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## High accuracy but low consistency in children's long-term recall of a real-life stressful event



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### ABSTRACT

The accuracy and consistency of children's memories of their removals from their biological families by the Child Protective Services (CPS) was investigated. A researcher was present during the removals and documented what happened. A total of 37 maltreated children, aged 3 to 12 years, were interviewed 1 week and 3 months after the removals. The accuracy of the memory reports was high at both time points, but their consistency was fairly low; in all age groups (3–6, 7–10, and 11–12 years), a high percentage of new accurate information was reported during the second interview and a high percentage of the accurate information reported in the first interview was omitted in the second interview. Older children were significantly more consistent in their memory reports than younger children. The results show that low consistency in memory does not imply memory inaccuracy and has implications for the interpretation of successive interviews of children in forensic contexts.

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### Introduction

Accuracy in episodic memory refers to correspondence between memory reports and documentation of what actually happened; consistency in memory refers to agreement between memory reports at different points in time (Koriat, 2012; van Giezen, Arensman, Spinhoven, & Wolters, 2005). Both are considered important factors in the evaluation of memory in real-life forensic settings, where low

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consistency has been interpreted as indicating unreliable memory and inconsistent reports over time are judged as less likely to be true than events that have been consistently reported (Brainerd & Reyna, 2005). Research indicates that these perceptions can affect the assessment of children in forensic situations when they are interviewed multiple times, with the extent to which their memory reports are consistent with one another influencing perception of their reliability (Ceci & Bruck, 2006). However, this is a false assumption. High consistency in successive episodic memory reports does not inevitably imply high accuracy and, vice versa, low consistency does not imply low accuracy; information that is consistently reported may be inaccurate, and novel information may be either inaccurate or accurate (La Rooy, Katz, Malloy, & Lamb, 2010).

In forensic contexts, children are typically interviewed about stressful incidents that occurred weeks, months, or even years earlier, and they are often interviewed on multiple occasions with intervals between interviews lasting weeks. Children's long-term memory of stressful personal experiences has been studied in the context of real-life events such as painful medical procedures (Peterson, Moores, & White, 2001; Quas et al., 1999), natural disasters (Ackil, Van Abbema, & Bauer, 2003; Fivush, Sales, Goldberg, Bahrick, & Parker, 2004), and physical injuries (Peterson, 1999; Peterson & Whalen, 2001), and studies have tried to emulate the pattern of interviewing found in real life. These studies have shown that, in general, children remember such events well but that their memory reports are not necessarily consistent over time (Fivush et al., 2004). Ghetti, Goodman, Eisen, Quin, and Davis (2002) interviewed children about a physical examination that was conducted 3 days before the interview as part of a legal investigation into suspected abuse, and the children were then reinterviewed after another 3 days. The results showed that older children were more consistent in their reports than younger children. Similar results were reported by Baker-Ward, Gordon, Ornstein, Larus, and Clubb (1993) using longer intervals between interviews. Sometimes children introduced new information in successive interviews; Cederborg, LaRooy, and Lamb (2008) interviewed children with intellectual disabilities who were suspected victims of abuse and found that a substantial amount of the information added in repeated interviews was new information, and Hershkowitz and Terner (2007) reported that children who were reinterviewed about alleged sexual abuse reported nearly 25% new information in the second interview. Potential explanations for some of these differences have included the children's age. In a recent study, O'Neill and Zajac (2013) interviewed 5- and 6-year-old and 9- and 10-year-old children about a surprise event and found that when the children were reinterviewed, the accuracy of their memory reports decreased. In particular, younger children made more changes in their memory reports and reported less correct information than older children. Concerns have been raised that younger children are more error prone than older children when questioned repeatedly about an event (Bruck & Ceci, 2004; Schaaf, Alexander, & Goodman, 2008).

