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Young children's responses to repeated facial identifications: A comparison of one-day and one-month delayed tests

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Abstract

The present study examined the effect of repeated interviews on the accuracy of facial identifications by young children and how their responses to the identification tests changed from the first interview to the second interview. Participants watched a live picture-story show in kindergarten. They were given facial identification tests for the persons presented in the show approximately one day and then approximately one month after seeing the event. Results showed that few children made correct identifications in both the one-day and one-month delayed tests, and a considerable number of children changed their responses across the two tests. In addition, children were less likely to respond "I don't know" in the second test and gave contradictory responses for the two tests. These results were discussed from the perspective of the development of meta-cognitive monitoring.

Key words : young children, eyewitness memory, facial identification

Many eyewitness studies have demonstrated that inappropriate methods of interviewing can mislead or deteriorate children's testimonies. These studies have focused on the issue of negative effects of suggestive information (e.g., Hünefeldta, Lucidib, Furiac, & Rossi-Arnauda, 2008 ; Leichtman & Ceci, 1995 ; Powell, Roberts, Cecci, & Hembrooke, 1999), inappropriate forms of questions for children (e.g., Dale, Loftu, & Rathbun, 1978 ; Dent & Stephenson, 1979 ; Walker, 1993), influence of repeated interviews (e.g., Leichtman & Ceci, 1995 ; Quas et al., 2007 ; Powell, Jones, & Campbell, 2003), and effective interviewing techniques, such as cognitive interviewing (e.g., Holliday & Albon, 2004; Lamb et al., 2009 ; Melinder et al., 2010).

In this study, we examined the effect of repeated interviews on the accuracy of facial identification. Although previous studies (e.g., Quas et al., 2007) highlighted the beneficial and negative aspects of repeated interviews or questions on memory of events (i.e., what happened in an event), few studies have examined how the accuracy of facial identification is affected using repeated identification tests. Considering that repeated identification questions are commonplace in legal contexts, the tolerance for and constancy of multiple identification tests in young children requires investigation.

As indicated by many studies that have examined the effects of repeated interviews on the accuracy of event memory, young children can provide accurate and constant accounts of an event during repeated interviews (e.g., Peterson, Moores, & White, 2001 ; Peterson, 1999). However,

repeated interviews negatively affect performance when children are suggestively questioned about false events (e.g., Leichtman & Ceci, 1995 ; Melnyk & Bruck, 2004). In Leichtman & Ceci (1995), for example, preschool children were interviewed repeatedly after an event in which a stranger visited their class under several conditions. Results showed that children given non-suggestive questions provided accurate reports. In contrast, the children given suggestive questions tended to provide false reports in a 10-week delayed test.

A previous eyewitness study in which a medical procedure was used as a target event (Peters, 1987) examined facial-identification accuracy for a repeated test (i.e., 24 to 48 hours and 3 to 4 weeks delayed). Children, ages 3 to 8 , interacted with two people (i.e., a dentist and an assistant) in a dental clinic for about 15 minutes and then were given facial identification tests twice by means of 5 -photo lineups. The participants were asked to indicate whether or not the target was present in the lineup and, if present, to make an identification. They were also given an option of saying "I don't know". Findings showed that although the participants scored numerically better following the short delay, the effect of interval was not statistically significant.

The abovementioned studies suggest that even young children are likely to show accurate and constant responses over multiple interviews provided they are not given suggestive questions or misleading information during the retention process. However, there are few studies focused on facial memory compared with those on event memory. Therefore, little is known about how repeated questions affect the accuracy of facial identification. In addition, Peters (1987) did not provide error analysis data concerning how children change their responses following multiple identifications.

Accordingly, the present study was designed to examine the effect of repeated interviews on the accuracy of facial identification and to determine if young children change their responses on identification tests from the first interview to the second interview. The participants watched a live picture-story show in kindergarten. Then, approximately one day and one month after seeing the event, they were given facial identification tests for the persons presented in the show. Regarding the procedure of the experiment, the following points were considered.

First, the live events were constructed from a practical point of view. Most previous eyewitness studies have used live or videotaped events in which a non-disguised person performs a target event. However, in real-life scenes of crime, criminals often change their hairstyles and wear caps, wigs, or masks before or after they commit a crime. Furthermore, it is not unusual for two or more people to commit a crime (e.g., a main performer carries a weapon, and a bystander assists). Therefore, in this experiment, the participants watched a live event in which a female storyteller (main target) and a male helper (bystander) presented a picture-card story in either a disguised face (DF) or normal face (NF) condition. In the DF condition, the appearance of the main target was different from the facial photo used in a lineup (i.e., change in hairstyle and no eyeglasses).

