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Earliest Memories and Recent Memories of Highly Salient Events – Are They Similar?

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Abstract

Four- to 11-year-old children were interviewed about two different sorts of memories in the same home visit: recent memories of highly salient and stressful events, namely injuries serious enough to require hospital emergency room treatment, and their earliest memories. Injury memories were scored for amount of unique information, completeness vis à vis a standardized injury prototype, and accuracy while earliest memories were scored for amount of unique information, how old children had been at the time of their earliest memory, and time between their earliest memory and current age. Correlational and regression analyses showed that the two types of memory reports demonstrated considerable similarity in terms of unique information and completeness. Specifically, children with the most informative earliest memories had more informative as well as more complete free recalls of injury events. Such relationships between both sorts of memories suggest similar underlying processes at work when children produce memory

reports, even when the length, structure, coherence, and content of those memories is about as divergent as one can imagine.

KEYWORDS: child memory, earliest memories, childhood amnesia, memories of injury, child memory reports

A considerable body of research has looked at children's memory for highly salient recent events, and such memories are both extensive and detailed. These include negative events such as personal injuries (see Peterson, 2012, for a review of one body of work), distressing medical procedures (e.g., Quas et al., 1999; Salmon, Price, & Pereira, 2002), and natural disasters (Bahrick, Parker, Fivush, & Levitt, 1998) as well as positive events such as trips to Disney World (Hamond & Fivush, 1991). Recently, an emerging body of work has examined children's very earliest memories; that is, those memories they recall when asked to think back to their first memories (Jack, MacDonald, Reese, & Hayne, 2009; Peterson, Grant, & Boland, 2005; Peterson, Wang, & Hou, 2009; Peterson, Warren, & Short, 2011; Reese, Jack, & White, 2010; Tustin & Hayne, 2010). In contrast to memories of salient later-occurring events, earliest memories are typically short and often sparse or fragmentary. In spite of striking differences between the memory reports for these two types of memories, they may nevertheless demonstrate similarities. The current investigation explores this. As well, the findings may potentially be able to address two recurrent issues: Are earliest memories actual memories of personal experience or are they instead mere reflections of knowledge about one's early life and the stories that parents tell? Secondly, are earliest memories qualitatively different from recent memories in important ways, suggesting that they may be represented or stored differently?

Although to our knowledge no one has yet compared these two types of memories from the same children to explore whether they share similarities, there has been some research comparing recent memories with distant ones that came from the children's preschool years. For example, Van Abbema and Bauer (2005) had parents talk with their children when they were 7, 8, or 9 years of age about not only two recent events but also four events that had been jointly discussed when the children had been 3 years old. Memory narratives about distant events were less detailed and coherent than those about recent events; nevertheless, the memories were not qualitatively different and there was consistency in individual children's memory reports. However, the distant events in that study were not children's self-nominated earliest memories but rather events nominated by parents and then jointly discussed when children were age 3. More importantly, because all of the memories were co-constructed during parent-child conversation, parental cueing and scaffolding were present. Thus, one cannot be sure how much of the similarity across memories was due to similarity in parental prompting style.

The memories that are compared in the present study were collected for other purposes and are part of an extant body of data that was gathered over several years (see Peterson, 2012). In the same home visit at which children were interviewed about an injury that required hospital emergency room treatment they were also asked to recall their earliest memory. Since the two types of memories were elicited at the same time, this investigation controls for potential developmental differences in cognitive, narrative, and language skills at the time of memory elicitation. Furthermore, free recall was used to elicit both types of memories (although the memories of a recent event were followed by prompted recall). Thus, free recall memories were independently constructed by children.

When comparing these two types of memories, one must be mindful of a number of qualifiers. First, were memories retrieved under free recall conditions or were both free and prompted recall used? In the memories analyzed here, the earliest memories are elicited by free recall whereas the injury memory interviews began with free recall that was followed by prompted recall (see Peterson & Bell, 1996). Consequently, similarities between types of memories may differ depending upon elicitation conditions – only free recall about injury events may be similar to children's reports about earliest memories. Another issue is how the memories are coded. As described in Peterson (2011), children's memory reports may be coded in at least three different but complementary ways. (a) The number of *unique units of information* counts the number of new and different pieces of information children provide, and gives a measure of novel descriptive detail. (b) Report *completeness* assesses the degree to which children provide the components of a prototypical injury event, i.e., its overall structure. 'Completeness' differs from 'unique units of information' because in the completeness system, children's reports are scored in terms of whether a prototype component is present or not. Thus, if a child mentions location she is credited with providing that component, whether she mentions it with minimal elaboration or extensive detail (see Peterson, 2011, for contrasting examples). When children's reports are scored by these different methods, different patterns of recall are found when memory is tracked longitudinally which suggests that these coding systems capture different aspects of memory reports. Completeness scoring can be applied to children's memory reports about the injury event because adult eyewitnesses had provided an account of the event shortly after it occurred, but completeness could not be applied to children's earliest memories because we did not

