-New York Americans. These latter results may simply reflect the fact that the social identity activated when recollecting 9/11 was at the level of “American” not “New York” (see Bernstsen, 2018 for a review).

Critically, social identity likely does not simply forge flashbulb memories. Rather, flashbulb memories $shape$ social identities (Hirst & Phelps, 2016). What becomes clear from the extant research is that social identity plays a powerful role in the formation of flashbulb memories surrounding historical events. However, what is less clear is whether such memories transmit across generations and, in turn, shape the next generation’s social identity.

**Intergenerational Transmission of Memories**

We do know that memories surrounding past, personal and historical events can be transmitted to the next generation (Fivush, 2008, 2016; Stone, van der Haegen, Luminet & Hirst, 2014 Svob & Brown, 2012; Svob et al., 2016; Welzer, 2005) and that such transmissions may also influence the next generation’s identity (Fivush, 2008, Merrill & Fivush, 2016 & Svob et al., 2016). In examining such transmission, researchers have typically examined either personal family stories or personal historical stories.

**Personal family stories.** Fivush & Zaman (2013) investigated the ‘intergenerational self’ within families, that is, aspects of the child’s identity that is linked to the parent’s experience. They investigated the role intergenerational narrative played in facilitating positive identity and
wellbeing. In investigating this concept they examined ‘intergenerational narrative’, that is, stories that children know about their parents’ childhood, for example, “My dad played soccer when he was young, and that got me started in soccer”. From this study it was observed that transmission of the parents experience occurred and the content of the transmitted experience influenced the child’s identity. Additionally, Merrill, & Fivush, (2016) found that when narratives transmit across generations, the next generation often makes connections between themselves and their parent (see also McLean, 2015). This transmission occurs when parents and grandparents share there past experiences while growing up with their children. For example in a development review by Merrill & Fivush (2016), when asked to reflect on how his development of self came to be, a 19-year-old college student stated, “My mother always tells my brother and me, ‘Do your work now and you can play all you want later’ to give us more incentive to finish schoolwork. She would tell us stories of how she used to [have] tons of fun in her youth and never got into trouble because she always finished her work first”(p. 81). These narratives shared between parent and child helped the child understand different perspectives, how they can be in the world and in so doing shaped the child’s individual identity. In addition to the transmission of personal family stories of event that actually occurred researchers have also investigated the transmission of stories surrounding historical events (e.g., Stone et al., 2014).

**Personal historical stories.** Many studies examining the transmission of historical events have examined memories surrounding wars. For example, Welzer’s (2005) study of German grandchildren’s knowledge of their grandfather’s Nazi involvement examined the transmission of personal memories from one generation to the next. It is not that the stories did not transmit. Rather, the grandchildren made systematic errors in their recollections: the grandchildren would claim that
their parent was not actually a Nazi. They would take the stories told by their grandparent and alter them, thereby “heroizing” their grandparent’s role in the war.

To further examine the extent to which WWII memories transmit across generations, Stone et al. (2014) explored the individual recollections of WWII by three generations from the same Belgian families. Only the oldest generation lived through the war. This generation produced more personal memories than historical memories when asked to discuss four topics relevant to Belgium’s participation in the war. The second generation produced an equal number of personal and historical memories. The third generation produced few historical memories and almost no personal memories.

While both the work by Welzer and Stone et al. (2014) speak to the transmission (at least one generation) of personal memories surrounding a historical event, they failed to examine the extent to which such transmission shaped the next generation’s identity. Svob et al., (2016) addressed this lacuna; they investigated the intergenerational transmission of historical memories by comparing two groups of young adults from Western and Eastern Croatia. Western Croatia was effected relatively less by the Bosniak/Bosnian war (1992-1995) while Eastern Croatia was extensively affected by the war. Participants in both groups were asked to recall 10 most important events that occurred in one of their parent’s life. Result from this research indicated that participants in the Eastern Croatia group reported more war related events from their parent’s lives than participants in the Western group. Additionally war-related memories impacted the second-generation’s identity to a greater extent than did non-war related memories.

As this research makes clear, memories can transmit from parents to children and said memories can influence the identity of the next generation. However, these lines of research have focused on the transmission of memories the older generation has actually experienced. What
make flashbulb memories theoretically and empirically intriguing is they represent at a surface level, frivolous memories: simply of the circumstances one is in when learning about a historical event, not the memories of one’s experience of the event itself. Despite this, individuals remain extremely confident in their recollections of these memories (Hirst et al., 2009) and they are intimately intertwined with social identities (see Berntsen, 2018). It becomes less clear, however, whether such memories transmit to the next generation. On the one hand, such memories may simply serve a (social) psychological function for the individual who forged said FBMs given their idiosyncratic nature (see Stone & Jay, 2018 for summary of the functions of FBMs). On the other hand, such memories may demarcate an individual’s place in history (Neisser, 1992) and provide a normative function (e.g., prevent a subsequent attack; Stone & Jay, 2018) and thus, lead to a greater likelihood of transmission across generations. The present study examines these possibilities using the flashbulb memories surrounding the terrorist attack on 9/11 as a case study.

**Present Study**

Examining the transmission of flashbulb memories surrounding 9/11 is particularly timely. The study was conducted spring of 2016, almost 15 years after the event. Thus, this provided an opportunity to recruit families with children born around the time of 9/11 who would be of an age where they may be more likely to engage with the historical and political past (Demcray, Gulgoz & Bluck, 2009) and examine whether their parent’s flashbulb memories transmitted to the next generation. To this end, the present study examines: a.) whether FBMs transmit to the next generation, b.) whether such transmission is moderated by the extent to which the generations talked about 9/11 and the next generation’s age and the extent to which they identify with being an American, and c.) whether 9/11 shapes the next generation’s identity as an American. The
results of this study will provide critical insights into the extent to which social identity shapes and is shaped by flashbulb memories across generations.

**Methods**

**Participants.** One hundred and eight participants (54 parents; 54 children, 31 were females, 19 males, 1 other, 3 unspecified, ages 10-19 years, $M=13.67, SD=2.88$) were recruited to participate in the present study via Mechanical Turk. This sample was obtained by first recruiting parents who a.) currently resided within the United States, b.) were over the age of 18 and currently had at least one child between the ages of 9-19 years old (this age range was chosen because on the lower range (9 years old) would not have been born when 9/11 occurred, and the upper range (19 years old) would have been 4 when 9/11 occurred. Four years old was chosen as the cut off because around this age children begin to develop their own autobiographical memories (Fivush & Nelson, 2004). Additionally, the child had to either be living with the parent or the parent had access to communicate with the child about the child’s willingness to complete the survey. In an effort to facilitate recruitment, only one parent and one child from each family was recruited to participate in the present study.

