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Retrieval of Episodic Versus Generic Information: Does the Order of Recall Affect the Amount and Accuracy of Details Reported by Children About Repeated Events?

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Children ($N = 157$) 4 to 8 years old participated 1 time (single) or 4 times (repeated) in an interactive event. Across each condition, half were questioned a week later about the only or a specific occurrence of the event (*depth first*) and then about what usually happens. Half were prompted in the reverse order (*breadth first*). Children with repeated experience who first were asked about what usually happens reported more event-related information overall than those asked about an occurrence first. All children used episodic language when describing an occurrence; however, children with repeated-event experience used episodic language less often when describing what usually happens than did those with a single experience. Accuracy rates did not differ between conditions. Implications for theories of repeated-event memory are discussed.

Keywords: repeated-event memory, source monitoring, cognitive development, narrative style, episodic memory

When children are asked to describe autobiographical events that have happened multiple times, their narratives tend to include both episodic information about specific instances and generic details about what usually occurs (Farrar & Boyer-Pennington, 1999). Schank and Abelson (1977) termed these generic representations of events as *scripts*: organized and interconnected event structures that contain *slots* for various objects and activities and appropriate alternatives for those slots. Scripts help people make sense of everyday experiences and make future similar experiences predictable (Hudson, Fivush, & Kuebli, 1992). Even by age 3, children use script language (e.g., *you do X*) and recount temporally organized sequences of causally related events (although they report fewer script components than do older children with similar amounts of experience; Hudson & Nelson, 1986; Nelson & Gruendel, 1981). Building scripts is an important component of young children's cognitive development and is often evident in their pretend play talk, such as playing school and having pretend mealtimes (Nelson & Gruendel, 1979), as well as in reports of less pleasant experiences, such as child maltreatment (Schneider, Price, Roberts, & Hedrick, in press).

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Nevertheless, young children have been shown to provide episodic information when directly asked, but how they switch between script and episodic representations remains unclear. Fivush, Hudson, and Nelson (1984) asked 5-year-old children "what happens when you go to a museum?" At a later point, they asked some of the children about one specific visit to a museum. When asked about the specific visit, the children appropriately used episodic language (e.g., "we dug in the sandbox") to describe their experiences (as opposed to generic language, e.g., "we dig").

There are occasions when children are required to report information specific to individual episodes of repeated events. For example, teachers may need to know about bullying incidents, and police interviewers need child victims of repeated abuse to describe one or two individual instances with relative precision (Guadagno, Powell, & Wright, 2006). Interview guidelines, such as the National Institute of Child Health and Human Development protocol, recommend that interviewers secure information about individual incidents first, before allowing the child to speak generically (Lamb, Hershkowitz, Orbach, & Esplin, 2008). The rationale for this recommendation is guided by the understanding that rehearsal of the generic script may weaken memory traces for specific instances (e.g., Brainerd & Reyna, 2004).

To our knowledge, there have been only two studies addressing the critical question of whether recall order (episode followed by script or vice versa) does in fact affect children's reports of lab-based repeated events. Hudson and Nelson (1986) asked 3- and 5-year-old children "what happens at dinner?" (general question) and a week later asked "what happened at dinner [yesterday]?" (specific question) or vice versa. The children reported significantly more acts in response to the general rather than the specific question. Of relevance, children who were asked about the specific episode in Week 1, followed by the general question in Week 2, reported less information in response to the general question than children questioned in the reverse order. Conversely, Fivush (1984) asked children "what happens?" and "what happened yesterday?" at kindergarten in a counterbalanced order, but within the same interview, and did not find effects of recall order on amount of information reported. In fact, in Fivush's study, children had such impressively organized scripts that, even by the second day of kindergarten, less than half of the children were able to report even one specific detail.

Two important conclusions about children's repeated event memory can be made from the findings of Hudson and Nelson (1986) and Fivush (1984): (a) reporting about a routinely experienced event in general terms is cognitively less demanding for children, and as such, they are likely to report more information than when asked about a specific instance, and (b) the impact of recall order on the amount of scripted and episodic detail reported has yielded conflicting results. Hudson and Nelson were unable to make inferences about the impact of recall order because the children's second reports contained significantly fewer details (regardless of condition), and Fivush's children reported very little specific detail at all. Further, both studies examined routine events for which children had strongly established scripts (Hudson & Nelson's, 1986, Experiment 2 included some less familiar events but did not test recall order). Although Fivush questioned children on only the second day of kindergarten, most of the children were familiar with school routines in general, and nearly half had attended day care at the same school the previous year. It is possible that highly routine events are less susceptible to recall order effects.

These experiments focused more on children's memory organization than their memory errors (i.e., source confusions), however, and thus children were prompted to describe everyday events that could not be assessed for accuracy. Whether recall order has an impact on the accuracy of children's reports of repeated events is an essential question for field interviewers because it is well documented that children, especially younger ones, confuse details that have varying alternatives across instances of repeated events (Powell, Roberts, Ceci, & Hembrooke, 1999; Powell & Thomson, 1996, 1997). The instances (or *sources*) are highly similar, making accurate attributions difficult (Lindsay, 2002; Lindsay, Johnson, & Kwon, 1991). In the current experiment, we systematically tested whether recall order affects not only the amount of information recalled but also where that information comes from (i.e., accuracy).

Recalling a script first may improve accuracy because it allows children to generate the possible alternatives in mind and then to have a better chance of choosing the correct one when describing an episode. Script theories do not explain, however, how children make a decision about which alternative is correct.

It is also possible that recalling the script first will negatively impact accuracy if engaging in script recall promotes decay of incident-specific details. Fuzzy-trace theory (Brainerd & Reyna, 1990, 1993, 1998, 2004) postulates that verbatim traces comprise all of the surface details of a specific event, including source information. Gist traces, on the other hand, preserve the overall structure of the experience. Only the verbatim trace is helpful when trying to describe the incident-specific details of one occurrence of a repeated event. Therefore, engaging in recall of the gist should be detrimental to the accuracy of episodic recall, because greater processing of the gist trace leads to weakening of individual verbatim traces (and this occurs more rapidly in younger children). Thus, we can expect that, after a delay, children who are first asked to describe a specific occurrence will be more accurate in attributing instantiations (i.e., incident-specific details) to the correct occurrence than children who are first asked about what usually happens, within a single interview.

Fuzzy-trace theory, however, does not explain how children can accurately attribute details to occurrences in the absence of intact verbatim traces. The source-monitoring framework suggests that older children can use systematic reasoning to make better source decisions about recalled details than younger children can (e.g., "I remember the jellybean badge really well, so it must have been the last day"). See Johnson, Hashtroudi, and Lindsay (1993) for a review of the source-monitoring framework and Roberts (2002) for developmental differences in source monitoring.

It should be stated without ambiguity that none of the three models (script theories, fuzzy-trace theory, and the source-monitoring framework) is comprehensive enough to guide predictions about children's memories for repeated events. Script theories explain script development and structure; fuzzy-trace theory explains the circumstances under which children will confuse details among occurrences; and the source-monitoring framework explains how children correctly reassign details to occurrences at retrieval, even after generic scripts have been formed or verbatim traces have decayed.