It should be noted, however, that the emergence of new information in repeated interviews does not necessarily imply reduced accuracy of memory reports. The reminiscence phenomenon, or the emergence of new, correct, previously unreported information when people are repeatedly interviewed, is well documented in laboratory studies (Gilbert & Fisher, 2006; Payne, 1987) and confirmed by field research (La Rooy et al., 2010). Repeated interviewing may have the effect of enhancing recall of new details while retaining previously recalled information (Gordon, Baker-Ward, & Ornstein, 2001). A number of studies examining repeated interviewing with children, reviewed by La Rooy and colleagues (2010), reported that children may recount new information in subsequent interviews and that a fairly high percentage of the new information was correct when children were interviewed across short time intervals. Recall delays of months reduced the accuracy of new information, producing an accuracy rate of approximately 50% (La Rooy et al., 2010). In a recent case study, Orbach, Lamb, La Rooy, and Pipe (2012) examined the consistency of a 9-year-old's repeated accounts of her older sister's abduction from their shared bedroom. Six forensic interviews were conducted over a 4-month period, and the results suggested that even if new details appeared in repeated interviews across several months, most of the information was accurate and the core content remained stable, indicating high consistency in the child's memory reports. Recently, Odinet, Memon, La Rooy, and Millen (2013) examined the effect of repeated interviews on adult participants' memory performance and found that consistency was not strongly related to accuracy.

Assessing the consistency of memory reports entails making comparisons between successive reports of an event. Evaluations of accuracy and the relationship between accuracy and consistency

require, in addition, that the correct answers are known. This is virtually impossible in most real-life contexts. Bidrose and Goodman (2000) evaluated the memory reports of four sexually exploited girls using photographic and audiotaped records of the abuse, but these covered only parts of the children's abuse histories. In the recent case study of Orbach and colleagues (2012), the reference against which the accuracy and consistency of the recorded interviews were evaluated was the notes taken by an interviewer in an initial unrecorded interview with the informant, as checked against the report by the informant's sister, as well as access to audio-recordings of five interviews. In studies such as those of Peterson and colleagues (Peterson, 1999; Peterson & Bell, 1996), the accuracy of children's memory was evaluated against their parents' memory of the same event; Peterson (2011) commented, "Although using parental report as the 'gold standard' for accuracy is not ideal, it is the only viable option for unexpected real-world events such as the ones used here" (p. 280).

### *The current study*

In the current article, we evaluate children's long-term memory of a real-life stressful event against a gold standard of accuracy of greater purity than that used in these earlier studies; maltreated children were interviewed after 1 week, and again after 3 months, about stressful removals from their biological families carried out by the Child Protective Services (CPS) (Baugerud & Melinder, 2011; Melinder, Baugerud, Ovenstad, & Goodman, 2013), and their memory reports were evaluated against notes made by an experienced researcher who was able to attend all removals and record the events in detail. Thus, rather than comparing the children's memories with those of adults, accuracy was assessed by comparing the children's memory reports with a detailed online record of the individual events; this is a unique feature of the current study.

The children, aged 3 to 12 years, were interviewed using free-recall questions followed by focused questions. This design allowed us to test the accuracy and consistency of the children's long-term memory reports against the type of questions asked (Ghetti et al., 2002) and to evaluate age differences in memory performance. Based on the research cited above, we expected the children to report novel information in the second interview and that at least some of the novel information would be correct.

## **Method**

### *Participants*

The participants in the study were 37 maltreated children (mean age = 8.2 years,  $SD = 2.9$ , range = 3–12, 46.3% boys and 53.7% girls) who had experienced removals from their homes conducted by the CPS; the children were interviewed about these stressful events 1 week after and 3 months after they had taken place. The participants were involved in ongoing child maltreatment cases where the CPS had decided to remove them from their parents' custody due to a suspicion of serious maltreatment and/or inadequate care, in line with the Child Welfare Act (CWA). They were recruited from 30 different CPS offices in four counties in Norway, from both urban and rural areas, and were Caucasian (65.9%), Asian (19.5%), or African (14.6%). For the statistical analyses, the children were divided into three age groups: 3 to 6 years ( $n = 12$ ,  $M = 4.07$  years,  $SD = 1.20$ ), 7 to 10 years ( $n = 13$ ,  $M = 8.30$  years,  $SD = 0.80$ ), and 11 and 12 years ( $n = 12$ ,  $M = 11.15$  years,  $SD = 0.68$ ).

The children were from different families; when siblings were removed, only one of the siblings was included in the study. Children removed from their biological families by the CPS have their cases considered at the County Social Welfare Board, a court-like administrative body with decisive authority. The study was approved by the regional committees for medical and health research ethics and was conducted in accordance with the 1964 Declaration of Helsinki.