Three parent-child pair questionnaires (total 6 participants) were eliminated from the study due to failure to meet the restriction criteria, i.e., one parent child pair did not reside within the United States and two parent child pairs were outside of the age restriction for the child. Therefore 50 parent-child pair met restriction criteria and was used for the present data analysis. Both the parent and the child were each compensated $5 per survey once both surveys were submitted.

**Procedure and material.** Representatives from Amazon’s Mechanical Turk contacted 500 qualifying parents in Spring 2016 and inquired whether they would be interested in participating in the present study. From this sample, the first 54 potential parent participants who were interested
in participating in the study were provided a link to the questionnaire. Upon clicking on the link, the parent was reminded that we were still interested in their child’s responses even if the parent believed the child had limited to no knowledge of events surrounding 9/11. The parent was then asked whether their child was between the ages of 9-19 years old and, if so, whether they give consent for their child to participate in this study. If participants selected no for any of these questions, the external linked survey was programmed to automatically end, and a message was displayed thanking them for their participation. These potential participants were not compensated due to their ineligibility to complete the survey. The parents who selected ‘‘yes’’ to both questions automatically moved to the next page and read the informed consent page. There were two types of surveys administered, a parent version, which was completed by the parent, and a child version completed by the child.

**Parent survey.** The parent survey consisted of the following sets of questions surrounding 9/11: a) flashbulb/personal memory, b) event memory, c) emotional reaction, d) collective/personal identity, e) transmission of memories/knowledge f) demographics. The subsections of questions were presented in the following order:

**Parent prediction flashbulb/personal memory.** This section of the survey included 11 open-ended questions asking the parents what they believe their child knows surrounding the parent’s flashbulb memories. For example, “What do you think your child would say if asked about how you first became aware of the 9/11 terrorist attack?” Following each question the parent was asked to rate his/her confidence in their prediction on a scale of 1-5 (1 = not at all, 5= extremely).

**Child emotional reaction questionnaire.** This section of the survey asked the parent to predict how intensely their child would rate six negative emotions they experienced two weeks
post 9/11, on a scale of 1-5 (1 = low; 5 = high). For example, “How strongly/intensely does your child believed you felt sad about the attack two weeks following its occurrence?”

*Child event memory.* This section of the survey included 4 open-ended questions about the parent’s prediction regarding the child’s ability to recall historical facts surrounding 9/11. For example, “How many airplanes does your child believe were involved in the attack?”

*Parent recall flashbulb/personal memory.* This section of the survey included 11 open-ended questions where the parent recounted their own flashbulb memories surrounding the events of 9/11. For example, “How did you first become aware of 9/11?” Following each question the parent was asked to rate his/her confidence in the accuracy of his/her on a scale of 1-5 (1 = not at all, 5 = extremely).

*Parent emotional reaction questionnaire.* The parent was asked to recall and rate how intensely they felt the following negative emotions two weeks after 9/11: sad, angry, fear, confusion, frustration, shock. For example, how strongly/intensely did you feel sad about the attack two weeks following the occurrence. The parent’s rated the intensity on a scale of 1-5 (1 = low intensity; 5 = high intensity).

*Child event memory.* The parent was asked identical event memories questions that were previously described, however instead of making predictions about how their child would respond, the parent was asked to recall their own historical knowledge about facts surrounding 9/11. For example, how many airplanes were involved in the attack?

*Parent transmission of memories/knowledge questionnaire.* The parent was asked to rate on a scale of 1-5 (1 = very little; 5 = very much), how often he/she spoke to his/her child about the *factual events of 9/11.* For example, “How often have you talked to your child about the actual events of 9/11?” The parent was also asked to rate on a scale of 1-5 (1 = very little; 5 = very much),
how often they spoke to their child about their personal experience on 9/11. For example, how much have you talked to your child about your personal experience about 9/11.

**Demographic questionnaire.** The parent was asked to provide demographic information about his/her child, such as the child’s age, gender, race/ethnicity, and religion.

**Child survey.** Upon completion of the parent survey, instructions where given for the child to complete their survey. The child survey was identical to the parent’s survey except for the following differences:

*Child recall flashbulb/personal memory.* The child was asked to recall what their parent experienced during 9/11. For example, please describe how your parent first became aware of 9/11. Following each question the child was asked to rate his/her confidence in the prediction made on a scale of 1-5 (*1 = not at all, 5 = extremely*).

*Emotional reaction questionnaire.* In this section of the survey the child was asked to rate on a scale of 1-5 (*1 = low; 5 = high*), how intensely he/she currently felt 6 negative emotions (i.e., sadness, anger, fear, confusion, frustration, shock) when they think about 9/11. Additionally the child was asked to report how intensely they believe their parents felt these emotions two weeks post 9/11 on the same scale.

*Transmission of memories/knowledge questionnaire.* In this section of the survey the child was asked on a scale of 1-5 (*1 = very little; 5 = very much*) how closely they followed media coverage about 9/11 and to identify the sources of knowledge (e.g., family communication, news, school, books, etc.).

*Collective/personal identity questionnaires.* Collective or personal identity questions were only asked in the child survey. The child was asked to rate on a scale of 1-5 (*1 = not at all; 5 = very much*) how much they agreed with the statements: 1. I feel attached to America, 2. My destiny is
linked to other Americans, 3. I feel solidarity with other American. Additionally, the child was asked to rate on a scale of 1-5 (1 = not at all; 5 = very much) how much their identity is influenced by the events surrounding 9/11: 1. My identity as an American is linked with the events of 9/11, 2. 9/11 has greatly shaped how I view myself as an American. Cronbach alpha was used to measure internal reliability of the subscales for identification as an American linked to the events of 9/11, 9/11 shaping the child’s views as an American and 9/11 as the most important event of American history (α = .55).

Demographic questionnaire. The child was asked to provide the following demographic information: a). if the child was a student, b). the city the child’s school was located, c). the year the child was in school, d). a description of the child’s political beliefs or affiliation and e). the city the child grew up, f). the city the child is currently residing g). if the child was currently residing in a city that’s different from the city they were when 9/11 occurred h). if the child received assistance filling out the survey and, if so, from whom and the nature of the relationship to the individual who provided this assistance. Additionally in the child survey participants were also asked whether they had seen the movie “Fahrenheit 9/11 and United 93.”

Results

In what follows, we will first present the overall average scores for the pertinent variables in examining the intergenerational transmission of flashbulb memories. Second, in order to examine age differences across the second generation, we created a mean split and provided the results of the between-subjects t-tests. Lastly, we will report results of a correlation and partial correlation analysis. Note: All average scores have been transformed into proportions outside of the age of the child. Additionally, as this is part of a larger project, we have streamlined our results,
focusing primarily on those results and aspects of data pertinent to our primary research aims, that is, transmission of flashbulb memories and social identity.

Coding Scheme: Accuracy for flashbulb memory between the parent’s FBM and the child memory of the parent’s FBM. Coding focused on the extent to which the parent’s recollection of their FBM and the child’s recollection of the parent’s FBM were: a). completely different = 0, b). partial similar = 1, c). completely identical = 2. All the FBM questions were then added together and the average FBM accuracy was then calculated.