know the prototype components or details of the original event. (c) Report *accuracy*. Children's injury reports were scored for accuracy by comparing them with adult witness accounts collected shortly after the event. In terms of earliest memories, all of the events had indeed occurred according to parental report, but we did not have detailed enough reports from parents to score children's earliest memories for accuracy.

All three of the above coding procedures (amount of unique information, completeness, and accuracy) were used for children's reports about their injury, but only amount of unique information could be scored for their earliest memories. Nevertheless, there could be potential relationships between data derived by means of all three coding procedures about children's injury reports and data derived from their earliest memories. Children who provide more unique information when recounting their earliest memories may also provide more unique information when talking about their injury because they may have learned that memory reports should be detailed (i.e., learned what is expected in constructing memory reports). And/or, they may produce better memory reports because of a history of elaborative parent-child memory talk. And/or they may have better fundamental cognitive or narrative skills.

Children who are more informative about early memories may also provide more complete injury accounts for the same possible reasons. Indeed, young children with more elaborative parents have been shown to be both more complete as well as provide more unique information in their recall of hospital emergency room experiences, although not the precipitating injury (Peterson, Sales, Reese, & Fivush, 2007). Children

with elaborative parents were also more accurate about hospital events. Thus, accuracy of injury reports may also be related to children's earliest memory reports if both are influenced by the same variables. However, children's free recall accuracy in memories about recent injuries tends to be quite high across age (Peterson & Bell, 1996); limited variation across children and/or ceiling effects may make relations between earliest memories and accuracy of recent injury memories less likely to be discerned.

Theoretical discussions of memory typically emphasize three important variables that affect the amount of information individuals report about specific memories: (1) age at the time of memory encoding, (2) age at the time of memory retrieval, and (3) length of the retention interval (Anderson, 2000; Baddeley, 1990; Tulving, 1972). The developmental literature is rife with examples of how important children's age at the time of encoding is: older children typically encode more information. For example, older children provide richer and more detailed accounts of recent injury experiences (Peterson, 2012). Age at the time of memory retrieval and the length of the retention interval interact of course: longer retention intervals are associated with more forgetting, but if retention interval is the same, older children tend to provide more information. In the present study, retention interval for children's earliest memories is related to current chronological age because children's earliest memories all date from their preschool years, which are more distant for older children than for younger.

Hypotheses

This is an exploratory study since, to our knowledge, no previous research has linked relatively recent memories of highly salient events with earliest memories in the same

children. At the group level, the two types of memories are very different in length, detail, completeness, and so on. Nevertheless, at the individual level, there may be similarities between the two types of memories. The following hypotheses were derived from prior work. (a) Chronological age has repeatedly been shown to be a crucial variable in developmental research, including for memory of both recent and distant events of the type studied here (see Peterson, 2012). In the present study, chronological (i.e., current) age represents children's age at the time of retrieval for both recent and distant events as well as serves as a close approximation for age at the time their recent memory was encoded. In keeping with Peterson and Bell (1996), age was expected to predict the amount of detail (i.e., unique units of information) included in recent injury memories as well as the completeness of children's free recall of their injuries. Older children were also expected to be more accurate. (b) Retention interval, i.e., length of time between children's current age and their age at the time of their first memory, is likely to be highly correlated with children's current age and thus, predictions for retention interval were similar to those for chronological age. (c) The amount of unique information that children provide is likely to be influenced by their understanding of the expectations surrounding memory reports. Thus, children who provide more unique information for one type of memory are likely to do so for the other. This would be most likely to apply to the self-structured (free recall) memory reports about injury. (d) Since the amount of unique information and completeness of children's memory reports about recent events have both been linked to similar variables (e.g., elaborative parent-child memory talk – Peterson et al., 2007), we predict that the amount of unique information children provide when recounting their earliest memories will be related to the

completeness of their injury reports – again, especially during free recall. (e) Because of little prior relevant research, we make no specific predictions between unique information in earliest memories and accuracy of injury memories, nor between age of earliest memory and recent injury memories.