### *Procedure*

The same researcher attended all removals of the child participants from their biological families; these removals were conducted by the CPS and, in some cases, were assisted by the police. The CPS

procedure was either to remove the children from their family homes (65.2%) or to collect them from other places (e.g., kindergarten, school) (34.8%), with the latter option sometimes being chosen to avoid potentially very traumatic separations between the children and their parents. The children were then brought to the CPS office before being placed in a suitable standby home, foster home, or institution, or the CPS took them directly to the new care facility. In each case, the researcher arrived with the CPS workers and recorded what was happening, who was present, and the child's emotional and behavioral reactions, following a detailed, sequential, step-by-step observation chart according to a standard procedure followed by the CPS in removal situations (Baugerud & Melinder, 2011; Melinder et al., 2013). The removal was divided into seven phases:

1. The CPS worker arrived.
2. The CPS worker informed the child and the parents about the impending removal.
3. The CPS worker and/or parents, with or without the child's participation, packed the child's belongings.
4. The CPS worker and the child departed.
5. The CPS worker drove the child to the new care facility (i.e., a standby home, a foster home, or an institution).
6. The CPS worker and child arrived at the new facility.
7. The CPS worker left the child in the new care facility.<sup>1</sup>

As part of the observation procedure, the same researcher rated each child's global stress on a 5-point scale (1 = *not present* to 5 = *present to a high degree*). The researcher observed the child and was instructed to be neutral in the demanding removal situation and not to intervene in any way. Because a single researcher observed all of the removals, reliability was assessed in advance in the context of a kindergarten; two researchers observed and scored child–parent separations when children were left at the kindergarten in the morning. The reliability coefficient for global stress was .73 (see Baugerud & Melinder, 2011).

Next, 1 week ( $\pm 2$  days) after the removal, one of four interviewers, all of whom were naive to the event to be remembered, visited each of the children at their current location (i.e., in the preliminary foster home or institution) and conducted the first interview. Then, 3 months ( $\pm 1$  week) later, a follow-up interview with each of the children was conducted. The interviewers were trained in advance in the use of the interview protocol using the recommended “best practice” interview procedures (Lamb et al., 2008). We obtained consent from the parents before the interview was conducted, and because most of the parents were difficult to reach immediately after the stressful removals, this meant that it was not possible to conduct the first interview 1 or 2 days after the removal, as would have been ideal, so the first interview needed to take place a week later. In real life, there are often long investigative processes and repeated interviews are often carried out, which is why the children were interviewed again 3 months after their removals. The interviewers were all well trained and prepared for the children's interviews; the same interviewer did not always conduct both the 1-week interview and the 3-month follow-up. The children were given a structured memory interview, consisting of a total of 27 questions, about their removals. The questionnaire, translated into English, is reproduced in the Appendix. All children were asked the same questions, in the same order, at both time points. If a child did not respond to a question, the next question was asked without any repetition of the preceding question. The children were informed about the study in an age-appropriate manner, and their consent to participate, along with that of their parents, was obtained both at the 1-week interview and at the follow-up interview 3 months later (cf. Fisher, 2004).