Descriptive statistics. In Table 1, we have provided the overall average scores for the following variables: the age of the child, the accuracy of the child’s knowledge of their parent’s FBMs and confidence, the child’s event memory accuracy, the extent to which intergenerational conversations occurred surrounding the parent’s FBMs and 9/11 itself from the parent’s perspective and the extent to which conversations occurred surrounding 9/11 from the child’s perspective, the extent to which the child attended to the media about 9/11, the extent to which the child identified as an American, the extent to which 9/11 shapes their identity as an American, how historically important 9/11 is and, lastly, the extent to which the older generation could accurately predict what the child’s knowledge of the former’s FBMs.

To examine these results further, we conducted a number of post-hoc t-tests and found that the children accurately recalled significantly more of their parent’s FBMs relative to the facts surrounding 9/11, \( t(50) = 3.14, d = .71, p = .003 \). Additionally, parents recalled discussing more of the events surrounding 9/11 relative to discussing their FBMs and the child’s recollection of discussing 9/11 with their parents, \( t(50) = 2.13, d = .22, p = .040 \) and \( t(50) = 3.18, d = .38, p = .040 \), respectively. We found no difference between the parent’s recollection of discussing their FBMs and the child’s recollection of discussing 9/11 with their parents (\( p = .10 \)). There was also
no significant difference in terms of whether the child rehearsed 9/11 through the media or through conversation ($p = .10$).

In an effort to examine age effects for the children, we created a mean split ($M = 13.67$) and examined differences across the variables listed in Table 1 between older and younger children and conducted post-hoc independent $t$-tests (see Table 2). The results showed that the older children a) rated 9/11 more important in terms of their identification as an American, b) rated 9/11 as more important historically and c) more accurately recalled their parent’s FBMs relative to younger children, $t(49) = -3.49, d = .98, p = .001$, $t(49) = -2.11, d = .61, p = .040$, and $t(49) = -2.52, d = .68, p = .02$, respectively (see Table 2). We found no other significant differences.

**Correlations.** For our correlational analyses, we will focus on the age of the children, the children’s accuracy for their parent’s FBMs and their confidence in their recall. Our analysis revealed a significant association between age and the extent to which the parents talked about the events surrounding 9/11, their FBMs, the extent to which children stated that 9/11 shapes their identity as an American and, notably, the children’s accuracy for their parent’s FBMs, $r(48) = .58, p = .000$, $r(48) = .33, p = .022$, $r(48) = .42, p = .003$, and $r(48) = .31, p = .029$, respectively.

The children’s FBM accuracy was associated with parent’s recall of discussing both the events surrounding 9/11 and their FBMs, the children’s confidence in their FBM recall, and, critically, the extent to which the children identified as American, $r(51) = .31, p = .026$, $r(51) = .32, p = .025$, $r(49) = .45, p = .001$, and $r(51) = .30, p = .032$, respectively. Notably, the children’s assessment of the extent to which they rehearsed 9/11 with their parents was not significantly associated with FBM accuracy or confidence (all $p$’s > .05)

In order to control for any influence the media may have played in driving the associations between the children’s knowledge and confidence in their parent’s FBMs, we conducted a partial
correlation controlling for the media rehearsals on the part of the children. When controlling for media rehearsal, the associations between FBM accuracy and the parents discussions with the children surrounding the events of 9/11 and their FBMs remained significant as well as the association between FBM accuracy and confidence, $r(46) = .31, p = .03$, $r(46) = .38, p = .008$, and $r(46) = .51, p = .000$, respectively. While their remains a moderate association between FBM accuracy and identification with being an American, it is no longer statistically significant, $r(46) = .26, p = .08$. However, confidence in their FBM recollections is significantly associated, $r(46) = .29, p = .04$.

Discussion

The present study had two primary goals. First, whether and how FBMs surrounding 9/11 transmit to the next generation and, second, to what extent this is moderated by and shapes the social identity of the child. The present results suggest that a.) FBMs do transmit to the next generation and to a greater extent than event memories when measuring for accuracy, b.) this transmission was driven by conversations even when controlling for media rehearsals, c.) knowledge of their parent’s FBMs was related to the child identifying as an American and d.) when FBMs transmit across generations, they still maintain similar characteristics to those FBMs who were alive or old enough to “experience” the event. We will discuss each of these results in turn.

Similar to findings from Merrill & Fivush (2004) where intergenerational narrative was transmitted from parent to child, the present study found evidence to suggest that FBMs similarly transmit to the next generation. However it is important to note that the transmission observed in Merrill & Fivush study was that of actual memories of events the parent experience and/or anecdote from the parents lives. Whereas the present study focused on memories of the
circumstances in which one first learnt of a historical event, FBM, not the memory of the actual event itself (for this study 9/11) was transmitted to the next generation.

Researchers interested in the transmission of historical memories focused on the role cultural artifacts (e.g., textbooks, monuments see, Assman & Czaplicka, 1995) played in transmitting memories across generations. Limited research, however, has explored intergenerational transmission through familial discussions. The present study expounded on this body of research and found that conversations may play a particularly important role in the transmission of personal memories such as FBMs.

Noteworthy from our study is the impact of the transmitted 9/11 FBM to the child’s identity as an American. Berntsen’s (2009) model of flashbulb memories, suggests that social identity is central to the formation and maintenance of flashbulb memories. Berntsen postulated that having FBMs for historical and public event induces a sense of belongingness and identification with a particular group. Thus, one’s social identity influences the degree to which they forge a FBM. For example, Hornstein, S, Brown, A, Mulligan, N (2003) found that more Britain’s reported having FBMs for the death of Princess Diana than do Americans. Similarly, more African American’s reported having FBMs for the assassination of Martin Luther King, Jr. than do Caucasian Americans (Brown & Kulik, 1997). The present study extends this line of research to the transmission of FBMs to the next generation. That is, not only are FBMs and social identity intertwined for those who forged the FBMs, but also for those in the next generation who accurately recollect their parent’s FBMs According to Neisser (1982) explanation of the role FBM plays in social identity, these personal memories shared by the parent to the child and the historical importance of 9/11 within the American history might mark the instance in which the child felt closer to an important moment in American history. While our study does not establish a causal
link between intergenerational transmission of FBM and social identity, the present results suggest an important link between the two.

While the results connecting social identity and FBMs to the general FBM research, the present results also suggest other similarities. For example, the children in this study exhibited high confidence in their memories of their parent’s FBMs. Perhaps the defining characteristic of FBMs is the over-confidence individuals have for their accuracy (Talarico & Ruban, 2003). The present results extend this to the next generation. Not only are those who forged the FBMs highly confident in their recollections, but also so is the next generation.