METHOD

Participants

Seventy-two children requiring medical treatment because of an injury had been recruited from the emergency room (ER) of the only children's hospital in Newfoundland, Canada. They were white and from mixed socio-economic backgrounds. Families were recruited from the ER and interviews were conducted in their homes (see Peterson & Bell, 1996, for details on recruitment and injury interviews, and Peterson et al, 2005, for details on earliest memory elicitation). There were 18 4-5 year-olds (8 girls, mean age = 59.8 months, *SD* = 6.7), 18 6-7 year-olds (7 girls, mean age = 82.4 months, *SD* = 7.6), 18 8-9 year-olds (9 girls, mean age = 109.1 months, *SD* = 6.9) and 18 10-11 year-olds (9 girls, mean age = 131.1 months, *SD* = 7.1).

Procedure

During home visits, children were interviewed about their recent injury and then about their earliest memory. In the injury interview, free recall was followed by prompted recall (they were also asked about their hospital visit but this is not included here). In the earliest memory interview, children were asked to recall their very earliest memory, followed by a few additional questions (which are not included here). Interviews were audio-recorded and transcribed, and scoring was done from transcripts.

Coding Of Earliest Memories

Mean Age Of Child At Earliest Memory

The parent's estimate of child age at the time of the earliest memory was used unless unavailable, which was the case for 5, 5, 4, and 6 children in the youngest through oldest groups, respectively. In these cases, child estimates of age were used. (Preliminary analyses with these children included versus excluded were the same, so all children were included in analyses reported below.)

Retention Interval For Earliest Memory

The child's age at the time of their earliest memory (in months) was subtracted from their current age (in months).

Unique Units Of Information

Each unique unit of information introduced by the child was tabulated, including details pertaining to person, location, object, activity, attribute, cognition, emotion and time.

Coding Of Injury Memories

Free recall and prompted recall were coded separately; 'total recall' reflects the sum of free plus prompted recall. Coding was adapted from Peterson (2011).

Unique Units Of Information

Each unique unit of information introduced by the child was tabulated, as above.

Completeness

This was scored by determining how many prototype components children recalled (in free and total recall separately) relative to a standardized prototype, out of the number of possible prototype components they could potentially have recalled according to adult report. Completeness data were converted into percentages.

Accuracy

Adult transcripts were searched to determine whether information provided by children was correct or not. Percentages are reported for accuracy.

RESULTS

Table 1 presents the means and standard deviations for each of the variables as a function of age group. Correlations (Pearson's *r*) were calculated for relations between each category of coding for both earliest and injury memories (Table 2). When considering all children together, the number of unique information units in children's earliest memories was related to the number of such units in their injury memories, both for free and total recall. However, there are no relationships between early memories and either completeness or accuracy of injury memories.

Looking at age groups separately, a more detailed picture emerges. Similarities between the two sorts of memories are greatest for 4-5 year olds. The amount of unique information in their earliest memories was associated with the amount of unique information in their recent memories, both during free and total recall, as well as the completeness of their injury free recall. Only accuracy of injury memories is unrelated to unique information in children's earliest memories. For 6-7-year-olds, unique information in earliest memories was associated with unique information in total recall of injury memories. For 8-9-year-olds, unique information in earliest memories was related to both information and completeness of children's free recall injury memories. These associations were all positive: the more informative the earliest memories, the more informative and complete the recent memories. However, the pattern was quite different

for 10-11 year olds: There were no associations between amount of unique information in earliest memories and any property of recent memories. On the other hand, for all three of the younger age groups, there were no associations between age at the time of their earliest memory and any property of recent memories, whereas age of earliest memory was associated with the accuracy of recent memories in the 10-11 year olds: earlier memories were associated with more accurate free and total recall of injuries. Likewise, earlier first memories were associated with more complete injury memories.