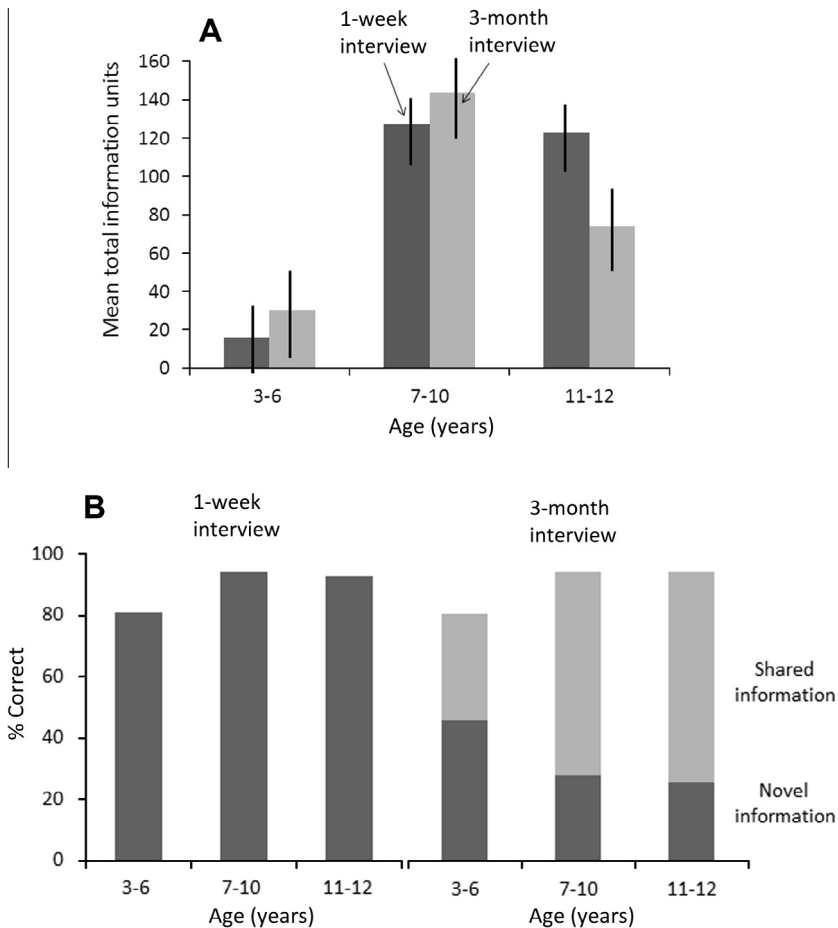
### *The memory interview*

The questions about the day of removal were structured into two question types: free-recall questions ( $n = 4$ ) and focused questions ( $n = 23$ ), which attempted to tap more detailed cued recall in the

<sup>1</sup> A PDF version of the observation protocol may be obtained from the first author on request.

children. The precise wording of one question (Question 15), which was asked at the 1-week interview, was adjusted to make it appropriate for the 3-month follow-up. As in most real-life events, removal situations differed—for example, some children had their fathers present, whereas others did not have their fathers present—but all children were asked the same 23 questions. Thus, the correct answer to several questions differed between the children. The children's responses were scored as correct, incorrect, "don't know," or unverifiable units of information. The "don't know" and unverifiable responses were coded as counting as one unit per question to which they were given as the answer, but they were rarely given; group means for "don't know" responses per question category varied from 0.3 to 0.5 out of a maximum score of 4 for the free-recall questions and varied from 0.08 to 0.14 out of a maximum score of 19 for the focused questions. The means for unverifiable responses per question category varied from 0.01 to 0.09 for the free-recall questions and varied from 0 to 0.06 for the focused questions.

All statements about persons, actions, emotional reactions, speech, objects, or a description that included information answering the question asked were considered a unit of information, in



**Fig. 1.** (A) Mean total amount of information recalled in response to free-recall questions in interviews 1 week (dark bars) and 3 months (light bars) after the stressful event for children in three age groups. Vertical lines indicate  $\pm 1$  standard error. (B) Accuracy of the memory reports in the 1-week and 3-month interviews. In the 3-month interview, proportions of accurate information common to the two interviews are indicated by light bar segments and proportions of novel information are indicated by dark bar segments.

accordance with earlier studies (Alexander et al., 2002). Two coders scored 20% of the first child interviews; the intercoder agreement was 90%, and disagreements were resolved by discussion between the two coders. The remaining interviews were scored by a single coder. The interviews were coded immediately after the interviews, and the coders rating the 3-month interviews were not aware of the individual scores given for the 1-week interviews.

## Results

Preliminary analyses with bivariate correlations showed no relation between global stress and children's memory performance in either the 1-week or 3-month interviews in response to both free-recall questions ( $ps \geq .22$ ) and focused questions ( $ps \geq .41$ ). Thus, stress was not considered a factor in further analyses. Furthermore, analyses of variance (ANOVAs) did not reveal any differences in memory performance between boys and girls, and so the data were collapsed across gender.