Limitations and Future Research

The present study only included one family from the New York area. Therefore, it is unclear whether the present results would extend to individuals more directly impacted by the events of 9/11. Future research should recruit participants who lived in New York area and/or the tri-state area during 9/11 and compare then to participants living outside of these geographical regions (regional differences). In so doing future research can investigate the impact of physical and emotional distance in the transmission of flashbulb memories, while comparing transmission of individuals who actually lived through 9/11 verses individuals who merely lived through it in the absence of direct contact or context.

Due to resource limitations, only one parent participated in the experiment. Therefore, we only captured half of what may have been transmitted to the next generation as well as what the other parent believes the child remember about 9/11, any discussions that the other parent might have with the child about 9/11, and the frequency of these discussions. Future research should include both parents and guardians in order to provide a more robust understanding of how, what and when memories transmit across generations.
The present study simply asked parent and child to self-report the extent to which they recall how often they have discussed the events/memories surrounding 9/11. Such a measure has two limitations. First, it relies on the participants to remember how often they discussed 9/11. Such recollections may be mistaken. Second, it fails to consider the dynamics within the conversations and whether, for example, the roles each family takes during the conversations may either inhibit or facilitate the transmission of memories surrounding 9/11 (see, e.g., van der Haegen, Stone, Luminet, & Hirst, in press). Future research should examine the conversational dynamics when families discuss 9/11 to better understand how and when memories will transmit.

**Conclusion**

People often have long lasting personal memories of consequential, public events, especially when these events are of national and international importance (Hirst et al., 2009, 2015). These memories do not necessarily die with the generation that lived through them, but rather, they can be transmitted to the next generation (e.g. Svob & Brown, 2012). The present study added to this line of research and demonstrated that not only do flashbulb memories transmit across generations through conversations, but that they are also associated with the next generation’s social identity. While further research is needed to tease apart the mechanisms and causal pathways, the results of the present study provide insights in to how and when personal memories surrounding a historical event will transmit to the next generation and, in turn, shape their social identity.
Reference


Welzer, H. (2005). Grandpa wasn’t a Nazi: The Holocaust in German family
remembrance. *International Perspectives, 54.* American Jewish Committee.
Appendix A

Parent Survey

Your Reactions to the 9/11 Terrorist Attack  Participate in a survey about memories of and reactions to the 9/11 terrorist attack on the United States.

Date Today's Date:
________________________________________________________________

Time Current Time (please also note time zone):
________________________________________________________________

Thank you for your participation in this project, as well as the participation of your child. It is greatly appreciated. In this survey, we are going to ask you some questions about the 9/11 attack on the United States. It should take approximately 20 minutes to complete this questionnaire. Your participation in this survey is voluntary, and if, for any reason, taking part might prove distressing for you, feel free to discontinue your participation at any time. To ensure that your responses will remain confidential and anonymous, please create please create your own code and please be sure your child uses the same code when they complete their version of the survey.

Your code should be 7 letters long. The first part will be the first 5 letters of your mother’s maiden name. If there are fewer than five letters in the name, fill in the remaining spaces with x's. The second part will be the 2 letter abbreviation of the state in which you were born. Use the standard two letter postal abbreviation. For example, the abbreviation for New York is NY, or for Michigan is MI, or for Montana, MT.

ID Please enter this code now in the space provided (ID Code: _ _ _ _ _ _ _ _ _ _ _):
________________________________________________________________

Child As stated in our initial contact with you, in order to participate, you must have a child/son/daughter, and that person needs to be the youngest child who is at least nine years of age or older.

Do you have a child/son/daughter who is at least 9 years of age or older?
If "yes," then please click the arrow button to continue to the next page.
If "no," then you will be directed to the end of the questionnaire. We thank you for your time.

☐ Yes

☐ No

Consent- If the participating child (the youngest who is at least nine years old) is between the ages of 9 and 17, then we first need you to provide consent for your child's participation. By giving consent, this does not eliminate your child's decision to participate. However, we first require your consent in order to have the opportunity to contact this child. Do you provide consent for your child to participate?

**Please note:**
If you do not grant consent for your child, then you will be directed to the end of the questionnaire. We thank you for your time.

**Selecting "N/A":**
If your youngest child/son/daughter is 18 years of age or older, then select "N/A," since this individual would not require parental consent. In this case, please **CONTINUE WITH THE QUESTIONNAIRE**.

Do you grant consent?

☐ Yes

☐ No

☐ Not Applicable
Over 18 To confirm, is your youngest child 18 years of age or older?

- Yes
- No

Please note, that we are particularly interested in the knowledge children, ages 9-17 years old, have of 9/11. Therefore, if you have any hesitancy to have them complete this survey because you think they won't know anything, please still ask whether they would be willing to complete the survey. The 5 dollar compensation (per survey, 10 dollars in total) will only be disseminated when both of you have completed both surveys.
Q182 **IF** your child is **CURRENTLY** living with you, please complete this survey when your child is available to complete the **CHILD** survey IMMEDIATELY after you have completed your survey.

Is your child available to complete the **CHILD** survey immediately after you?

- [ ] Yes
- [ ] No
- [ ] Child DOES NOT live with me
Q184 IF you child is **NOT CURRENTLY** living with you, please proceed with the survey. At the end of the survey you will be provided with a link to email to your **CHILD** for your child to complete his/her survey.

Q183 If your child is **CURRENTLY** living with you and is unavailable to complete the **CHILD** survey please take a break until your child is available.

**CLICK ON THE ARROW TO CONTINUE ONCE YOUR CHILD IS AVAILABLE.**

**NOTE:** As you respond to the questions, once you have completed a page and moved to the next one, please do not go back and review your earlier answers.

In what follows, we are mainly interested in **YOUR CHILD’S KNOWLEDGE** of what **YOU** thought, knew, and/or experienced at the time of the 9/11 attack. In many instances, you might believe that your child knows nothing. This may be especially true if your child is young. Do not feel that you have to attribute knowledge or thoughts to your child that he or she does not have. When you believe that your child simply has no thoughts or knowledge on the matter, you may enter this as your response. We ask that you make an entry for all responses. Even if you respond with “Nothing” or "Doesn't Know," your answers will still be of value and interest to our study.

Please remember that we are focusing on the knowledge of only one child. If you have more than one child, please make your responses relative to your youngest child who is nine years of age or older. **This needs to be the same child who will participate in the study.**

**VERY IMPORTANT:**

As stated in our prior correspondence, it is critical to our study that you do not discuss any of these questions with your child and/or partner(s)/spouses(s) before or during the time when you and they are participating.

Again, thank you for your participation.

By clicking the arrow button at the bottom right corner, you will be granting consent for your own participation and moving on to the next page.
Q1 1) Please describe WHAT YOU THINK YOUR CHILD WOULD SAY if asked about how YOU first became aware of the 9/11 terrorist attack on the United States.  

NOTE: Please do not move to the next page until you have completed your response to this question.