The aim of the current research is to examine whether the order of engaging in episodic versus script recall about a repeated event affects the amount and accuracy of information children report. In the current experiment, 4- and 5- and 7- and 8-year-old children took part in one or four sessions of an interactive activity. Children of these age groups differ in their ability to make source judgments (Lindsay et al., 1991; Roberts, 2002) and in the relative speed at which they build up functioning scripts and/or gist traces (Brainerd & Reyna, 2004; see Farrar & Goodman, 1992, for an explanation of the schema confirmation–deployment model). Children were questioned about general aspects of the events as well as a specific instance (of their choosing, for children who participated four times), in counterbalanced order, and their reports were directly compared with the actual record of events.

The control group of children with a single experience was necessary (a) to rule out the possibility that children with repeated experience were just mimicking the episodic language used by the interviewer and to make sure that they were instead genuinely drawing on different memory representations; (b) to determine if a script-like narrative can follow only one experience; and (c) for practical purposes, to determine whether generic prompts can falsely lead children who participated only one time to communicate repeated experience.

Thus, we further explored the important but conflicting work done by Hudson and Nelson (1986) and Fivush (1984) by examining the effects of recall order on reports of repeated events within the same interview (as in Fivush, 1984), but we extended and differentiated this research in numerous ways. Children engaged in a lab-based event for which they did not have a previous script, allowing us to demonstrate that recall order effects are present within the same interview and when children may be in different stages of script acquisition. We included children with only a single experience of an entirely novel event to show that children with repeated experiences do switch representations (at least to some extent). Additionally, we examined the levels of representation children used when describing objects and actions from the activities, to further explore the extent to which children switch between script and episodic representations. These levels were the *item level* (the slot in the script, such as a badge or a puzzle) and the *instantiation level* (the alternatives, such as a jellybean or feather badge and puzzles of clowns juggling or cycling). We permitted children with repeated experience to describe the occurrence that they remembered best when prompted for episodic information. This was done in two recent repeated event studies (Brubacher, Glisic, Roberts, & Powell, 2010; Brubacher, Roberts, & Powell, 2011) and is more ecologically valid than choosing the last time. When children report specific instances of abuse in forensic interviews, they may not always recall what happened the first time or the last time. Their memories are often organized around different cues (e.g., "the time at the building site" or "the time he gave me a candy bar"). Investigators may be able to determine whether these labels uniquely identify one time but may not be able to determine their temporal placement.

Finally, and most important, by bringing these questions into the lab, we can compare children's narratives with the actual record of events to determine their accuracy of recall. The literature has demonstrated that children report more information in response to generic (i.e., *breadth*) rather than incident-specific (i.e., *depth*) prompts, but there remains a question as to whether the order of these prompts matters, and we do not know whether the order of questioning impacts children's ability to accurately recall the source (occurrence) of specific details.

Hypotheses

The current research makes eight predictions concerning the effects of age group, event frequency, and recall order on children's reports of repeated events. Although age and event frequency effects are well documented, we wanted to better understand the effects of recall order and interactions among these variables.

1. Older children will report more information than will younger children.
2. Children with repeated experience will report more information than those with a single experience.
3. Children who respond to breadth prompts (asking about what usually happens) first will report more information than those who respond to depth prompts (asking about an occurrence) first.

Further extending findings of the current body of repeated event research, we predict the following:

4. Only children having repeated experience will report more information when given breadth prompts first than when given depth prompts first, and this effect will be largest for older children who are in later stages of schema development.
5. If children with repeated experience are engaging different memory representations, and not just mimicking interviewer language, they should do the following: (a) Children should report more instantiation-level details (e.g., jellybean badge) in the depth phase and more item-level details (e.g., badge) in the breadth phase than the reverse. Children with a single experience are expected to report mostly instantiations. (b) They should use greater proportions of episodic language in the depth than the breadth phase; reports from children with a single experience should not differ. (c) They should give more general references (e.g., "it was always the same"; "we usually did a puzzle of a clown juggling") in the breadth than in the depth phase. Quantifying these details in each phase provides an indication of the degree to which children are alternating between memory for generic details and memory for an individual occurrence.
6. Children with repeated experience will be less accurate in attributing details to the correct occurrence if they respond to breadth prompts first, because of trace interference, than if they respond to depth prompts first.

Method

Design

Children were randomly assigned to participate in one 20-min session of the Laurier activities, whereas the other half participated four times over a 2-week period. All children were questioned 5 to 7 days later about general characteristics across the occurrences using breadth prompts (e.g., "what else happens?"), and depth prompts (e.g., "what else happened that time?") were used to probe a specific occurrence. Half of the children in each age group were given the breadth questions first followed by recall of a specific occurrence (breadth-first condition); the remaining children were given the questions in reverse order (depth-first condition). Therefore, the design is a 2 (age group: 4- and 5-year-olds, 7- and 8-year-olds) $\times$ 2 (recall order: breadth first, depth first) $\times$ 2 (event frequency: single, repeated) $\times$ 2 (interview phase: breadth, depth) design; the last variable was within subjects (see Figure 1 for the design).

Participants

Signed parental consent forms were returned for 176 children. The final sample consisted of 157 children. Of the 19 excluded, 14 were in the repeated condition. Of these, seven missed their interview, five were lost across event sessions because of time constraints, and two declined participation. Of the five children excluded from the single condition, two missed their interview, two were not proficient in English (as determined by their classroom teacher), and one was nonverbal. Excluded children were roughly balanced across conditions and age groups.

Participants were 77 children ages 4 and 5 (mean age in months = 59.36, SD = 5.70) and 80 children ages 7 and 8 (mean age in months = 96.91, SD = 7.13) recruited from eight public schools (ns ranged from 5 to 54, mean number recruited from each school = 16.13, SD = 15.84) in a medium-sized city, a local day care (n = 6), and a lab-maintained database (n = 22). Participants at each location were balanced as much as possible across condition, gender, and age group (except the day care). There were 77 boys and 80 girls, balanced across age group, recall order, and event frequency. Most parents declined on the consent form to

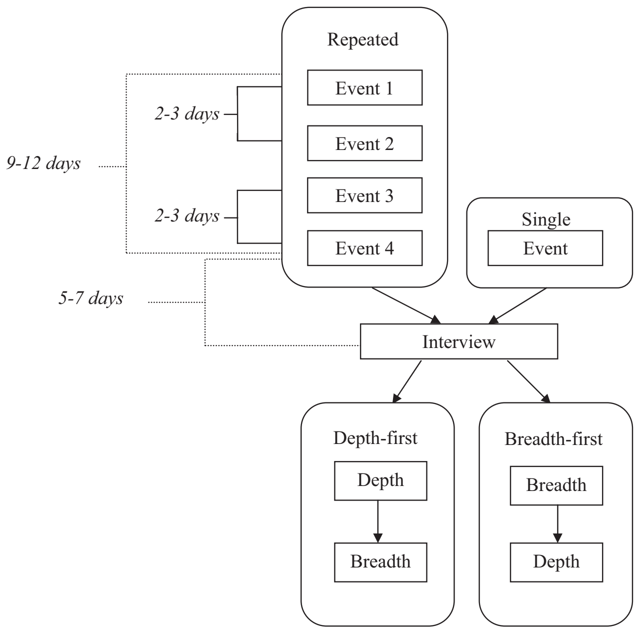

Figure 1. Study design.

provide the ethnicity of their child. Four of the schools were classified as belonging to low socioeconomic status (SES) neighborhoods, one school to middle SES, and three schools and the day care to high SES (Ontario Early Years, 2005). SES of children participating in the lab was not determined, but we classified these children as middle SES because they came from diverse neighborhoods around the region. There were no differences in SES on any of the amount of information or accuracy variables, assessed by one-way analyses of variance (ANOVAs), Fs < 1, *ns*. All participants were treated in accordance with ethical guidelines. Parents who brought children to the lab were compensated $15 for their time and driving expenses, and schools were compensated $50 per participating grade. All children received a small toy ($4).