Second, instructions for the facial identification tests were in accordance with recommended non-biased methods in eyewitness studies of children (e.g., Memon & Rose, 2002). The participants were informed that the target person may or may not have been present in the lineup and were then asked whether the target was present in the lineup. They were permitted an "I don't know" option for all questions. In addition, the interviewer who conducted the second interview was different from the person who conducted the first interview to eliminate possible response bias resulting from being given the same questions twice by an identical person.

Method

Participants

Seventy-five preschool children (ages 3 : 10 - 6 : 10, *M*= 5 : 4) participated in this experiment. We assigned them to a disguised face (DF) or normal face (NF) condition, matching for mean age and gender.

Materials

Features of the target persons : The target was a 20-year-old female with black eyes and black shoulder-length hair. In the DF condition, she wore black-framed glasses, had a band-aid on her cheek, and had her hair pulled back. The bystander was a 20-year-old male with black eyes and black short hair. He was undisguised in both conditions.

Face identification test : For the target identification test, six 15 × 10cm color facial photographs of Japanese females taken from the shoulders up were used. All photographs were front views with neutral facial expressions, and each person wore identical gray clothes. One of these six females was the main target, and five were distracters whose facial features were similar to those of the main target. The five distracters were selected from 20 female photographs given similarity ratings by 30 undergraduate students. The students were asked to rate the similarity of facial features between a target female and the 20 females in the photographs using a 5-point scale of similarity-dissimilarity : 1 =completely dissimilar, 2 =dissimilar, 3 =neutral, 4 =similar, and 5 =very similar. For the bystander test, five male photographs of distracters were selected using the above-mentioned procedure.

Procedure

Watching an event

The participants, divided into subgroups of approximately 10 children, watched a picture-card story presented for about 8 minutes in the playroom of their kindergarten. The target female was sitting in a chair with a set of picture cards in her hands. The children were sitting in chairs facing the female at a distance of approximately 2.5 meters. The male helper (bystander) was sitting in a chair on the left side at a distance of 2 meters from the target female. He held another set of picture cards in his hands. As the children entered the room and sat down, the target female greeted them, introduced herself, and presented the first picture-card story for about 4 minutes. She did not mention anything about the bystander. When the female finished the first story, the bystander approached her and gave her the second set of picture-story cards. He then took the first cards, moved to the right side, and sat on another chair placed on the right side. The female presented the second picture-card story for about 4 minutes. When she finished the second story and informed the children that this was the end of the picture story, the children left the room. The bystander was seated in silence and without expression during the event.

One-day delayed test

Target identification test: The experimenter asked the children to remember the person who read picture stories the day before, and then arranged the 6 facial photographs in a 3 × 3 array and gave the following instructions : "Here we have 6 photos on the table. The person who read the picture stories may or may not be shown. Can you tell me whether the person who read the picture stories is in the photo array or not?" (lineup recognition) For the children who responded "No" or "I don't know" to this question, the target identification test was finished. For the children who responded "Yes", a further question was asked : "Can you tell me who among these photos read the picture stories?" (facial identification) The children were permitted to respond "I don't know" to every question.

Memory of the bystander and identification test: Following the target identification test, the experimenter asked the children "Were there other people besides the person who read the picture stories in the playroom?" (bystander memory) For the children who responded "Yes" to this

question, a bystander identification test was given with the same instructions as for the target identification test. The bystander identification test was not given to children who responded "No" or "I don't know" to this question.

One-month delayed test

The target-identification test and bystander memory and identification test were repeated. However, a different female experimenter from the experimenter who conducted the one-day delayed test was used. She gave the following instructions preceding the tests : "I don't know what you said one month ago. So, please tell me once again".

Results

Target identification

Based on the combination of the responses for the one-day and one-month delayed target-identification tests, the children were divided into four categories : correct response for both one-day and one-month delayed tests (cc), correct response for the one-day and false response for the one-month test (cf), false response for the one-day test and correct response for the one-month test (fc), both responses were false (ff). Table 1 shows the number and percentage of children in the four categories for the lineup-recognition and facial-identification questions. Regarding the calculation for the facial-identification response, participants who responded "No" or "I don't know" to both the one-day and one-month delay lineup-recognition tests were omitted. A x^2 test revealed that the number of children categorized into the cc category for the lineup-recognition test tended to be higher in the NF condition than in the DF condition ($x^2 = 3.135$, $df = 1$, $p < .077$). Regarding the facial-identification test, there was no significant difference in the number of children in the cc category between the two conditions.