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

Q2 2) What time on the East Coast would YOUR CHILD say YOU first became aware of the attack?

__________________________________________________________________________________________________________________________

Q2-Conf How confident are you that you are accurately reporting your child’s knowledge?

-Not at all

2

3

4

5-Extremely

Q3 3) What would YOUR CHILD say about how YOU first became aware of the attack (that is, what was the source of the information)?

__________________________________________________________________________________________________________________________
Q3-Conf How confident are you that you are accurately reporting your child’s knowledge?

○ 1-Not at all
○ 2
○ 3
○ 4
○ 5-Extremely

Q4 4) What would YOUR CHILD say about where YOU were when you first became aware of the attack?
________________________________________________________________

Q4-Conf How confident are you that you are accurately reporting your child’s knowledge?

○ 1-Not at all
○ 2
○ 3
○ 4
○ 5-Extremely

5) What would YOUR CHILD say about what YOU were doing when you first became aware of the attack?
________________________________________________________________
Q5-Conf How confident are you that you are accurately reporting your child’s knowledge?

- 1-Not at all
- 2
- 3
- 4
- 1-Extremely

Q6 6.) **Who else** would **YOUR CHILD** say was there with you when **YOU** first became aware of the attack?

________________________________________________________________________

Q6-Conf How confident are you that you are accurately reporting your child’s knowledge?

- 1-Not at all
- 2
- 3
- 4
- 1-Extremely

Q7 7) **Who** would **YOUR CHILD** say was the first person **YOU** communicated with about the attack and how that person felt about it?

________________________________________________________________________

________________________________________________________________________
Q7-Conf How confident are you that you are accurately reporting your child’s knowledge?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q8 8) What would YOUR CHILD say YOU were doing immediately before you became aware of the attack?

________________________________________________________________

Q8-Conf How confident are you that you are accurately reporting your child’s knowledge?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q9 9) What would YOUR CHILD say YOU were doing immediately after you became aware of the attack?

________________________________________________________________
Q9-Conf How confident are you that you are accurately reporting your child’s knowledge?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q10 10) What would YOUR CHILD say were any personal losses YOU experienced in the attack?

________________________________________________________________
________________________________________________________________

Q11 11) What would YOUR CHILD say were any inconveniences YOU experienced in your daily activities in the two weeks following the attack?

________________________________________________________________
________________________________________________________________

Q12-17Inst For questions 12 through 17, we’d like you to tell us the ratings YOUR CHILD might give if asked to specify how YOU felt about 9/11 IN THE TWO WEEKS FOLLOWING THE ATTACK. Please indicate your responses for each by marking the appropriate point on the scales provided. If you believe your child does not know how you felt for a particular emotion, select "0."

________________________________________________________________
________________________________________________________________

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Q12-17 How strongly or intensely **DOES YOUR CHILD** believe **YOU** felt the following emotions about the attack **IN THE TWO WEEKS FOLLOWING ITS OCCURRENCE**?

<table>
<thead>
<tr>
<th></th>
<th>0 - does not know (0)</th>
<th>1 - Low (1)</th>
<th>1.5 (1.5)</th>
<th>2 (2)</th>
<th>2.5 (2.5)</th>
<th>3 (3)</th>
<th>3.5 (3.5)</th>
<th>4 (4)</th>
<th>4.5 (4.5)</th>
<th>5 - High (5)</th>
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<tbody>
<tr>
<td>12) Sad</td>
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<td>13) Angry</td>
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<td>14) Fear</td>
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<td>15) Confusion</td>
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<td>16) Frustration</td>
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<td>17) Shock</td>
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</table>

Q18-21Inst For questions 18 through 21, we are now interested in what **YOU** believe **YOUR CHILD KNOWS** about the **ACTUAL EVENTS** of 9/11. To reiterate, we are interested in what **YOU** believe **YOUR CHILD KNOWS** about the **ACTUAL EVENTS**.

Q18 18) How many airplanes does **YOUR CHILD** believe were involved in the attack?

________________________________________________________________

Q19 19) What airline(s) does **YOUR CHILD** believe were involved in the attack? How many from each airline?

________________________________________________________________
Q20 20) In the vicinity of which cities does YOUR CHILD believe the airplanes crashed?

________________________________________________________________________________

Q21 21) Where does YOUR CHILD believe President Bush was when the attack occurred?

________________________________________________________________________________

**NOTE:** As you respond to the questions, once you have completed a page and moved to the next one, please do not go back and review your earlier answers. In what follows, we are NOW mainly interested in YOUR KNOWLEDGE of what YOU thought, knew, and/or experienced at the time of the 9/11 attack. Please remember that we are focusing now on your knowledge.

**VERY IMPORTANT:**
As stated in our prior correspondence, it is critical to our study that you do not discuss any of these questions with your child and/or partner(s)/spouses(s) before or during the time when you and they are participating.

Q22 22) Please describe about how YOU first became aware of the 9/11 terrorist attack on the United States. **NOTE:** Please do not move to the next page until you have completed your response to this question.

________________________________________________________________________________

________________________________________________________________________________

Q23 23) What time on the East Coast was it when YOU first became aware of the attack?

________________________________________________________________________________
Q24 How confident are you that you are accurately answering this question?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q25 24) How did YOU first became aware of the attack (that is, what was the source of the information)?

________________________________________________________________

Q26 How confident are you that you are accurately answering this question?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q27 25) Where were YOU when you first became aware of the attack?

________________________________________________________________
Q28 How confident are you that you are accurately answering this question?
   ○ 1-Not at all
   ○ 2
   ○ 3
   ○ 4
   ○ 5-Extremely

Q29 26) What were YOU doing when you first became aware of the attack?
   ________________________________________________________________

Q30 How confident are you that you are accurately answering this question?
   ○ 1-Not at all
   ○ 2
   ○ 3
   ○ 4
   ○ 1-Extremely

Q31 27) Who else was with you when YOU first became aware of the attack?
   ________________________________________________________________
Q32 How confident are you that you are accurately answering this question?

- [ ] 1-Not at all
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 1-Extremely

Q33 28) **Who** was the first person **YOU** communicated with about the attack? How did that person feel about it?

________________________________________________________________________
________________________________________________________________________

Q34 How confident are you that you are accurately answering this question?

- [ ] 1-Not at all
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5-Extremely

Q35 29) **What were YOU doing** immediately **before** you became aware of the attack?

________________________________________________________________________
Q36 How confident are you that you are accurately answering this question?

- 1-Not at all (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5-Extremely (5)

Q37 What were YOU doing immediately after you became aware of the attack?

________________________________________________________________

Q38 How confident are you that you are accurately answering this question?

- 1-Not at all
- 2
- 3
- 4
- 5-Extremely

Q39 Were there any personal losses YOU experienced in the attack? If so, what were they?

________________________________________________________________

________________________________________________________________
Q40 32) Were there any inconveniences YOU experienced in your daily activities in the two weeks following the attack? If so, what were they?