To assess how well variables associated with children's earliest memories predicted aspects of their recent memories about injuries (unique units of information, completeness, and accuracy), hierarchical regression analyses were computed for each of the three types of recent memory variables, and these were done separately for free and total recall. Thus, six regression analyses were computed. In step one, the predictor variables included children's current chronological age, retention interval for their earliest memory, the amount of unique information in their earliest memory, and age of earliest memory. In step 2, the interaction between current age and the amount of unique information in their earliest memory was included, and in step 3, the interaction between current age and their age of earliest memory was included, the latter two steps assessing interactions with current age. In none of the regressions was any interaction with age significant, and steps 2 and 3 will not be further discussed. The variables of current age and retention interval from children's earliest memory were highly correlated ($r = .844$, $p < .001$), exceeding tolerance limits for multicollinearity. Since only one of these two variables could be entered in any given model, all six regressions were recomputed (a)

with retention interval omitted, and again (b) with chronological age omitted. The parallel analyses were highly similar, so the ones for current age are reported below.

All of the regression models predicting children's free recall of their injuries were significant (unique information: R^2 = .341, $F_{change}(3, 68) = 11.75$, $p < .001$; completeness: R^2 = .275, F_{change} (3, 68) = 8.58, $p < .001$; and accuracy; R^2 = .139 F_{change} (3, 68) = 3.65, $p < .017$). For all free recall variables, current age was always a significant predictor. The importance of current age is well known and its prediction of all free recall variables will not be enumerated here; rather, our interest is whether properties of children's earliest memory provide additional predictive power for properties of their recent memory. In the model predicting unique information in injury free recall, unique information in earliest memories was a significant predictor as well as current age, unstandardized β = .780, t = 3.54, $p < .001$. Age at earliest memory was not significant. In the model predicting completeness of injury free recall, unique information in earliest memories was again a significant predictor, unstandardized β = .480, t = 2.04, p = .045. Age at earliest memory was not significant. When accuracy of injury free recall was predicted, properties of earliest memories provided no additional predictive power over age. Although none of the models predicting total injury recall was significant, the one for unique information approached significance: R^2 = .107, F_{change} (3, 68) = 2.70, p = .052. In that model, unlike in all the models involving free recall memory measures of injury, current age was not a significant predictor. Rather, only the amount of unique information in their earliest memories predicted unique information in total injury recall, unstandardized β = .663, t = 2.17, p = .034.

In summary, the amount of unique information in children's earliest memories predicted the amount of unique information and completeness of their recent memories: more informative earliest memories were associated with more informative and complete recent memories when free recall was assessed. The amount of unique information in earliest memories also tended to predict the amount of unique information in the entirety of children's injury memories (i.e., free plus prompted recall).

DISCUSSION

The two sorts of memories that children were asked to report typically differ dramatically. Their injury memories were about events that not only happened in the recent past but were highly salient and emotional. They were also public events that were probably frequently discussed with family and friends. Memory reports about such events are extensive, highly detailed, and remarkably accurate (Peterson, 2011, 2012). These memories are also well maintained for many years (Peterson & Whalen, 2001). In short, memory reports about such events are as optimal as one can typically get from children.

In contrast, their earliest memories were about events that happened in the distant past, at or near the beginning of when children are able to retrieve autobiographical memories. They are typically short and often fragmentary, are generally about mundane events and frequently lack emotion (Peterson et al., 2005). Unlike injuries, these events are seldom the stuff of family discussion since parents often express surprise at what children recalled as their earliest memory (Peterson et al., 2005). They are also often bereft of chronology and emotion (Peterson et al., 2005). In other words, these are among the most impoverished memories that children provide.

In spite of these considerable differences between the two types of memory at the level of the group, we found similarities between these divergent memories at the level of the individual child. According to correlation analyses, 4- and 5-year-olds who were most informative when recalling their earliest memory (provided the most unique information) were also the ones likely to be most informative about their injury. This was true whether free or total recall was assessed. They also provided the most complete free recalls of their injury. Children in both the 6-7- and 8-9-year-old groups showed similar patterns, although attenuated. In contrast, there were no correlations between the properties of the two sorts of memories for the oldest children, although earlier first memories were associated with more complete and more accurate recall of their injury. Why the oldest children were so different is unclear. Perhaps those with earlier first memories when they were 10 or 11 years old had better memory skills. Indeed, there are some suggestions that earlier first memories are related to better memories from other ages. For example, young adolescents who had elaborative parents had younger ages of first memories (Jack et al., 2009; Reese et al., 2010), and children with elaborative parents tend to have better autobiographical memories (Fivush, Haden, & Reese, 2006).