Memory of the bystander and identification

Responses related to memory of the bystander and identification question responses were categorized in accordance with the same criteria as used in analyzing target identification responses. Table 2 shows the number and percentage of children in the four categories for memory of the bystander, lineup-recognition, and facial-identification questions. Regarding the calculation for the lineup-recognition response, the participants who responded "No" or "I don't know" to both the one-day and one-month bystander memory tests were omitted. Chi-square tests revealed that there were no significant differences in the number of children in the cc category between the two conditions for all three tests.

Comparison of identification accuracy between target and bystander

McNemar tests showed that the number of cc for the facial-identification test of the bystander was greater than that of the target in the DF condition ($p < .002$), whereas there was no significant difference between them in the NF condition.

Table1. Number and percentage of each category for target-idntification test

Condition		Categories cc	cf	fc	ff	total
Lineup recognition						
Normal face	*n*	17	3	2	15	37
	%	45.9	8.1	5.4	40.5	100.0
Disguised face	*n*	10	1	5	22	38
	%	26.3	2.6	13.2	57.9	100.0
Facial identification						
Normal face	*n*	5	3	5	11	24
	%	20.8	12.5	20.8	45.8	100.0
Disguised face	*n*	1	1	1	14	17
	%	5.9	5.9	5.9	82.4	100.0

Response patterns

The number and percentage of children who changed their response from the one-day to one-month delayed test were calculated. For target identification, these values were 34.7% (26／75) for lineup recognition, and 73.2% (30／41) for facial identification. Regarding bystander identification, these values were 28.0% (21／75) for memory of the bystander, 42.6% (26／61) for lineup recognition, and 50.0% (21／42) for facial identification.

Mean ages in months between the participants who changed and those who did not change their response were compared by means of t tests. For target identification, there were no significant differences : mean age of the children who changed their response was 65 months and those whose response was unchanged was 64 months for lineup recognition, and 64 months and 61 months for facial identification, respectively. Regarding bystander identification, mean ages of the children who changed their response were lower than those of the children who did not change their response: 60 and 66 months for bystander memory ($t=2.499$, $df=73$, $p<.015$), 62 and 66 months for lineup recognition ($t=1.670$, $df=59$, $p<.100$) and 60 and 67 months for facial identification ($t=2.215$, $df=40$, $p<.033$), respectively.

Based on the combination of responses in one-day and one-month delayed tests, response patterns were categorized into four types : new photo (i.e., selecting different photos for one-day and one-month delayed tests), reversal (i.e., contradictory responses of positive in one-day to negative in one-month delayed tests), reversal 2 (i.e., contradictory responses of negative in one-day to positive in one-month delayed tests), decision (i.e., changing from "Don't know" response in the one-day delayed test to a "Yes" or "No" response in the one-month delayed test), and no decision (i.e., changing from a "Yes" or "No" response in the one-day delayed test to a "Don't know" response in the one-month delayed test). Table 3 shows the number and percentage of children in the five categories and response patterns for the target-identification test, memory of bystander, and identification tests.

Discussion

Regarding the identification of the target, few children made correct identifications in both one-day and one-month delayed tests. The percentages of children categorized into cc were 20.8% in the NF and 5.9% in the DF condition. Although there was no significant difference between the two conditions, these results suggest that young children have no credibility related to repeated facial identification, especially when identifying disguised faces. However, compared with previous

Table2. Number and percentage of each category for memory of the bystander and identification test

Condition		Categories				
		cc	cf	fc	ff	total
Memory of the bystander						
Normal face	*n*	22	5	5	5	37
	%	59.5	13.5	13.5	13.5	100.0
Disguised face	*n*	20	4	5	9	38
	%	52.6	10.5	13.2	23.7	100.0
Lineup recognition						
Normal face	*n*	12	3	6	11	32
	%	37.5	9.4	18.8	34.4	100.0
Disguised face	*n*	14	3	4	8	29
	%	48.3	10.3	13.8	27.6	100.0
Facial identification						
Normal face	*n*	8	3	0	10	21
	%	38.1	14.3	0.0	47.6	100.0
Disguised face	*n*	11	6	2	2	21
	%	52.4	28.6	9.5	9.5	100.0

Table3-1. Number and percentage of each category and response pattern for the target-identification test