Q41 For questions 33 through 38, we’d like you to rate how YOU felt about 9/11 IN THE TWO WEEKS FOLLOWING THE ATTACK. Please indicate your responses for each by marking the appropriate point on the scales provided.

Q42 How strongly or intensely did YOU feel the following emotions about the attack IN THE TWO WEEKS FOLLOWING ITS OCCURRENCE?

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<th>0- does not know (0)</th>
<th>1-Low (1)</th>
<th>1.5 (1.5)</th>
<th>2 (2)</th>
<th>2.5 (2.5)</th>
<th>3 (3)</th>
<th>3.5 (3.5)</th>
<th>4 (4)</th>
<th>4.5 (4.5)</th>
<th>5-High (5)</th>
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<tr>
<td>33) Sad</td>
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<td>34) Angry</td>
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<td>35) Fear</td>
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<td>36) Confusion</td>
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<td>37) Frustration</td>
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<td>38) Shock</td>
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Q43 For questions 39 through 42, we are now interested in what YOU KNOW about the ACTUAL EVENTS of 9/11.

Q44 39) How many airplanes were involved in the attack?
Q45 40) What airline(s) were involved in the attack? How many from each airline?

Q46 41) In the vicinity of which cities did the airplanes crashed?

Q47 42) Where was President Bush when the attack occurred?

Q48 43) How much have YOU TALKED TO YOUR CHILD about THE ACTUAL EVENTS of 9/11?

- 1-Not at all (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5- Very much (5)

Q49 44) How much have YOU TALKED TO YOUR CHILD about YOUR PERSONAL EXPERIENCES on 9/11?

- 1-Not at all (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5- Very much (5)
Demo DEMOGRAPHIC INFORMATION: The following questions are optional, but would be very helpful to us when analyzing the results.

Please know that all survey information will be kept strictly confidential and anonymous.

Demo1 1) What is the age of YOUR CHILD?

________________________________________________________________

Demo2 2) What is YOUR CHILD'S gender?

________________________________________________________________

Demo3 3) What is YOUR CHILD'S race/ethnicity?

________________________________________________________________

Q176 3a) What is YOUR race/ethnicity?

________________________________________________________________

Demo4 4) What is YOUR CHILD'S religion?

________________________________________________________________

Q177 4a) What is YOUR religion?

________________________________________________________________
Demo 5) Do you have primary or shared caretaking responsibility of your child?

- Primary (1)
- Shared (2)
- Not Applicable (3)

Demo 6) Are you now residing in a different city from when 9/11 occurred?

- Yes (1)
- No (2)

Demo 7a) If yes, please state in which city and state you resided when 9/11 occurred:

________________________________________________________________

Demo 7b) And the city and state where you currently reside:

________________________________________________________________

Demo 8) Where does YOUR CHILD consider home (city and state)?
Q178 Does your child **CURRENTLY** live in the same house as you?

- Yes (5)
- No (6)

Q179 If your answer to the previous question was NO please copy the link to the CHILD survey below. Email the link to your CHILD for him/her to complete the CHILD. Remember to provide your child with the code you created at the beginning of the survey. Full payment will be received once both completed surveys are received.

This concludes the questionnaire.

Again, thank you very much for your participation.

Link to CHILD survey: http://survey.az1.qualtrics.com/SE/?SID=SV_23sSPDHBNNlwi7X

End/Pay This concludes the questionnaire. The next section of the survey is for your child to complete.

Again, thank you very much for your participation.

**IMPORTANT: PLEASE DO CLICK THE ARROW BUTTON ON THIS PAGE UNTIL YOUR CHILD IS READY TO COMPLETE THE SURVEY.**

This section of the survey is for the CHILD to complete. IF you are the CHILD please click on the ARROW BUTTON to continue.
Appendix B

Child Survey

**Your Reactions to the 9/11 Terrorist Attack**  Participate in a survey about memories of and reactions to the 9/11 terrorist attack on the United States

Date Today's Date:

Time Current Time (please also note time zone):

Consent Your guardian/parent provided you with the computer weblink to this study. Your guardian/parent gave us permission for you to participate in this study, and told us you would be willing to help us out. However, whether you participate or not is completely up to you. We hope you will participate, but if you decide not to do so, there will be no penalty to you. If you agree to participate, please know that you may stop at any time. Also, if you need to take a break, you may do so, but please return to the questionnaire as soon as possible. **IMPORTANT:** If you stop and return, you must use the same computer and the same browser (i.e. Safari, Firefox, etc.) The survey should only take about 20 minutes to complete.

**By clicking on the arrow button at the bottom right corner, you are agreeing to participate and moving on to the next page.**

ID The first thing we need you to do is to enter an ID code in the box below. This ID will make sure that your participation will be secret and no one will know you are the person taking this survey. It is important that this is the exact same ID used by the same guardian/parent who participated in our previous research. This should be the same guardian/parent who gave you the computer weblink for this questionnaire. Please now ask this guardian/parent for the ID code. Tell your guardian/parent that the ID code is made up of 7 letters and has two parts: The first part will be **the first 4 letters of guardian/parent's mother's maiden name**. The second part will be **the first 3 letters of the city or town in which your guardian/parent was born.**
Please enter this code now in the space below (ID Code: _ _ _ _ -- _ _ C):

Q99 Note: The 5 dollar compensation (per survey, 10 dollars in total) will only be disseminated when both of you have completed both surveys.

9/11- Yor N The first question we'd like to ask you is:

Do you know about the terrorist attack on September 11, 2001, often referred to as simply 9/11?

(Answer "yes" if you have heard of 9/11 and even if you know only a little about 9/11.)

**IMPORTANT:** If you answer "Yes":
Click the arrow button below to proceed to the next page.  If you answer "No":
You will go directly to the end of the questionnaire, once you click the arrow button. We thank you for your participation.

- Yes
- No

ID-Yes So, you know about 9/11. In this questionnaire, you will be asked what you know about how YOUR GUARDIAN/PARENT LEARNED OF 9/11 and also about YOUR OWN KNOWLEDGE of the event.  **SOME IMPORTANT NOTES:**

1) When you see "guardian/parent" throughout this survey, we are strictly referring to the guardian/parent who completed this survey. This should be the guardian/parent who gave you the ID code.

2) If you are confused by any word or question, you may ask your guardian/parent to explain the word or question, **but do not ask your guardian/parent to give you the answer to any question.**

3) If you don't know the answer to any question, you may simply write "don't know" in the answer box.
To begin with, we will ask you some questions ABOUT YOUR GUARDIAN/PARENT'S KNOWLEDGE AND/OR EXPERIENCES AT THE TIME WHEN 9/11 HAPPENED.

Remember, when you see "guardian/parent" throughout this survey, we are strictly referring to the guardian/parent who did the study before, and who also provided you with the ID code.