Materials

The composite of props and activities presented to the children were based on those used in previous research on children's memory for repeated events (Pearse, Powell, & Thomson, 2003; Powell et al., 1999; Powell & Thomson, 1997, 2003; Roberts & Powell, 2005, 2006), modeled on Powell and Thomson's (1996) original Monash/Deakin Activities. The event sessions consisted of 18 target details, which took place within the context of several activities in the following order: getting ready (children receive badges and something to sit on, meet a stuffed fox and friend), mild physical exercise, listening to a story (including using a bookmark and a utensil to write out the name of the story), doing a puzzle, relaxing a part of the body while listening to music, getting refreshed, playing a guessing/counting game, and tidying up. Although some of these activities may be familiar (e.g., doing a puzzle), the individual props were created to be novel to all of the children who participated. The sequence of activities that occurred was designed specifically for the Laurier Activities such that children did not have pre-existing scripts for these sessions.

Six of the 18 details varied each time (*variable*; e.g., the counting activity: children counted flowers, frogs, cars, and tambourines on four different days). Six details were the same each time (*fixed*; e.g., children counted tambourines four times). The remaining six details varied on a high-frequency/low-frequency schedule (*high/low*). High-frequency details were the same for three sessions, and the low-frequency detail was the instantiation presented at the remaining session (e.g., juggling puzzle at Sessions 1, 2, and 4; bicycle puzzle at Session 3). These frequency schedules were included to provide necessary variability among occurrences while still fostering script development (i.e., fixed details were always the same, whereas high/low and variable details changed but still contained slots within the event script). Without event variability, source judgments are impossible.

Two counterbalanced versions of the activities were created, such that half of the details that were fixed in Group 1 became variable, and half became high/low in Group 2 and so on, creating eight distinct events. Order of event sessions was also randomized across the two versions. Children were randomly assigned to one of the two counterbalanced versions, and children in the single-event condition were rotated so that event sessions were used in roughly equal numbers but were also balanced with the specific event sessions that the repeated group described (i.e., "time you remember best"). A 2 (event frequency: single, repeated) $\times$ 8 (counterbalanced version specific occurrence) chi-square demonstrated no significant differences in the event session children were assigned to (single) or nominated to talk about (repeated), $\chi^2(7, N = 157) = 11.83$, *ns*. There were also no differences in occurrence assigned to/nominated as a function of recall order condition for children with single, $\chi^2(7, N = 77) = 2.04$, *ns*, or repeated experience, $\chi^2(7, N = 80) = 7.02$, *ns*. There were no differences between the counterbalanced groups across any of the dependent variables, ts ≤ 1.11, *ns*, Cohen's ds $\leq .18$, and their data are collapsed.

Procedure

Children took part in the event or events in groups ranging from 2 to 10 children, in a classroom at their school or day care different from their usual classroom, and those children who were brought into the lab to participate completed the activities in a room at the university. Four research assistants were leaders for an approximately equal number of event sessions. There were two research assistants present at every event session, one serving as the leader and one as the assistant. For any given group of children participating repeatedly, the leader and assistant research assistant were always the same.

All children were interviewed in an open-ended, nonsuggestive manner 5 to 7 days following their final/only session for a maximum of 30 min, in a room different from the one where the activities had taken place regardless of location (school, lab, or day care). The eight female interviewers were unaware of which specific props the child had interacted with and of the hypotheses of the study. The interview began with a short (approximately 3 min) rapport-building phase where the interviewer demonstrated an interest in the child and asked about family, friends, and hobbies. The interviewer then introduced the activities by saying

> I heard you did the Laurier Activities. I wasn't there when you did the Laurier Activities but I would like to hear all about it. Tell me

everything you remember about the Laurier Activities from the very beginning to the very end.

The activities were always referred to as the *Laurier Activities* at each event session and the interview for all children irrespective of event frequency condition so as not to convey any information to the child about event frequency. Immediately after a child disclosed any piece of information related to the activities, the interviewer asked if the activities happened one time or more than one time. The initial prompt served only to ensure that children recalled the activities, and they were not encouraged to provide a lengthy narrative at this point. Half of the children in each event frequency condition were first given breadth prompts (e.g., "Tell me what happens at the Laurier Activities") followed by depth prompts, whereas the other half of the children were first given depth prompts ("Tell me everything that happened that time/the time you remember best") and then breadth prompts. Prompts in the repeated- and single-experience conditions were identical. If children in the single-experience condition told the interviewer they had done the activities only once, this information was acknowledged, but the children were still encouraged to tell what they thought usually happens at the activities. Recall order conditions are referred to as *breadth-first* and *depth-first* conditions, whereas the phases (i.e., question blocks) of the interview are referred to as *breadth* (i.e., prompts for script information) and *depth* (i.e., prompts for episodic information) phases. Children were randomly assigned to order of recall (see Figure 1). Children received open-ended prompts in each phase until they could report no more.

In the depth phase, regardless of recall order, children with repeated-event experience were permitted to describe any occurrence of their choosing (i.e., "the time you remember best"). To make sure that the interviewer and child spoke about the same occurrence, interviewers assisted children in labeling the occurrence if they did not do so spontaneously. Labels were to uniquely identify one occurrence from the others; thus, labels could include temporal words (e.g., the first time) or a detail that occurred in only one session (e.g., an alternative of a variable detail, a low-frequency alternative). Interviewers were provided with a list of the details that were unique to occurrences but could choose the detail as a label only if the child mentioned it spontaneously. Interviewers remained unaware of which details were present in a given occurrence; that is, they knew the child had read four different stories and wore four different badges, for example, but knew neither the associated occurrences nor which story was presented in conjunction with which badge. Labels for the child-nominated occurrence were generated as early as possible in the depth phase.

Coding

Children's video- and audiotaped interviews were transcribed and sanitized. Coders verified that each phase of the interview was carried out in the proper order and that the appropriate invitations and language for each phase were used.