Question	Category	*n*	%	Test		*n*
				One-day delayed	One-month delayed	
Lineup recognition						
(Is the story teller in the	Reverse1	3	11.5	Yes	No	3
photo array or not ?)	Reverse2	2	7.7	No	Yes	2
	Decision	15	57.7	Don't know	Yes	7
				Don't know	No	7
				(silence)	Yes	1
	No decision	6	23.1	Yes	Don't know	1
				No	Don't know	4
				(silence)	Don't know	1
	Total	26	100.0			26
Facial identification						
(Who among these photos	New photo	16	53.3	(selecting a photo)	(selecting other photo)	16
is the story teller?)	Reverse1	3	10.0	(selecting a photo)	No *	3
	Reverse2	2	6.7	No *	(selecting a photo)	2
	Decision	8	26.7	Don't know*	(selecting a photo)	7
				(silence)	(selecting a photo)	1
	No decision	1	3.3	(selecting a photo)	Don't know*	1
	Total	30	100.0			30

*Response for the lineup-recognition question

Table3-2. Number and percentage of each category and response pattern for memory of the bystander and identification tests.

Question	Category	*n*	%	Test		*n*
				One-day delayed	One-month delayed	
Memory of the bystander						
(Were there other people	Reverse1	5	23.8	Yes	No	5
besides the target?)	Reverse2	6	28.6	No	Yes	6
	Decision	5	23.8	Don't know	Yes	3
				Don't know	No	1
				(silence)	Yes	1
	No decision	5	23.8	Yes	Don't know	4
				No	Don't know	1
	Total	21	100.0			21
Lineup recognition						
(Is the bystander in the	Reverse1	4	15.4	Yes	No*	3
photo array?)				Yes	No	1
	Reverse2	4	15.4	No*	Yes	4
	Decision	10	38.5	Don't know*	Yes	3
				Don't know	No*	2
				Don't know	Yes	1
				Don't know	No	3
				(silence)	Yes	1
	No decision	8	30.8	No*	Don't know	2
				Yes	Don't know*	1
				Yes	Don't know	1
				No	Don't know	1
				Don't know	Don't know*	3
	Total	26	100.0			26
Facial identification						
(Who among these photos	New photo	5	23.8	(selecting a photo)	(selecting other photo)	5
is the bystander?)	Reverse1	5	23.8	(selecting a photo)	No*	3
				(selecting a photo)	No**	2
	Reverse2	6	28.6	No*	(selecting a photo)	4
				No**	(selecting a photo)	2
	Decision	4	19.0	Don't know*	(selecting a photo)	3
				(silence)*	(selecting a photo)	1
	No decision	1	4.8	(selecting a photo)	Don't know*	1
	Total	21	100.0			21

*Response for the remembering-bystander question
**Response for the lineup-recognition question

meta-analysis data, the proportion of participants who made a correct identification at least in the one-day delayed test (i.e., cc and cf) in the NF condition was lower than any proportions reported in Pozzulo and Lindsay (1998) under similar conditions (i.e., a real-life event and a target-present lineup). This low performance in the one-day delayed test may reflect that young children have more difficulty in identifying persons presented in an event in which a number of persons appear.

Regarding the lineup-recognition test, the number of children in the cc category tended to be higher in the NF condition than in the DF condition. The children who saw a disguised person made more false rejections, that is, more "No" or "I don't know" responses to the question asking whether the target was presented in the lineup. This result suggests that once children perceived that all the faces presented in the lineup were different in overall appearance from the target face (i.e., no glasses and changed hairstyle), they would not make further comparisons of the subtle differences in inner facial features (i.e., eyes, mouth, or nose).

As for the bystander, first, the results of the memory test showed that only half of the participants were categorized into cc, although the task demand of remembering the presence of the bystander seems to be simpler and easier compared with line-up recognition and facial identification tests. However, another study (Sugimura, in press) has shown results consistent with this study. In that previous study, participants saw a live event in which two main targets and two bystanders appeared. Then, approximately one month after seeing the event, they were given a memory test regarding the persons presented in the event. Results showed that half of the children failed to remember the presence of the bystanders, while all of the adults could remember the presence of bystanders. It is premature to conclude that these kinds of omission errors regarding bystanders are a robust tendency in young children. Further studies are needed to clarify how young children memorize an event in which a number of people appeared.