### Free-recall questions

Fig. 1A plots the mean number of information units reported in the 1-week and 3-month interviews by the three age groups and demonstrates the well-established age effect on episodic memory, with the younger children reporting less information than the older children. A 2 (Age)  $\times$  2 (Interview Time Point) mixed ANOVA, with the last factor as a within-participants factor and the mean number of total information units reported in response to free-recall questions as the dependent measure, was conducted. The analysis confirmed a significant effect of age on the total amount of information reported,  $F(2, 34) = 5.752$ ,  $p < .007$ , partial  $\eta^2 = .25$ , no main effect of time of interview,  $F(1, 34) = .292$ ,  $p = .59$ , partial  $\eta^2 = .009$ , but an interaction between age group and amount of information reported in the two interviews,  $F(2, 32) = 3.671$ ,  $p = .04$ , partial  $\eta^2 = .19$ . Post hoc comparisons using the Tukey HSD (honestly significant difference) test revealed that the 3- to 6-year-olds reported approximately the same amount of information in the first and second interviews ( $M = 16$ ,  $SD = 11.4$  vs.  $M = 29.45$ ,  $SD = 31$ ), as did the 7- to 10-year-olds ( $M = 126.83$ ,  $SD = 77$  vs.  $M = 143.67$ ,  $SD = 86.7$ ), whereas the oldest age group (11- and 12-year-olds) reported significantly less information in the second interview ( $M = 122.83$ ,  $SD = 70.6$  vs.  $M = 73.83$ ,  $SD = 69$ ),  $p < .04$ .

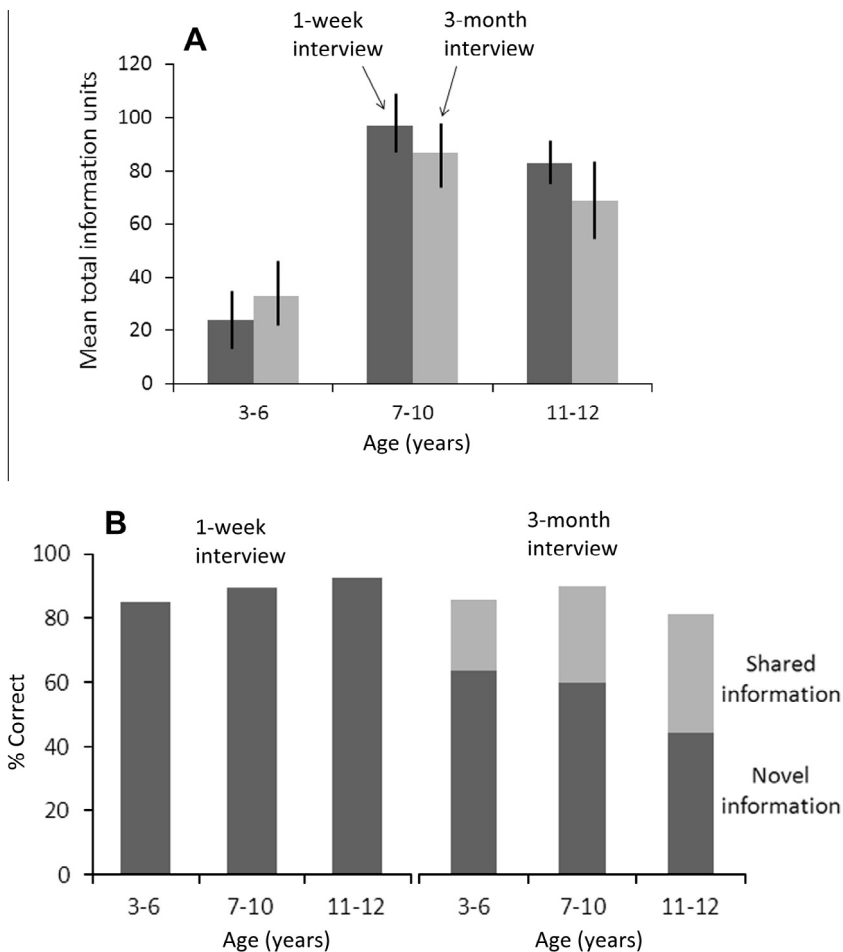
For all age groups, a substantial amount of the information reported in the 3-month interview was new information, that is, information not reported in the 1-week interview. However, this does not imply that the 3-month memory reports were inaccurate. Fig. 1B shows the accuracy of memory reports in the first and the second interviews, with the relative amounts of shared and novel information given in the 3-month interview indicated by light and dark column segments. Memory accuracy was high in all age groups but was lowest in the youngest age group,  $F(2, 31) = 3.676$ ,  $p = .004$ , partial  $\eta^2 = .45$ . Post hoc comparisons using the Tukey HSD test showed that the 3- to 6-year-olds ( $M = 4.8$ ,  $SD = 7$ ) reported significantly less correct information than the 7- to 10-year-olds ( $M = 43.8$ ,  $SD = 50$ ),  $p < .03$ . However, there were no significant differences between the 3- to 6-year-olds and the 11- and 12-year-olds ( $M = 19$ ,  $SD = 15$ ,  $p = .32$ ) or between the 7- to 10-year-olds and the 11- and 12-year-olds ( $p > .06$ ) in the amount of correct information recalled overall. Of the total amount of accurate information the children recalled at the 3-month interview, between 26% and 48% represented novel information. However, there was no significant effect of age on the accuracy of novel information,  $F(2, 32) = 2.688$ ,  $p = .07$ , partial  $\eta^2 = .30$ . Overall, the new information reported by the children was highly accurate; fully 94% of the new information reported by the 3- to 6-year-olds was accurate, 98% of the new information reported by the 7- to 10-year-olds was accurate, and 99% of the new information reported by the 11- and 12-year-olds was accurate.