Amount of information. To examine the amount and specificity of information reported by all children (Hypotheses 1–4 and 5a), target details mentioned in each phase were counted only the first time they appeared (in that phase). *Item-level* and *instantiation-level* descriptions were recorded separately. An item-level description refers to the general object or action that is present in every session (e.g., leader's cloak, children's badge, story, puzzle). An instantiation-level description refers to the specific alternative that is present in any given session (e.g., red cloak, jellybean badge, story about winter, clown juggling puzzle). Multiple instantiations of the same detail (e.g., jellybean badge, button badge, feather badge) were counted only one time per phase to keep equal the total possible target details children could report, regardless of frequency of participation.

Style of reporting. To examine the extent to which children complied with interviewer prompts to describe their script for the activities or a specific occurrence (Hypotheses 5b and 5c), language coding was carried out for both breadth and depth phases of the interview (see Schneider et al., in press, for a similar coding procedure). For the interviewer, each information-requesting prompt (see Hershkowitz et al., 2006) was coded as *episodic* or *generic.* Only the final prompt was coded in cases where the interviewers asked more than one question in a conversational turn (Lamb et al., 2003). Prompts were coded as episodic if they referred to a specific event or occurrence (e.g., "you said you made a puzzle; tell me about the puzzle you made"; "tell me about the badge you got the last time"). Prompts were coded as generic if they encouraged children to recall scripted/general information (e.g., "you said you do puzzles, tell me more about the puzzles you do"; "tell me more the badges you get"). As interviewers were explicitly trained in, and given feedback on, using these types of episodic and generic prompts in the depth and breadth phases, respectively, there was very little ambiguity in coding interviewer language.

Children's utterances (i.e., conversational turns) were first divided by coders into units of information: statements containing at least a subject (or subjects) and a verb (e.g., "I danced"). These phrases could also contain objects, adjectives, and adverbs (e.g., "and then she put on her red cloak quickly") and were still counted as only one unit of information. Subjects/objects involved in the same behavior were counted as only one unit (e.g., "Me, L, and T put pieces on the puzzle"), but subjects/objects involved in a different behavior were counted as an additional unit (e.g., "but G didn't want to"). We did not count individual details because we were not interested in comparing whether episodic reports were richer than generic reports, but rather how effective the interviewer prompts were in encouraging episodic or generic responding.

Statements in timeless present (e.g., "*there are* lots of other kids there" and "*you get* badges") were coded as generic. Statements containing past-tense language (e.g., "we *wore* a jellybean badge") were coded as episodic (Nelson & Gruendel, 1986; Schneider et al., in press). One- or two-word phrases that did not contain a verb or were otherwise ambiguous in referring to a script or episode (e.g., "flowers and cars") were not counted. These were rare, however, because the invitations and cued invitations (e.g., "you said you counted things, tell me more about that") used in the current study are known to elicit more information per prompt than are direct or option-posing questions (e.g., "what did you count?" "did you count frogs or flowers?"; Lamb et al., 2008). Digressions (statements unrelated to the activities), omissions (i.e., "don't remember"), and repetitive phrases were not counted. Proportion of episodic language was calculated by dividing episodic language count by the total language count. Proportion of generic language was not calculated because it is merely the opposite of the episodic proportion.

We also recorded each time a child explicitly referred to similarities across occurrences (e.g., "it was always the same"; "we usually had the story about the dog"), termed *general references,* to test Hypothesis 5c that children would refer to more similarities in the breadth phase than in the depth phase. Mention of differences across occurrences (e.g., "we only got fans once"; "one time the story was about a boat"), termed *discriminatory references*, were also counted. Analyses concerning these latter references were exploratory, however, because it is equally plausible that children refer to differences when describing their script (e.g., "we usually refresh with fans, but one time we got water") as when describing a specific occurrence (e.g., "it was the only time we got water"). Any episodic or generic statement, described earlier, could also be coded for a general or discriminatory reference.

Source accuracy. To determine if children were more accurate about a specific occurrence when given depth prompts first than when given breadth prompts first (Hypothesis 6), we identified the occurrence referred to by the label for children with repeated-event experience. All of the subsequent details mentioned by the child for that occurrence were then scored as to whether they were from the same occurrence as the label (accurate attributions) or were intrusions from other occurrences (internal intrusion errors). Details that were high/low and variable were recorded along with the occurrence or occurrences in which they were present, so that children's source accuracy could be scored; this was calculated by dividing the number of details reported that were actually present in the occurrence being described by the total number of details reported. This calculation was performed only on high/low and variable details because fixed details by nature could not be inaccurately attributed to an occurrence. External intrusions (confabulations) were also recorded but were very low and are not considered further.

Reliability. Two coders were trained for all types of coding by the primary author on 10% (16) of the transcripts. After training, 15% of new transcripts were coded by all three coders for reliability purposes. Percentage of agreement (number of agreements/number of agreements + disagreements) was used to assess reliability and was greater than 90% for all codes. Kappa was not an appropriate measure of interrater reliability, as there was not a finite number of data points (i.e., all data were quantified; e.g., number of variable instantiations found in the child's report, number of episodic statements counted). Because each variable was counted, rather than classified, percentage of agreement was calculated on every type of variable coded (e.g., variable items, fixed instantiations, interviewer episodic prompts, child discriminatory references, proportion accurate source score for high-frequency instantiations, and so on). An additional eight transcripts were double-coded after coders had completed approximately two thirds of the transcripts, to ensure that coding remained consistent. Percentage of agreement was at least 89% on all codes.

Results

As a reminder to the reader, when referring to the within-subjects phase in which prompts were given, the terms *breadth phase* and *depth phase* are used. When referring to the between-subjects recall order of these question types, the terms *breadth first* (i.e., breadth questions were asked first) and *depth first* (i.e., depth questions were asked first) are used (see Figure 1). Alpha is evaluated at $p < .05$, unless otherwise specified (e.g., in the case of correction for multiple tests). All post hoc tests are Bonferroni $p < .05$.

Preliminary Analyses

No differences were found in the number of days between event and interview session, $F\text{s} \leq 2.32$, *ns,* $\eta_p^2\text{s} \leq .015$, or gender, $\chi^2\text{s} \leq 3.06$, *ns,* across any levels of the independent variables. No differences in age in months were observed between the recall order or event frequency conditions, $F\text{s} < 1$, *ns,* $\eta_p^2\text{s} < .01$. Four children, all of whom participated one time, did not remember doing the activities and were removed from subsequent analyses. Three were 5-year-olds and one was an 8-year-old. They were evenly divided across recall order conditions.

As a manipulation check, we ran a paired-samples t test on the proportion of episodic language used by interviewers in the breadth and depth phases, to ensure that interviewers had used the appropriate style of language. As they were trained to do, interviewers used episodic language in the depth phase ($M = .98$, $SD = .07$) and significantly less in the breadth phase ($M = .08$, $SD = .15$), $t(148) = 67.52$, $p < .001$, Cohen's $d = 7.72$.