Regression analyses also suggested that the two types of memories were related in some ways when data from recent memories were derived from free recall. Those children who had more unique information in their earliest memories also had more unique information in their recent memories as well as more complete accounts. Interestingly, children with the most unique information in their earliest memories also tended to have the most information in their recent memories even when the entirety of their interviews was considered. The regression model for total recall of unique information just missed

significance, and the only significant predictor was the amount of unique information in children's earliest memories. Unlike all analyses of free recall, age was not a significant predictor. This is probably because the extensive prompting obviated the sorts of age differences that one finds in free recall. In contrast to the correlation data that suggested different patterns of correlations for different age groups, interactions with age were not found in the regression analyses.

Overall, earliest memories and recent memories of highly salient events were similar for particular children, especially in terms of the amount of unique information that was provided and the completeness of their accounts. Even though the absolute amount of information differed for the two types of memories, those children who provided relatively more informative earliest memories tended to be the children who provided more informative as well as more complete recent memories. Why might this be so? In Nelson and Fivush's (2004) model for the emergence of autobiographical memory they posit a number of developmental achievements that contribute to memory development. Components of memory development include basic memory abilities, an understanding of temporal and causal relationships, language and narrative skills, and an understanding of self and others. When children recall both memories of recent salient events and distant earliest memories at the same time, presumably similar underlying memory and verbal report skills are applied to both. Variation between children in the acquisition of various cognitive achievements is normative, and if some children have more complex component skills than others, this variation may well be reflected by variation in the memory reports themselves. Also, concepts of how narratives should be structured as well as the content they should contain also vary between children (see reviews in Nelson

& Fivush, 2004, and Peterson & McCabe, 2004). These concepts will influence children's memory reports, regardless of what sorts of events they describe. In addition, some researchers have shown that how parents engage in memory-talk with their children affects how children remember and talk about their memories (see reviews in Fivush, Haden, & Reese, 2006; and Peterson & McCabe, 2004), and both types of memories could reflect this influence. Finally, many researchers point to children having to learn the expectations of interviewers (e.g., Lamb & Brown, 2006; Powell, Fisher, & Wright, 2005; Saywitz & Snyder, 1996), and those who have more successfully learned the 'rules of the memory game' are more likely to apply them to both memory tasks, e.g., more informative accounts that provide more of the underlying structure of the event (completeness components such as who, what, when, and where).

The correlational analyses suggest that these relationships between unique information in earliest memories and the informativeness and completeness of recent narratives may be greater in younger children. If so, Nelson and Fivush's (2004) model states that children undergo greatest development in several components that influence autobiographical memory in the preschool years. Variation in rate of acquisition of these underlying skills may be particularly influential in the youngest children. It is also possible that a greater likelihood of correlations between the different types of memories for preschoolers than older children is that there is more variation in understanding interviewer expectations by preschoolers.

Age at the time of memory retrieval was an important predictor in all regression analyses of injury free recall, although not of total recall. Free recall is structured by the children themselves whereas the interviewer had considerable influence on the nature of the

children's prompted recall (and therefore their total recall, which is the sum of free plus prompted recall). Children's chronological age has typically been found to be an important variable when they recall injury events (Peterson, 2012), so this finding is consistent with a host of other research. In terms of retention interval, longer intervals are typically associated with poorer recall (Anderson, 2000; Baddeley, 1990, Tulving, 1972). However, in the present study, longer retention intervals from the time of children's earliest memories were associated with better free recall about recent events, not worse, because retention interval was confounded with children's current age. More importantly, the retention interval assessed here was for children's earliest memories, yet those earliest memories were not the ones being predicted. The third memory variable, age of encoding, was not analyzed for recent memories since it was so close to the age of memory retrieval. In contrast, the age of encoding for earliest memories could be evaluated and it was not found to be a significant predictor of recent memory variables in regression analyses, although correlation analyses showed relationships between this variable and recent memory in the oldest children, as discussed above.