### Focused questions

Fig. 2 shows the mean amount of information reported in response to the focused questions part of the interviews (Panel A) and the accuracy of the resulting memory reports (Panel B). The pattern of results was similar to that found for free-recall questions. A mixed ANOVA with time of interview

as a within-participants factor and mean total information reported as the dependent measure confirmed an effect of age on the amount of information reported but no differences between interviews,  $F(1, 32) = 0.401$ ,  $p = .53$ , partial  $\eta^2 = .01$ , and no interactions,  $F(2, 32) = 0.947$ ,  $p = .39$ , partial  $\eta^2 = .06$ .

Again, the accuracy of the memory reports was very high for all age groups in both interviews, with a sizable proportion of the information reported in the second interview being accurate novel information. In total, between 44% and 63% of the accurate information reported in the 3-month interview by these three age groups was novel. There were no significant main effects of time,  $F(1, 32) = .208$ ,  $p = .65$ , partial  $\eta^2 = .007$ , or interaction effects,  $F(2, 32) = 1.181$ ,  $p = .32$ , partial  $\eta^2 = .07$ , and the younger children performed as well as the older children across time in response to focused questions. Overall, again, a high percentage of the new information was accurate; fully 87% of the information reported by the 3- to 6-year-olds was accurate, as was 82% of the information reported by the 7- to 10-year-olds and 79% of that reported by the 11- and 12-year-olds.



**Fig. 2.** (A) Mean total amount of information recalled in response to focused questions in interviews one week (dark bars) and three months (light bars) after the stressful event for children in three age groups; vertical lines indicate  $\pm 1$  SEM. (B) The accuracy of the memory reports in the one-week and three-month interviews; in the three-month interview the proportions of accurate information common to the two interviews are indicated by the light bar segments, and proportions of novel information are indicated by the dark segments.

### Memory consistency

The results presented in Figs. 1 and 2—showing that the total amount of information gained in each of the two interviews was comparable, that accuracy was very high in response to both free-recall and focused questions, and that roughly half of the accurate information reported in the second interview was novel information—imply that the consistency of the memory reports was fairly low. The consistency scores, defined as the proportion of information recalled from memory reported in the two interviews that was common to both interviews, varied among the age groups. For the free-recall questions, consistency was 32% for the 3- to 6-year-olds, 48% for the 7- to 10-year-olds, and 47% for the 11- and 12-year-olds, with the older children being significantly more consistent than the younger children,  $F(2, 34) = 2.911$ ,  $p = .05$ , partial  $\eta^2 = .14$ . Post hoc analyses confirmed that the 3- to 6-year-olds ( $M = 3.6$ ,  $SD = 5.2$ ) were significantly less consistent in their memory reports than the 7- to 10-year-olds ( $M = 25.3$ ,  $SD = 5.6$ ),  $p = .01$ , and also less consistent in their memory reports than the 11- and 12-year-olds ( $M = 11$ ,  $SD = 5.3$ ),  $p = .30$ , although this was not significant. Nor were there any significant differences in consistency between the 7- to 10-year-olds and the 11- and 12-year-olds,  $p = .07$ . For focused questions, the consistency scores varied between 22% of the accurate information reported by the 3- to 6-year-olds, 30% of the accurate information reported by the 7- to 10-year-olds, and 36.5% of the accurate information reported by the 11- and 12-year-olds, with the oldest children producing the highest consistency scores. However, there were no significant differences among the age groups,  $F(2, 35) = 2.153$ ,  $p = .08$ , partial  $\eta^2 = .14$ .