Main Analyses

Children with repeated experience most often chose the first ($n = 23$) or last ($n = 33$) occurrence to describe, although many chose the third ($n = 17$), and very few chose the second ($n = 7$). The children did not differ as a function of age group or recall order in their choices as assessed with chi-square analyses, $\chi^2\text{s}(3, N = 80) \leq 3.37$, *ns*, nor did they differ as a function of which occurrence was chosen on any of the dependent variables examined as assessed by one-way ANOVAs, $F\text{s} \leq 1.89$, *ns.*

Amount of target information reported. We first tested Hypotheses 1 through 3, which stated that older children, those responding to breadth prompts first, and those with repeated experience would report overall more information than younger children, those responding to depth prompts first, and those with a single experience, respectively. We then tested Hypothesis 4, which stated that these effects will be most prevalent in children with repeated experience and strongest for older children, and Hypothesis 5a, which stated that instantiation-level details would be reported with greater frequency in the depth section, whereas item-level details would be reported more often in the breadth section than the reverse. For the purpose of these analyses, we collapsed across detail type (i.e., fixed, high/low, variable).[1] We tallied the number of instantiation- and item-level details children reported in each phase of the interview (out of 18) and analyzed

[1] Detailed analyses concerning the frequency with which children with repeated experience reported the various detail types are not expanded on in the current article because we did not make explicit predictions with respect to these variables and because children did not differ in their reporting patterns as a function of recall order or phase, $F\text{s} \leq 2.45$, *ns,* $\eta_p^2\text{s} \leq .031$. Children reported variable and hi/lo details significantly more often than fixed details, with the former not differing, $F\text{s} \geq 3.61$, $p\text{s} \leq .035$, $\eta_p^2\text{s} \geq .045$. More information can be obtained from the authors.

them with a 2 (age group) × 2 (recall order) × 2 (event frequency) × 2 (number of items reported per phase [items/phase]: breadth, depth) mixed ANOVA and a 2 (age group) × 2 (recall order) × 2 (event frequency) × 2 (number of instantiations reported per phase [instantiations/phase]: breadth, depth) mixed ANOVA; the last variable was within subjects for both analyses.

For the analysis concerning items, all three between-subjects main effects were significant, *F*s ≥ 8.24, *p*s ≤ .005, η_p^2s ≥ .056. As predicted, older children (*M* = 3.69, *SD* = 1.64), those who received breadth prompts first (*M* = 3.19, *SD* = 1.69), and those who participated repeatedly (*M* = 3.25, *SD* = 1.71) reported more details overall than younger children (*M* = 1.92, *SD* = 1.15), those who received depth prompts first (*M* = 2.49, *SD* = 1.60), and those who participated once (*M* = 2.34, *SD* = 1.51).

The within-subjects main effect of items/phase approached significance, *F*(1, 139) = 3.42, *p* = .067, η_p^2 = .024, but there was also a marginal Age Group × Items/Phase interaction, *F*(1, 139) = 3.50, *p* = .064, η_p^2 = .025. Two paired-samples *t* tests indicated that younger children did not differ at all in their reporting of items from the breadth (*M* = 1.92, *SD* = 1.57) to the depth (*M* = 1.93, *SD* = 1.45) phases, *t*(70) < 1, *ns,* Cohen's *d* = 0.01, whereas more items were reported in the breadth phase (*M* = 4.03, *SD* = 2.05) than in the depth phase (*M* = 3.36, *SD* = 1.93) by older children, *t*(75) = 2.62, *p* = .011, Cohen's *d* = 0.34. No other effects were significant, *F*s ≤ 1.74, *ns,* η_p^2s ≤ .012.

For the instantiations analysis, there were significant between-subjects main effects of age group and event frequency, *F*s ≥ 24.54, *p*s < .001, η_p^2s ≥ .15, and the within-subject main effect of instantiations/phase, *F*(1, 139) = 22.18, *p* < .001, η_p^2 = .138. These were subsumed by a significant two-way Age Group × Event Frequency interaction, *F*(1, 139) = 8.65, *p* = .004, η_p^2 = .059, and a significant Age Group × Instantiations/Phase interaction, *F*(1, 139) = 6.83, *p* = .01, η_p^2 = .047. There was also a Recall Order × Instantiations/Phase interaction, *F*(1, 139) = 11.30, *p* = .001, η_p^2 = .075. No other effects were significant, *F*s ≤ 3.42, *ns,* η_p^2s ≤ .024.

The Age Group × Event Frequency and the Age Group × Instantiations/Phase interactions were tested by conducting tests for the younger and older children separately. For the Age Group × Event Frequency interaction, an independent-samples *t* test revealed that both younger and older children reported more instantiations when they had repeated experience (4- and 5-year-olds, *M* = 2.78, *SD* = 1.62; 7- and 8-year-olds, *M* = 7.84, *SD* = 3.44) versus a single experience (4- and 5-year-olds, *M* = 2.03, *SD* = 1.16; 7- and 8-year-olds, *M* = 4.86, *SD* = 2.13), but the effect was larger for older children: 4- and 5-year-olds, *t*(68.61) = 2.24, *p* = .028, Cohen's *d* = 0.53; 7- and 8-year-olds, *t*(66.00) = 4.58, *p* < .001, Cohen's *d* = 1.04.

Paired-samples *t* tests exploring the Age Group × Instantiations/Phase interaction demonstrated that both younger and older children reported more instantiations in the depth phase (4- and 5-year-olds, *M* = 2.56, *SD* = 1.68; 7- and 8-year-olds, *M* = 6.96, *SD* = 3.42) than in the breadth phase (4- and 5-year-olds, *M* = 1.83, *SD* = 1.55; 7- and 8-year-olds, *M* = 4.37, *SD* = 2.60), but again the effect was larger for older children: 4- and 5-year-olds, *t*(70) = 3.03, *p* = .003, Cohen's *d* = 0.45; 7- and 8-year-olds, *t*(75) = 6.53, *p* < .001, Cohen's *d* = 0.86.

The Recall Order × Instantiations/Phase interaction was tested by conducting separate independent-samples *t* tests for depth- and breadth-phase instantiations. Children who responded to breadth prompts first (*M* = 4.96, *SD* = 3.89) reported as many instantiations in the depth phase as children who responded to depth prompts first (*M* = 4.72, *SD* = 3.09), *t*(145) < 1, *ns*, Cohen's *d* = 0.07. In contrast, in the breadth phase, children who responded to breadth prompts first (*M* = 3.63, *SD* = 2.61) reported more instantiations than children who responded to depth prompts first (*M* = 2.66, *SD* = 2.30), *t*(145) = 2.39, *p* = .018, Cohen's *d* = 0.40.

In summary, across both analyses, older children and those with repeated experience reported more than younger children and those with a single experience, respectively. Children who received breadth prompts first reported more items across the interview than did children who received depth prompts first, and older children reported more items in breadth than depth. The main effect of recall order observed in the items analysis was not present in the instantiations analysis but rather was qualified by an interaction with phase; children who responded to breadth prompts first reported as many instantiations in the depth phase as children who received that phase first, but they reported more instantiations in the breadth phase than children who received that phase second. More instantiation-level details were provided in the depth than in the breadth phase, regardless of recall order. This latter finding was especially true for the older children with repeated-event experience.