Q1 1) Please describe how your guardian/parent first became aware of the 9/11 terrorist attack on the United States. Please do this from your own memory; do not ask your guardian/parent for the answer.

Note: Please do no turn to the next page until you have completed your response to this question.

________________________________________________________________________________________

Q2 2) Do you know what time it was on the East Coast when your guardian/parent first became aware of the attack? Please state.

________________________________________________________________________________________

Q2-Conf How confident are you that your answer is accurate?

- 1-not at all
- 2
- 3
- 4
- 5-extremely

Q3 3) Do you know how your guardian/parent first learned about the attack (what was the source of the information)? Please state.

________________________________________________________________________________________

________________________________________________________________________________________
Q3-Conf How confident are you that your answer is accurate?

○ 1-not at all

○ 2

○ 3

○ 4

○ 5-extremely

Q4 4) Do you know where your guardian/parent was when he/she first learned about the attack? Please state.

________________________________________________________________

________________________________________________________________

Q4-Conf How confident are you that your answer is accurate?

○ 1-not at all

○ 2

○ 3

○ 4

○ 5-extremely

Q5 5) Do you know what your guardian/parent was doing when he/she first learned about the attack? Please state.

________________________________________________________________

________________________________________________________________
Q5-Conf How confident are you that your answer is accurate?

○ 1-not at all
○ 2
○ 3
○ 4
○ 5-extremely

Q6 6) Do you know who else was there with your guardian/parent? Please state.

________________________________________________________________
________________________________________________________________

Q6-Conf How confident are you that your answer is accurate?

○ 1-not at all
○ 2
○ 3
○ 4
○ 5-extremely

Q7 7) Do you know who was the first person your guardian/parent communicated with about the attack and how that person felt about it? Please state both, if possible.

________________________________________________________________
________________________________________________________________
Q7-Conf How confident are you that your answer is accurate?

- 1-not at all
- 2
- 3
- 4
- 5-extremely

Q8 8) Do you know what your guardian/parent was doing immediately before learning about the attack? Please state.

________________________________________________________________
________________________________________________________________

Q8-Conf How confident are you that your answer is accurate?

- 1-not at all
- 2
- 3
- 4
- 5-extremely

Q9 9) Do you know what your guardian/parent did immediately after learning about the attack? Please state.

________________________________________________________________
________________________________________________________________
Q9-Conf How confident are you that your answer is accurate?

- 1-not at all
- 2
- 3
- 4
- 5-extremely

Q10 10) Did your guardian/parent suffer any personal losses in the attack? Please tell us about it.

________________________________________________________________
________________________________________________________________

Q11 11) Did the attack inconvenience your guardian/parent’s daily activities in some way? Again, please tell us about it.

________________________________________________________________
________________________________________________________________

Q12-17 Inst For questions 12 through 17, we would like you to tell us about how your guardian/parent felt about the 9/11 attack WHEN HE/SHE FIRST LEARNED ABOUT IT. Please select a rating for each by marking the appropriate point on the scales below.

If you do not know how your guardian/parent felt, choose "0."
Q12-17 How strongly or intensely did your guardian/parent feel the following emotions **WHEN FIRST LEARNING ABOUT THE ATTACK?**

<table>
<thead>
<tr>
<th></th>
<th>0 - Don't Know</th>
<th>1 - Low</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
<th>4.5</th>
<th>5 - High</th>
</tr>
</thead>
<tbody>
<tr>
<td>12) Sad</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>13) Angry</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<td>○</td>
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<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14) Fear</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>15) Confusion</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>16) Frustration</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>17) Shock</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
</tbody>
</table>
Intro-Own We are now finished with questions referring to your guardians/parents. The remaining questions will be in reference to **YOUR OWN KNOWLEDGE AND EXPERIENCES** surrounding 9/11.

Q29 18) How many airplanes were involved in the attack?
________________________________________________________________

Q30 19) What airline or airlines were involved in the attack? How many from each airline?
________________________________________________________________
________________________________________________________________

Q31 20) Near what cities or in what cities did the airplanes crash?
________________________________________________________________
________________________________________________________________

Q32 21) Where was President Bush when the attack occurred?
________________________________________________________________

Q33 22) In a brief paragraph, describe what 9/11 **CURRENTLY** means to you.
________________________________________________________________
________________________________________________________________

Q34 23) **AT THE PRESENT MOMENT**, what is your greatest concern as a result of 9/11?
________________________________________________________________
________________________________________________________________

Q35 24) **AT THE PRESENT MOMENT**, how should the United States be dealing with the aftermath of 9/11?
________________________________________________________________
Q36 **25) AT THE PRESENT MOMENT**, who do you think was responsible for the 9/11 attack?

Q37-42 Inst For questions 26 through 31, we would like you to tell us about **YOUR CURRENT FEELINGS CONCERNING THE ATTACK**. Please select your response for each by marking the appropriate point on the scales below.

Q37-42 **AT THE PRESENT MOMENT**, how strongly or intensely do **YOU** feel the following emotions about the attack?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
<th>4.5</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>26) Sad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27) Angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28) Fear</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29) Confusion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30) Frustration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31) Shock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q43 32) Since learning about 9/11, how closely have YOU followed media coverage about the attack?

- 1-very little
- 2
- 3
- 4
- 5-very much

Q44 33) Since learning about 9/11, how much have YOU talked about it?

- 1-very little
- 2
- 3
- 4
- 5-very much
Q45- We now would like to know whom you have talked to about 9/11?

The next questions (34a through 34e) will allow you to list up to 5 different people. For each person, there will be 3 parts:

- the first part will ask you to state the person and his or her relationship to you (i.e., mother, friend, etc)
- the second part will ask you what you talked about (please enter as much as you can remember)
- the third part will ask you to enter a rating of how much you talked to this person (1 = very little, 5 = very much)

Q45-1a 34a) Please state the first person and the relationship of this person to you:
________________________________________________________________

Q45-1b What did you talk to this first person about in regards to 9/11? (Please elaborate, if possible.)
________________________________________________________________

Q45-1Rate Rate the extent to which you talked to this first person.

☐ 1-very little

☐ 2

☐ 3

☐ 4

☐ 5-very much

Q45-2a 34b) Please state the second person and the relationship of this person to you:
________________________________________________________________

Q45-2b What did you talk to this second person about in regards to 9/11? (Please elaborate, if possible.)
________________________________________________________________
Q45-2 Rate the extent to which you talked to this second person.

- 1-very little
- 2
- 3
- 4
- 5-very much

Q45-3a 34c) Please state the third person and the relationship of this person to you:
________________________________________________________________

Q45-3b What did you talk to this third person about in regards to 9/11? (Please elaborate, if possible.)
________________________________________________________________

Q45-3 Rate the extent to which you talked to this third person.