### Discussion

The results of the current study show that children's long-term recollection of a highly stressful and personally significant event—removal from their biological parents by the CPS—was highly accurate across a 3-month interval. However, this high degree of accuracy was not accompanied by a comparably high degree of consistency in their memory reports; instead, a substantial amount of information reported in the first interview, which took place 1 week after the event, was not reported again after 3 months. In addition, an almost equal amount of the information reported for the first time at the 3-month interview as that reported at the 1-week interview, in response to both free-recall and focused questions, turned out to be highly accurate. Interestingly, the amount of novel correct information reported in the second interview was higher for the focused questions than for the free-recall questions. This pattern of results was observed for all age groups, including the youngest children, who reported comparatively few details of the event, in both the free-recall and focused questions parts of the interviews. The accuracy of the youngest age group may actually have been underrated given that a few incorrect responses would count more when expressed on a percentage scale. Thus, low consistency in episodic memory for stressful events does not imply low accuracy of memory in children of any age.

These results are consistent with the results of a number of previous studies of memory of stressful events (e.g., Burgwyn-Bailes, Baker-Ward, Gordon, & Ornstein, 2001; Fivush et al., 2004; Terr, 1988; Tizzard-Drover & Peterson, 2004), confirming that details of the event are well preserved in long-term memory. A number of previous real-life memory studies have demonstrated robust reminiscence effects (e.g., Baker-Ward et al., 1993; Gilbert & Fisher, 2006) and the benefits of conducting more than one interview in order to obtain a comprehensive recollection of the event (La Rooy, Pipe, & Murray, 2005), which is consistent with the results of the current study. La Rooy and colleagues (2010) explored the effect of reinterviewing children, aged 5 to 13 years, in four cases of alleged sexual abuse. In all of these cases, a substantial amount of new information was recalled when the children were interviewed for a second time after a short delay. Although the current study demonstrated that reinterviewing children leads to further reminiscence, it also showed that a substantial amount of the information recalled in the initial interview was not reported in the second interview. However, even if the children did not report all of the same information in the follow-up interview, they did not contradict themselves or respond erroneously. From a methodological/theoretical perspective, the



current results indicate that failure to report memory details previously recalled by children does not necessarily imply forgetting and that the addition of new details does not imply false memory.

It is, of course, possible that the memory performance of the children in the current study was supported by post-event factors and, thus, does not represent “pure” memories of the events. For example, it is known that talking about an experience might facilitate long-term recall (Cordón, Pipe, Sayfan, Melinder, & Goodman, 2004; Fivush, Hazzard, Sales, Sarfati, & Brown, 2003), and in the current study it is likely that both the CPS workers and the foster parents talked to the children about the removals. However, although talking about the events may have enhanced the children’s memory of the removals, it is unlikely to have affected their memories for details. Furthermore, supporting adults who held incorrect beliefs about what happened may have influenced the children’s memory negatively, resulting in a greater number of inaccurate memory reports (Bruck & Ceci, 2004). Nevertheless, the results show that neither the CPS workers nor the foster parents induced the children to make more errors over time; at both interviews, the number of inaccurate details was very low for all age groups. Thus, we believe that the memory performance of the children represents their actual memories of the stressful events occurring 3 months earlier.

The current study tested a fairly unique sample of participants, namely children who either had been exposed to physical and/or psychological maltreatment or were suspected of having been subjected to maltreatment to the degree that the CPS intervened and removed the children from their biological parents. It follows, therefore, that these children have not had normal upbringings and that high stress might have been part of their daily lives for years. There is evidence that prolonged early stress may affect memory (Bremner et al., 2003; Edwards, Fivush, Anda, Felitti, & Nordenberg, 2001). The available research on maltreated children, however, does not suggest that episodic memory is impaired (Howe, Toth, & Cicchetti, 2011; Porter, Lawson, & Bigler, 2005), and the current results support this, showing a high degree of accuracy in long-term memory reports of a stressful event. However, there was one departure from the general pattern of results that might suggest an early stress factor in the development of episodic memory; in contrast to the two other age groups, the children in the oldest age group reported significantly fewer details in the 3-month interview than in the 1-week interview. These children may have had longer histories of maltreatment, and it is possible that the effect of early stress factors on episodic memory performance is related to the duration of the prolonged stress (Edwards et al., 2001; Wolf, 2003). However, it is also possible that the older children were more reluctant than the younger children to talk about their memories from the day of removal and so were less elaborative in their recall. Older children’s understanding and appraisal of this stressful emotional event, being separated from their biological parents, may be managed differently from younger children. It is possible that the older children had more negative evaluations of the day of removal and that they experienced higher levels of negative affect than the younger children when asked to retrieve a coherent narrative account of what happened that day. Older children are also often more aware of the social norms of a society and may have experienced feelings of shame in having parents incapable of taking care of them, possibly influencing their willingness to share details of the experience with the interviewer (Greenhoot, Bunnell, Curtis, & Beyer, 2008). At this time, we cannot distinguish between these explanations. Finally, the drop in memory performance of the oldest group compared with the younger age groups may be a chance finding due to low sample size.