Style of reporting. To test Hypothesis 5b, which stated that children with repeated experience would use a greater proportion of episodic language in the depth than in the breadth phase, a 2 (age group) × 2 (recall order) × 2 (event frequency) × 2 (phase: breadth, depth) mixed ANOVA was conducted on the episodic language proportions; phase was within subjects. The following main effects were observed: age group, *F*(1, 140) = 8.17, *p* = .005, η_p^2 = .055; event frequency, *F*(1, 140) = 90.85, *p* < .001, η_p^2 = .394, and phase, *F*(1, 140) = 381.22, *p* < .001, η_p^2 = .731, with more episodic language used by older children and children who participated one time than by younger children and those with repeated experience, respectively. More episodic language was used in the depth phase than in the breadth phase. See Table 1 for all cell means.

There were two-way Phase × Event Frequency, *F*(1, 140) = 15.85, *p* < .001, η_p^2 = .102, and Recall Order × Event Frequency interactions, *F*(1, 140) = 4.57, *p* = .034, η_p^2 = .032, but these were subsumed by three-way Phase × Age Group × Event Frequency, *F*(1, 140) = 6.68, *p* = .011, η_p^2 = .046, and Phase × Recall Order × Event Frequency interactions, *F*(1, 140) = 9.27, *p* = .003, η_p^2 = .062. See Figures 2 and 3, respectively. Both interactions were explored by examining the breadth and depth phases separately because different patterns in children's language style were predicted in response to the generic versus episodic prompts.

Two 2 (age group) × 2 (event frequency) ANOVAs were conducted (α = .025), one per phase (Figure 2). For the breadth phase analysis, only a main effect of event frequency was observed, *F*(1, 145) = 64.03, *p* < .001, η_p^2 = .306. Children with single-event experience used more episodic language in the breadth phase than those with repeated experience. For the depth phase analysis, both main effects and the interaction were significant, *F*s ≥ 5.79, *p*s ≤ .017, η_p^2s ≥ .038. Two planned *t* tests were conducted to compare episodic language differences by event frequency conditions, with one test for each age group (α = .025).

Table 1
Proportion of Episodic Language Used in Breadth and Depth Phases

Age, frequency, and phase	Recall order: Breadth first	Recall order: Depth first
Ages 4 and 5		
One time		
Breadth	.65 (.27)	.41 (.34)
Depth	.97 (.05)	.98 (.05)
Four times		
Breadth	.14 (.19)	.25 (.33)
Depth	.68 (.23)	.75 (.23)
Ages 7 and 8		
One time		
Breadth	.77 (.22)	.61 (.36)
Depth	.98 (.07)	.99 (.02)
Four times		
Breadth	.22 (.23)	.26 (.36)
Depth	.89 (.17)	.82 (.23)

Note. Standard deviations are in parentheses.

Analyses revealed that all children with single-event experience used proportionally more episodic language in the depth phase than children with repeated-event experience, but the difference was larger for the 4- and 5-year-olds, $t(42.94) = 6.95$, $p < .001$, Cohen's $d = 1.52$, than for the 7- and 8-year-olds, $t(44.03) = 3.97$, $p < .001$, Cohen's $d = 0.92$, because the younger children with repeated experience reported the lowest amount of episodic information.

The Phase × Recall Order × Event Frequency interaction was analyzed using two 2 (recall order) × 2 (event frequency) ANOVAs ($\alpha = .025$), for breadth and depth, respectively (Figure 3). For the breadth phase analysis, there was a main effect of frequency, $F(1, 145) = 69.84$, $p < .001$, $\eta_p^2 = .325$, and a Recall Order × Frequency interaction, $F(1, 145) = 8.78$, $p = .004$, $\eta_p^2 = .057$. Two independent samples t tests were conducted to compare episodic language differences by recall order, with one test for each level of event frequency. Results demonstrated differences in children with a single-event experience, $t(59.68) = 2.85$, $p = .002$, Cohen's $d = 0.70$, but not repeated experience, $t(65.56) = 1.21$, *ns*, Cohen's $d = 0.29$. Children with a single experience used proportionally less episodic language (thus more generic language) in the breadth phase when this phase came second (i.e., depth first) than when it came first (i.e., breadth first). Children with repeated experience used proportionally equivalent amounts of episodic language in the breadth phase regardless of recall order. For the depth analysis, the only effect was of frequency, $F(1, 148) = 50.93$, $p < .001$, $\eta_p^2 = .256$. Children with a single experience used proportionally more episodic language in the depth phase than did children with repeated experience.

In summary, children with repeated-event experience provided more generic utterances when given breadth prompts in contrast to children with one experience, and older children with repeated experience were very good at responding episodically when asked to describe a specific occurrence. Children with single-event experience were better able to comply with breadth prompts if they had first described the single occurrence in which they participated, than if they were asked for generic details first.

General and discriminatory references. Children with a single experience were excluded from this analysis, as they could not compare and contrast individual instances. To test the prediction that children with repeated experience would report more general references in the breadth than in depth phase (Hypothesis 5c), a 2 (age group) × 2 (recall order) × 2 (general reference: breadth phase, depth phase) mixed ANOVA was conducted. It demonstrated that older children made more general references overall than did younger children, and more general references were reported in the breadth phase than in the depth phase as predicted, $Fs \geq 12.02$, $ps \leq .001$, $\eta_p^2 s \geq .137$. There was an Age × Phase interaction, $F(1, 76) = 18.14$, $p < .001$, $\eta_p^2 = .193$. Planned t tests demonstrated that it was the older children who provided a greater number of general references in breadth ($M = 4.18$, $SD = 4.37$) than in depth phases ($M = 1.40$, $SD = 1.34$), $t(39) = 4.01$, $p < .001$, Cohen's $d = 0.86$, in contrast to the younger children who did not differ from breadth ($M = .28$, $SD = .55$) to depth phases ($M = .55$, $SD = .96$), $t(39) = -1.76$, *ns,* Cohen's $d = 0.34$. There were no main effects of recall order and no interactions with this variable, $Fs < 1$, *ns,* $\eta_p^2 s < .01$.

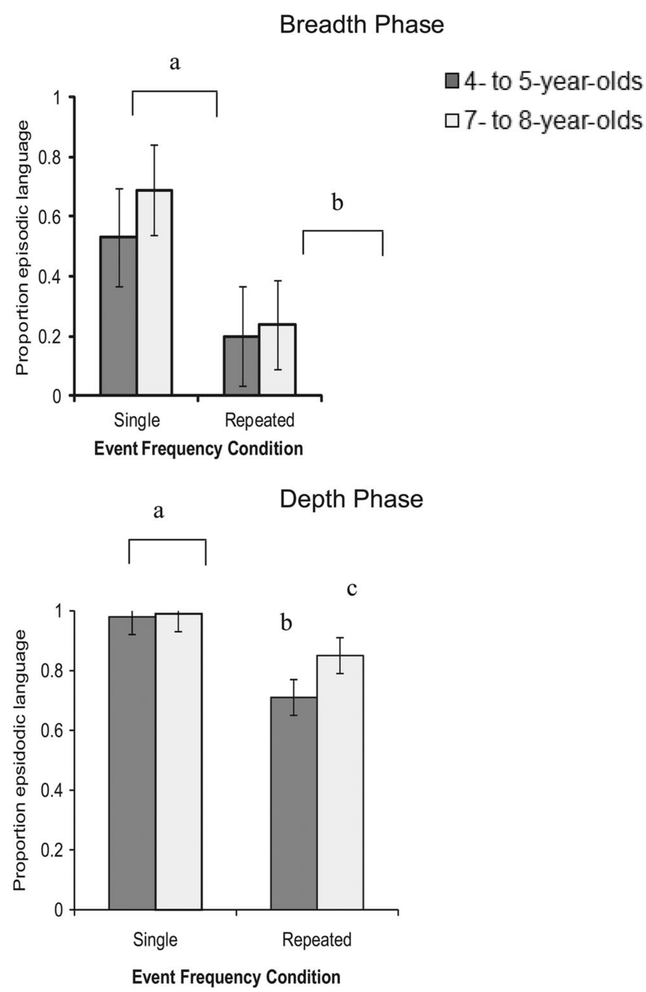

Figure 2. Three-way Age Group × Event Frequency × Phase interaction on children's language use. Within each phase, means represented by different lowercase letters differ significantly. Error bars represent standard deviations..