- 1-very little
- 2
- 3
- 4
- 5-very much

Q45-4a 34d) Please state the fourth person and the relationship of this person to you:
________________________________________________________________

Q45-4b What did you talk to this fourth person about in regards to 9/11? (Please elaborate, if possible.)
________________________________________________________________
Q45-4 Rate the extent to which you talked to this fourth person.

- 1-very little
- 2
- 3
- 4
- 5-very much

Q45-5a 34e) Please state the fifth person and the relationship of this person to you:

________________________________________________________________

Q45-5b What did you talk to this fifth person about in regards to 9/11? (Please elaborate, if possible.)

________________________________________________________________

Q45-5 Rate the extent to which you talked to this fifth person.

- 1-very little
- 2
- 3
- 4
- 5-very much
Q46 35) At the present moment, what do you think is the likelihood of another terrorist attack occurring in the United States during the time periods listed below? Note that the numbers of the provided scales indicate the PERCENTAGE chance that an attack is likely to take place. Please choose your PERCENTAGE value for each item.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the Next Month</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>During the Next Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>During the Next 10 Years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Identity 1

On a scale of 1 - 5 (1 = not at all; 5 = very much) please rate how much you agree with the following statements:

<table>
<thead>
<tr>
<th>I feel attached to America</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>My destiny is linked to other Americans</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I feel solidarity with other Americans</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I am proud to tell others I'm American</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>There is no reason to be proud of being American</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Being an American is something I rarely think about</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I have no clear feelings about the fact that I'm American</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Most of the time I enjoy thinking of myself as an American</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Identity2 On a scale of 1 - 5 (1 = not at all; 5 = very much) please rate how much you agree with the following statements:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>My identity as an American is linked with the events of 9/11.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/11 has greatly shaped how I view myself as an American.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/11 is one of the most important events in American history.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DEMOGRAPHIC INFORMATION**

You do not have to answer the following questions, but please know that your answers would be very helpful for our study.

Please know that all survey information will be kept strictly confidential and anonymous.

1) What is your age?

________________________________________________________________

2) Your gender?

- [ ] Male
- [ ] Female
- [ ] Other
Q98 If other, please state:
________________________________________________________________

3) Are you a student?
   ○ Yes
   ○ No

3a) If so: in what city is your school located?
________________________________________________________________

3b) If so: What year are you in school?
________________________________________________________________

4) What was your occupation at the time of the attack?
(If you were a student, please enter that as your answer. If you were too young to be a student or not born yet, please enter that as your answer.)
________________________________________________________________

5) What is your occupation now? (If you are a student, please enter that as your answer)
________________________________________________________________

6) What is your religion?
________________________________________________________________

7) What is your race/ethnicity?
________________________________________________________________

8) How would you describe your political beliefs or affiliation?
________________________________________________________________

9) Where have you been growing up, or where did you grow up? (Please enter the city/town and state)
________________________________________________________________
10) In which city and state do you currently reside?
_____________________________________________________________________

11) Do you currently reside in a different city from when 9/11 occurred?

   o Yes

   o No

   o I wasn't alive at the time of 9/11

11a) If yes, in which city and state did you reside when 9/11 occurred?
_____________________________________________________________________

11b) Where do you consider home?
_____________________________________________________________________

12) Did you get help filling out this survey? If so, from whom and what is that person's relationship to you?
_____________________________________________________________________

13) Did you read anything or hear anything that helped you fill out this survey?
_____________________________________________________________________

14) Did you see the movie "Fahrenheit 9/11"?

   o Yes

   o No

15) Did you see the movie "United 93"?

   o Yes

   o No

End This is the end of the questionnaire.

Thank you for your participation.
IMPORTANT:
PLEASE CLICK THE ARROW BUTTON ON THIS PAGE TO COMPLETE THE SUBMISSION OF YOUR QUESTIONNAIRE.
Table 1: Overall average proportion scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child: Age</td>
<td>13.67</td>
<td>2.88</td>
</tr>
<tr>
<td>Child: FBM Accuracy</td>
<td>.48</td>
<td>.23</td>
</tr>
<tr>
<td>Child: Confidence in FBM</td>
<td>.70</td>
<td>.23</td>
</tr>
<tr>
<td>Child: Event Memory Accuracy</td>
<td>.31</td>
<td>.25</td>
</tr>
<tr>
<td>Parent: FBM Conversations</td>
<td>.56</td>
<td>.24</td>
</tr>
<tr>
<td>Parent: Event Conversations</td>
<td>.61</td>
<td>.22</td>
</tr>
<tr>
<td>Child: 9/11 Conversations</td>
<td>.47</td>
<td>.23</td>
</tr>
<tr>
<td>Child: 9/11 Media Attention</td>
<td>.41</td>
<td>.25</td>
</tr>
<tr>
<td>Child: US Identification</td>
<td>.68</td>
<td>.21</td>
</tr>
<tr>
<td>Child: 9/11 Shapes US Identification</td>
<td>.37</td>
<td>.21</td>
</tr>
<tr>
<td>Child: Historical Importance of 9/11</td>
<td>.68</td>
<td>.29</td>
</tr>
<tr>
<td>Parent: Accurate Prediction of Child’s FBM</td>
<td>.51</td>
<td>.20</td>
</tr>
</tbody>
</table>
Table 2: Average proportion scores between older and younger children

<table>
<thead>
<tr>
<th></th>
<th>Older children</th>
<th>Younger Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child: FBM Accuracy*</td>
<td>.56 (.21)</td>
<td>.41 (.23)</td>
</tr>
<tr>
<td>Child: Confidence in FBM</td>
<td>.76 (.20)</td>
<td>.66 (.25)</td>
</tr>
<tr>
<td>Child: Event Memory Accuracy</td>
<td>.27 (.22)</td>
<td>.35 (.28)</td>
</tr>
<tr>
<td>Parent: FBM Conversations</td>
<td>.65 (23)</td>
<td>.48 (.23)</td>
</tr>
<tr>
<td>Parent: Event Conversations</td>
<td>.74 (.18)</td>
<td>.49 (.18)</td>
</tr>
<tr>
<td>Child: 9/11 Conversations</td>
<td>.49 (.24)</td>
<td>.45 (.23)</td>
</tr>
<tr>
<td>Child: 9/11 Media Attention</td>
<td>.43 (.29)</td>
<td>.39 (.23)</td>
</tr>
<tr>
<td>Child: US Identification</td>
<td>.71 (.11)</td>
<td>.66 (.15)</td>
</tr>
<tr>
<td>Child: 9/11 Shapes US Identification*</td>
<td>.47 (.25)</td>
<td>.28 (.11)</td>
</tr>
<tr>
<td>Child: Historical Importance of 9/11*</td>
<td>.77 (.25)</td>
<td>.60 (.31)</td>
</tr>
<tr>
<td>Parent: Accurate Prediction of Child’s FBM</td>
<td>.47 (.19)</td>
<td>.53 (.21)</td>
</tr>
</tbody>
</table>

Note: (Standard Deviations)
*Indicates significant differences at the .05 level