The results of the current study, and those of other studies examining consistency in memory reports over long intervals, have one obvious practical implication, namely that consistent memory reports are frequently viewed as an indication of trustworthy testimonies, whereas inconsistencies in memory reports are viewed as indicating the reverse (Quas, Thompson, & Clarke-Stewart, 2005). In view of the current results, this position is untenable. Even if the children’s memory reports were inconsistent over time, the children did report new, accurate, and relevant information when they were reinterviewed. Thus, when children are given the opportunity to recount a personally significant emotional event on different occasions, different—but no less reliable—aspects of the experience may be recalled on these subsequent occasions. In the courtroom, or in a child maltreatment investigation, this knowledge is valuable because it indicates that low consistency in children’s accounts does not automatically imply tainted testimony. Assuming that child interviews are properly conducted, and that the first interview takes place a short time after the event to be remembered, repeated interviews over time might actually benefit the case.

## Acknowledgments

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## Appendix. Child Memory Interview 1

### Part I: Free-recall questions about the removal

1. I know that \_\_\_\_\_ and \_\_\_\_\_ from the Child Protective Services (CPS) collected you and you moved here. I wasn't there, so I would like you to tell me everything that YOU remember from the day that they came and you moved here.
2. Once the CPS people [names] came into your house/school/kindergarten, what was the first thing that happened? What happened right after that?
3. Is there anything else?
4. Can you please tell me everything that you remember from that day even if you think that it's not important?

### Part II: Focused questions

5. When the CPS people [names] came into your house/school/kindergarten and you first saw them, what were you doing?
6. What did your mother do when the CPS talked to her?
7. What did your mother say to the CPS?
8. What did your father do when the CPS talked to him?
9. What did your father say to the CPS?
10. Were there any other adults there when the CPS came and you were removed from home/kindergarten/school? What did the other adult(s) say to the CPS?
11. What kind of car did \_\_\_\_\_ and \_\_\_\_\_ (CPS) have?
12. What was the color of the car?
13. What were the colors of the clothes of \_\_\_\_\_ and \_\_\_\_\_ from the CPS?
14. What hair color did \_\_\_\_\_ and \_\_\_\_\_ from the CPS have?
15. When are you going to meet your mother/mother and father next time? [3-month version: What did they tell you about how soon you would meet your mother/mother and father?]<sup>2</sup>
16. What did the CPS tell you about how often you would be allowed to meet your mother/mother and father?<sup>2</sup>
17. It is often hard for both children and adults when children have to move. How did you feel when the CPS people came for you?
  - (a) What did you do?
  - (b) What emotions did you express?
  - (c) What did you say?
18. Who packed your things when you were leaving? (Who helped you?)
19. Can you tell me what you brought when you came here?
20. Tell me what happened when you first arrived at the foster home/standby home/institution? What was the next thing that happened? What happened after that? Anything else?
21. What happened after they got to know your likes/dislikes, what you eat, what you play with, and what you usually do before you go to sleep?
22. What else?
23. What did you do when your mother/mother and father/\_\_\_\_\_ and \_\_\_\_\_ from the CPS were going to leave?

<sup>2</sup> The information relevant to Questions 15 and 16 was given to the child during the removal.

24. What did you say when your mother/mother and father/\_\_\_\_\_ and \_\_\_\_\_ from the CPS said goodbye to you at the foster home/standby home/institution?
25. How did your mother react when she said goodbye to you at the foster home/institution?
26. How did your father react when he said goodbye to you at the foster home/institution?
27. Now I've asked you about a lot of things. Is there anything else you would like to tell me about the day that you had to move to the foster home/standby home/institution?

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