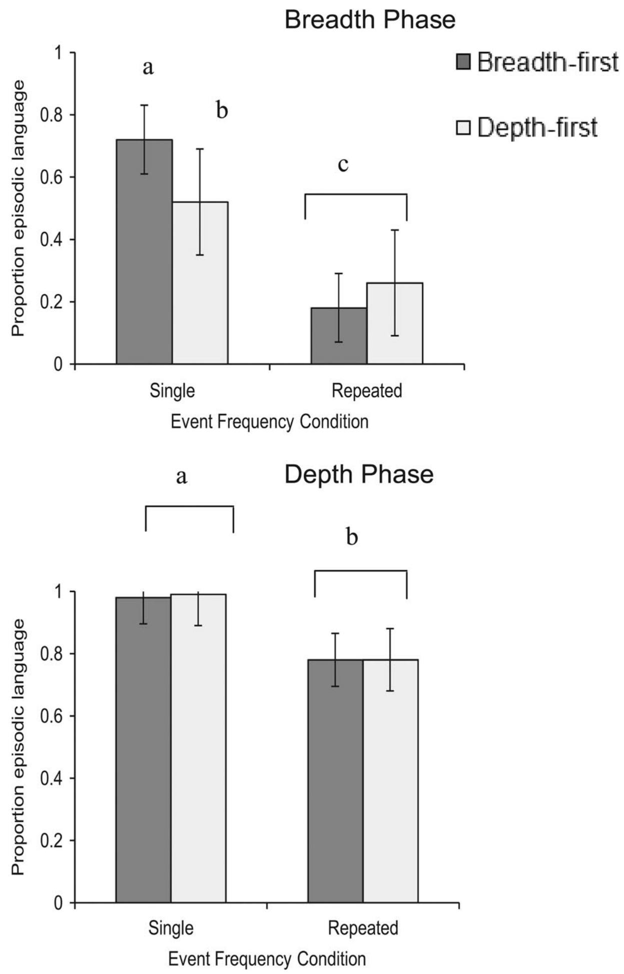

Figure 3. Three-way Recall Order × Event Frequency × Phase interaction on children's language use. Within each phase, means represented by different lowercase letters differ significantly. Error bars represent standard deviations.

A 2 (age) × 2 (recall order) × 2 (discriminatory reference: breadth phase, depth phase) mixed ANOVA demonstrated a slightly different pattern from the general references. There was again a main effect of age group, $F(1, 76) = 16.78$, $p < 001$, $\eta_p^2 = .181$, with older children reporting more than younger, but there was also an effect of recall order, $F(1, 76) = 3.97$, $p = .05$, $\eta_p^2 = .05$, with children in the breadth-first condition making more discriminatory references overall than children in the depth-first condition. There was no main effect of discriminatory references, $F(1, 76) = 3.00$, $p = .087$, $\eta_p^2 = .038$, but the variable interacted with both age group and recall order, Fs ≥ 4.07, ps $< .05$, η_p^2s $\leq .051$, and the three-way interaction among them was significant, $F(1, 76) = 9.27$, $p = .003$, $\eta_p^2 = .109$. A 2 (recall order) × 2 (discriminatory references) ANOVA yielded no significant effects for the younger children who averaged .28 ($SD = .51$) discriminations per interview, Fs ≤ 1.98, *ns,* η_p^2s $= .05$. For older children, the main effect of phase was marginal, $F(1, 38) = 3.81$, $p = .058$, $\eta_p^2 = .091$, and recall order was nonsignificant, $F(1, 38) = 2.64$, *ns,* $\eta_p^2 = .065$, but the interaction was significant, $F(1, 38) = 8.37$, $p = .006$, $\eta_p^2 = .181$. Follow-up paired samples t tests for each condition ($\alpha = .025$) confirmed that older children reported significantly more discriminatory references in the breadth ($M = 2.60$, $SD = 2.64$) than the depth phase ($M = 0.80$, $SD = 1.44$) if they received breadth prompts first, $t(19) = 3.04$, $p = .007$, Cohen's $d = 0.85$. If they received depth prompts first, discriminatory references did not differ significantly from the breadth ($M = 0.75$, $SD = 1.48$) to the depth phase ($M = 1.10$, $SD = 1.83$), $t(19) < 1$, *ns*, Cohen's $d = 0.21$.

Source accuracy. Analyses of accurate attributions can be conducted only with children with repeated-event experience, as these analyses focus on the children's ability to retrieve the particular instantiation from a set of alternatives and match it to a target occurrence. Many children did not spontaneously mention all three of the high, low, and variable instantiation types in their free recall, and as such we could not statistically compare accurate attributions for the types across levels of age group and recall order. Instead, to test Hypothesis 6, we computed the children's average proportion accuracy score for high, low, and variable instantiations (combined) to serve as the dependent variable in a 2 (age group) × 2 (recall order) ANOVA.

The analysis demonstrated no effects of age group or recall order on source accuracy, Fs < 1, *ns,* η_p^2s $< .01$. Cell means are provided in Table 2 for the interested reader, but none differed significantly. Children's overall accuracy proportion was .59 ($SD = .33$), which is consistent with previous research (Brubacher et al., 2010) using the same age group and a similar version of the events but with an entirely different interview protocol and different sample of children, suggesting that the manipulation of recall order does not impact children's accuracy for an instance of a lab-based repeated event.

Discussion

The focus of the current research was to examine whether recalling a script in advance of recalling episodic information improves or interferes with the quality of children's recall (amount of target information and accuracy) of an instance of a repeated event. Hudson and Nelson (1986) demonstrated that recall order can affect the quantity of details children recall about a routine event when children engage in script versus episodic recall at different time points, while Fivush (1984) did not find effects of recall order within a single interview. In this study, we investigated children's memories of an instance of their choosing in terms of the amount of detail and also the accuracy with which details were accurately attributed to individual episodes. Specifically, we asked

Table 2
Proportion of Accurate Source Attributions by Children With Repeated-Event Experience by Age Group and Recall Order

	Recall order	
Age	Breadth first	Depth first
4 and 5 years	.62 (.38)	.58 (.41)
7 and 8 years	.61 (.26)	.57 (.30)

Note. Standard deviations are in parentheses. No comparisons are significant.

one group of children to give a generic description (i.e., their script) of the series of activities in advance of describing one occurrence, whereas the other group did the reverse.