Second, as for the facial-identification test, the percentage of cc for the bystander (i.e., 52.4%) was much greater than that for the target (i.e., 5.9%) in the DF condition. In the NF condition, identification of the bystander tended to be more accurate than that of the target although there was no statistical difference between them (i.e., 38.1% and 20.8%, respectively). These results imply that the children who remembered the presence of the bystander made a more accurate identification of the bystander than they did of the target. One plausible explanation is the difficulty in matching an expressive face in a real-life event and the identical face with no expression presented in a photo lineup. In this experiment, the target person smiled and talked to the children throughout the event. In contrast, the bystander was seated in silence and without expression. Therefore, the children might have easily matched the facial image of the bystander seen in the event with his expressionless facial photo in the lineup.

Results related to response pattern demonstrated that a considerable number of children changed their responses from the one-day to one-month delayed test. Regarding the facial-identification test, in particular, 73.2% of the children for the target identification and 50.0% for the bystander changed their responses, that is, the constancy between the two tests was low. These results are in contrast with the results of previous studies (e.g., Leichtman & Ceci, 1995) that indicated high constancy of event memories across repeated interviews unless children were given misleading questions. This inconsistency can be explained by children's difficulty remembering information regarding persons rather than information about events. Several studies have indicated that children generally report fewer person descriptors than adults (e.g., Pozzulo, 2007), and their person descriptors are less accurate than event descriptors (Dent & Stephenson, 1979). The inconstancy across repeated tests may be due to the weaker memory trace for persons compared to that for events.

According to the developmental tendency to change responses, children of a younger age showed higher inconstancy for bystander identification. Previous studies have demonstrated a

tendency similar to that found in this experiment. For example, in Brady, Poole, Warren, & Jones (1999), 3 to 7 -year-olds were twice asked a set of questions after seeing a video-taped event. Results showed that younger children were less accurate and consistent than were older children. However, regarding the target identification in this study, a developmental difference was not observed. This result can probably be attributed to the children's difficulty in identifying the disguised face of the target even in the one-day delayed test. A floor effect (i.e., extremely low performance related to the disguised target) was likely the reason for no developmental differences.

Finally, regarding the categorization of response patterns, the overall trend showed that the percentage for "decision" was higher than that for "no decision. This result indicates that "Don't know" (DK) responses decrease over time. In general, the memory trace becomes weaker over time. Therefore, it is expected that DK responses would increase in the one-month delayed test. The decrease in DK responses may be interpreted as follows. First, as indicated by Scoboria, Mazzoni, & Kirsch (2008), DK responses are likely to reflect the outcome of meta-cognitive monitoring of the content of memory. In the one-day delayed test, the children might be able to monitor their low confidence in their memory. However, one-month later, they had difficulty monitoring their uncertainty because of a deterioration of the original memory trace. In addition, it is possible that answers of the children in the second test were due to response bias resulting from being asked by means of closed questions (which required a "Yes／No" response). Previous studies (e.g., Waterman, Blades, & Spencer, 2000) demonstrated that young children have a strong tendency to respond "Yes" or "No" to nonsensical closed questions (e.g., "Is a box louder than a knee?). Such response bias may also be a cause of the shift to a "Yes" or "No" answer in the second test.

Another finding was that the percentages for both "reverse" and "new photo" were also higher than that for "no decision", that is, the children were likely to give contradictory responses across the two tests rather than DK responses. In general, it is well known that a pragmatic presupposition characteristic in young children is observed in interviews. That is, adults always know the "correct" answer, and identical questions are presented twice because the first answer was wrong. These kinds of linguistic problems may affect the response patterns of young children. In this experiment, although a procedure to reduce response bias caused by repeated interviews was used, the children's responses were inconstant across the two tests. Different experimenters conducted interviews across the two tests. In addition, the children were instructed to give the same responses as in the first test because the new interviewer did not know the first responses. However, the question forms for facial identification are basically closed questions or specific questions including an interrogative such as "which" or "who". As indicated by many eyewitness studies and guidelines for interviewing (e.g., Brady, Poole, Warren, & Jones, 1999; Home Office in Conjunction with Department of Health, 1992), these types of questions induce children's false memory. The nature of facial-identification questions is probably a factor that contributes to the inconstancy of children's responses.

References

Brady, M. S., Poole, D. A., Warren, A. R., & Jones, H. R. (1999). Young children's responses to Yes-No questions: Patterns and problems. *Applied Developmental Science, 3*, 47-57.

Dale, P. A., Loftus, E. F., & Rathbun, L.. (1978). The influence of the form of the question on the eyewitness testimony of preschool children. *Journal of Psycholinguistic Research, 7*, 269-277.