These data address two issues about the nature of earliest memories. First, are children's early memories actual memories or are they instead mere artifacts of parental story telling? If the early memories were only reflections of parental lore and retellings of childhood events, one would not expect similarities between children's early and recent memories. Although parents may contribute by helping to reinstate the children's memories from time to time, the similarity between the two sorts of memories argues that children's earliest memories reflect the children's own memory processes. Secondly, is

one's earliest memory a different kind of memory than later ones? Are they qualitatively different, somehow? If earliest memories were qualitatively different in properties (e.g., more perceptually-based), or were represented and stored in different ways than were recent memories, one would expect substantial differences between the two sorts of memories. Such qualitative difference was not found by Van Abbema and Bauer (2005) when comparing recent memories of 7-9 year olds to memories dating from age 3. The similarities between earliest and recent memories in the current data set support the argument that the two sorts of memories are not qualitatively different; rather, the two sorts of memories seem to be represented and reported in similar ways.

Considered overall, children's self-generated earliest memories seem to mark the beginning of autobiographical memory. They share qualitative properties with recent memories and seem to reflect children's own memory processes rather than being products of memory knowledge and parental stories.

Because this is an exploratory study in an uncharted area, it raises more questions than it answers. Future research can profitably explore variation in underlying cognitive achievements and see if these are indeed predictive of children's memory reports of both types of memories. As well, variation in the style of memory-talk that children have participated in with parents may be a mechanism that links the two types of memory reports. Overall, relationships between both sorts of memories suggests similar underlying processes at work when children produce memory reports, even when the

length, structure, coherence and content of those memories is potentially about as divergent as one can imagine.

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Table 1 Means (and SDs) for the Average Age of Earliest Memories (in Months), Retention Interval (in Months), and Number of Unique Units of Information (UUIs) for Earliest Memories as well as the Number of UUIs, Percentage Completeness, and Percentage Accuracy for Free and Total Recall of Injury Memories

Variable	Age in Years				
	4-5	6-7	8-9	10-11	Overall
Earliest Memories					
Age at Memories	36.9 (12.1)	36.9 (13.3)	47.6 (20.7)	48.8 (17.0)	42.9 (16.8)
Retention Interval	29.6 (10.5)	56.1 (20.3)	74.6 (22.6)	98.7 (14.9)	64.8 (30.8)
No. of UUIs	10.6 (6.9)	8.9 (4.2)	14.9 (9.5)	16.3 (12.2)	12.7 (9.0)
Injury Memories					
No. of UUIs					
Free Recall	10.1 (7.5)	14.2 (8.4)	40.6 (25.6)	27.2 (13.2)	23.0 (19.3)
Total Recall	46.6 (19.0)	46.4 (20.6)	54.4 (31.1)	52.1 (20.3)	49.9 (23.0)
% Completeness					
Free Recall	25.0 (14.8)	36.6 (16.1)	56.8 (17.7)	46.7 (15.1)	41.3 (19.6)
Total Recall	72.2 (15.0)	72.1 (14.9)	68.7 (17.7)	68.8 (20.6)	70.4 (16.9)
% Accuracy					
Free Recall	98.6 (5.9)	92.9 (12.5)	95.1 (6.1)	86.6 (17.8)	93.3 (12.2)
Total Recall	85.2 (14.0)	82.8 (14.3)	93.0 (6.8)	86.1 (13.9)	86.8 (12.5)

Table 2 *Correlations Between Properties of Earliest Memories and Injury Memories*

Earliest Memory	**Injury Memory**					
	Number of UUIs[1]		Completeness		Accuracy	
	Free	Total	Free	Total	Free	Total
All children						
Age of earliest memory	.08	-.14	-.10	-.22	-.20	.05
Number of UUIs [1]	.40	.24	.23	-.08	.07	.07
4-5 year-olds						
Age of earliest memory	.04	.00	-.06	-.07	-.23	.21
Number of UUIs [1]	.62	.53	.53	.37	.25	.17
6-7 year-olds						
Age of earliest memory	.03	.13	.00	-.17	-.17	.04
Number of UUIs [1]	.38	.66	.13	.21	-.10	.12
8-9 year-olds						
Age of earliest memory	.03	-.23	-.15	-.16	.02	.22
Number of UUIs [1]	.67	.34	.49	-.14	-.42	-.39
10-11 year-olds						
Age of earliest memory	-.14	-.47	-.28	-.62	-.64	-.49
Number of UUIs [1]	.20	-.15	.03	-.35	.19	.07

[1]Note: UUI refers to the number of unique units of information

p< .05

p < .01

p < .001