Dent, H. R., & Stephenson. G. M., (1979). An experimental study of the effectiveness of different techniques of questioning child witnesses. *British Journal of Social and Clinical Psychology*,

18, 41-51.

Holliday, R. E., & Albon, A. J. (2004). Minimising misinformation effects in young children with cognitive interview mnemonics. *Applied Cognitive Psychology, 18*, 263-281.

Home Office in Conjunction with Department of Health (1992). Memorandum of Good Practice: On video recorded interviews with child witnesses for criminal proceedings. London: Stationary Office.

Hünefeldta, T., Lucidib, A., Furiac, A., & Rossi-Arnaud, C. (2008). Age differences in the interrogative suggestibility of children's memory: Do shift scores peak around 5 - 6 years of age? *Personality and Individual Differences, 45*, 521-526.

Lamb, M. E., Orbach, Y., Sternberg, K. J., Aldridge, J., Pearson, S., Stewart, H. L., ... Bowler, L. (2009). Use of a structured investigative protocol enhances the quality of investigative interviews with alleged victims of child sexual abuse in Britain. *Applied Cognitive Psychology, 23*, 449-467.

Leichtman, M. D., & Ceci, S. J. (1995). The effects of stereotypes and suggestions on preschoolers' reports. *Developmental Psychology, 31*, 568-578.

Melinder, A., Alexander, K., Cho, Y. I., Goodman, G. S., Thoresen, C., Lonnum, K., & Magnussen, S. (2010). Children's eyewitness memory: A comparison of two interviewing strategies as realized by forensic professionals. *Journal of Experimental Child Psychology, 105*, 156-177.

Melnyk, L., & Bruck, M. (2004). Timing moderates the effects of repeated suggestive interviewing on children's eyewitness memory. *Applied Cognitive Psychology, 18*, 613-631.

Memon, A., & Rose, R. (2002). Identification abilities of children: Does a verbal description hurt face recognition? *Psychology, Crime and Law, 8*, 229-242.

Peters, D. P. (1987). The impact of naturally occurring stress on children's memory. In S. J. Ceci, M. P. Toglia, & D. F. Ross (Eds), Children's eyewitness memory (pp. 122-141). New York: Springer-Verlag.

Peterson, C. (1999). Children's memory for medical emergencies: 2 years later. *Developmental psychology, 35*, 1493-1506.

Peterson, C., Moores, L., & White, G. (2001). Recounting the same events again and again: Children's consistency across multiple interviews. *Applied Cognitive Psychology, 15*, 353-371.

Powell, M. B., Jones, C.H., & Campbell, C. (2003). A comparison of preschoolers' recall of experienced versus non-experienced events across multiple interviews. *Applied Cognitive Psychology, 17*, 935-952.

Powell, M. B., Roberts. K. P., Cecci, S. J., & Hembrooke, H. (1999). The effects of repeated experience on children's suggestibility. *Developmental Psychology, 35*, 1462-1477.

Pozzulo, J. D. (2007). Person description and identification by child witnesses. In R. C. L. Lindsay, D. F. Ross, J. D. Read, & M. P. Toglia (Eds.), The handbook of eyewitness psychology, Vol. Ⅱ, Memory for people (pp. 283-307). Mahwah, NJ: LEA.

Pozzulo, J. D., & Lindsay, R. C. L. (1998). Identification accuracy of children versus adults: A meta-analysis. *Law and Human Behavior, 22*, 549-570.

Quas, J. A., Malloy, L. C., Melinder, A., Goodman, G. S., D'Mello, M., & Schaaf, J. (2007). Developmental differences in the effects of repeated interviews and interviewer bias on young children's event memory and false reports. *Developmental Psychology, 43*, 823-837.

Scoboria, A., Mazzoni, G., & Kirsch, I. (2008). "Don't know" responding to answerable and unanswerable questions during misleading and hypnotic interviews. *Journal of Experimental Psychology: Applied, 14*, 255-265.

Sugimura (in press). Difficulty among young children in remembering bystanders: 5 -and 6 -year-old omission errors in eyewitness memory for a real-life event. *Psychology, Crime and Law*.

Walker, A. G. (1993). Questioning young children in court: A linguistic case study. *Law and Human Behavior, 17*, 59-81.

Waterman, A. H., Blades, M., & Spencer, C. (2000). Do children try to answer nonsensical questions? *British Journal of Developmental Psychology, 18*, 211-225.

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