In line with previous research and Hypotheses 1 through 3, we found that older children, those who received breadth prompts first, and those with repeated experience reported more information than did younger children, those who received depth prompts first, and those with single experience, respectively. Children who received breadth prompts first reported more items across the entire interview than children who received depth prompts first, and they also reported more instantiations but specifically within the breadth phase. In terms of Hypothesis 4, which stated that older children with repeated experience would be most affected by the manipulation of recall order, we did not find this to be the case; recall order had similar effects on all children.

Hypotheses 5a, 5b, and 5c examined the style children used when reporting their script versus memory for a specific occurrence. By considering the level of reporting specificity (items vs. instantiations; Hypothesis 5a) we demonstrated that children did not simply change their verb tense to match that of the interviewer; they did in fact alternate between memory representations, at least to some extent. Children of both ages reported more instantiation-level descriptions in the depth phase (e.g., "I wore a jellybean badge") than in the breadth phase, and this effect was stronger for older children. Children reported marginally more items in breadth than depth; this nonsignificant trend was limited to the older children. We infer that children understood the implied meaning of the two prompt types (generic vs. episodic) and attempted to provide descriptions that varied accordingly not just in language tense but in their level of specificity. The analyses fell short of significance for the prediction that more item-level descriptions would be provided in the breadth than the depth phase. This was because children tended to list instantiations when describing the series (e.g., "we get jellybean, leaf, and feather badges"), rather than extracting and reporting only the higher order categories (e.g., "we get badges"). This effect was especially prevalent in children who received breadth prompts first. They reported significantly more instantiations in the breadth phase than children who received depth prompts first. This pattern of reporting can be helpful in investigative interviews because it provides interviewers with more specific details to later question children about when probing for episodes (i.e., depth).

As predicted by Hypothesis 5b, children used a significantly greater proportion of episodic language in the depth than in the breadth phase, and this was especially true for children with repeated experience (i.e., who would have an event script). In addition, the analyses demonstrated that the 4- and 5-year-old children with repeated experience used the lowest proportion of episodic language overall, demonstrating that they do have more difficulty than older children in moving away from their script representation. Interestingly, however, some children in both age groups with single-event experience were able to provide accounts that resembled scripts in terms of language used (e.g., "you come in, they play games with you, give you a badge") but only when they had engaged in recall of an episode first. As this latter unpredicted and novel finding was not dependent on age, it supports research suggesting that younger children too can provide a generic account, albeit with less detail than older children, even after only one experience (Fivush, 1984). Children did not simply mimic the language used by interviewers, because children with a single experience spoke episodically regardless of interviewer prompt (even the children described earlier who recalled an episode first still spoke episodically 61% of the time [$SD = 36$] in response to breadth prompts, whereas the interviewers used episodic prompts only 7% of the time [$SD = 12$]).

Older children were also significantly more likely when delivering their scripts to make comparisons across occurrences than when describing an episode (Hypothesis 5c). Younger children, who may have less stable scripts, did not differ across phase. Although rare, these general references were present in the depth phase, suggesting that children of both ages did draw also on their script when describing an occurrence. Additionally, the older children were likely to make more contrasts among occurrences (discriminatory references) when providing their script, but only when they were asked for their script first. If children are able to contrast instances of repeated events at the outset of an interview, they may provide investigators with unique details (specifying one particular time), which can be especially helpful for subsequently obtaining accounts of individual incidents. These data suggest that allowing children to engage in script recall before describing individual episodes may actually prove useful to investigative interviewing, at least for older children, although it is far too soon to extrapolate this research conducted in the lab to procedures used in the field.

Taken in their entirety, the current study generated novel findings about memory organization, detail, and source attribution under controlled conditions. Our data support predictions made by script theories and extend the theory in two ways. First, although younger children and children with single-event experience consistently report fewer details, they do appear to be affected by the recall order manipulation in somewhat the same manner as older children and those with repeated experience as evidenced by the lack of interactions with recall order in the amount of information reported. Second, our data demonstrate that recalling a script first does not lead to greater confusion of slot alternatives when recalling a specific incident than the reverse order. It should be noted, however, that explicit predictions about accurate attributions of details are not made by script theories.

Fuzzy-trace theory suggests that, after a delay, rehearsal of the gist trace should promote increased decay of verbatim traces; therefore, describing what usually happens first should subsequently result in greater confusion of the specific instantiations across occurrences because the individual traces for each occurrence of the activities have weakened. Yet, we found no age group or recall order differences in ability to attribute an instantiation to the nominated target occurrence. Although contradictory to our predictions, there are a number of factors to consider given that there were several innovative aspects in the study design.

Fuzzy-trace theory has historically been applied to simpler memory material (e.g., Deese/Roediger-McDermott lists; Camiero, Albuquerque, Fernandez, & Estevez, 2007), rather than the more participatory activities here (though note Odegard, Cooper, Lampinen, Reyna, & Brainerd's, 2009, study on thematic memory). It is possible that, after engagement in complex, interactive situations, rehearsal of the gist or script brings to mind many of the possible alternatives (instantiations). Although children may still choose the wrong verbatim trace, recalling the series of activities may provide more alternatives to choose from and, thus, actually increases the likelihood that the correct trace is among the produced alternatives.

In addition, verbatim and gist traces may still have existed in parallel at the interview session, leaving both accessible and independent, but this reasoning is unlikely because statistical dependence and association between the traces can occur within a few days of encoding (Brainerd & Reyna, 2004). In contrast, it is highly plausible that verbatim traces were weak in all children at the time of the interview (5 to 7 days after the last event). If the traces had already decayed, recall order could not be expected to have any effect on source accuracy. Under these circumstances, how can we ever expect accurate recounts of specific instances?

The source-monitoring framework is the only one of the three theories to explain how accurate reconstruction can take place. Although the source-monitoring framework predicts improved source accuracy for older compared with younger children, it also suggests that highly similar events are very difficult to distinguish for everyone, including adults. The oldest children in the current study are just beginning to reach mature levels of source discrimination (Roberts, 2002) and may not have been able to discriminate the events.

Implications

A commonsense notion exists that children who have multiple experiences with an event should be asked about one instance first to prevent confusion among instances, and indeed, investigative interviewers must often do so to secure a single account (Lamb, Sternberg, & Esplin, 1995). For example, in many jurisdictions, children who testify about an abusive event must elaborate on one instance with a relative amount of precision so that a charge can be laid (Guadagno et al., 2006). It sometimes occurs, however, that interviewers allow children to give a generic account first given that it is easier for children to do this (see Guadagno & Powell, 2009). Until now, the impact of this practice has not been evaluated. The results of this study suggest that asking what usually happens first may not be as detrimental to children's testimony as previously thought and may, in fact, assist children in retrieving more information. It should be noted, however, that children in the current study were interviewed using the most optimal procedures (e.g., open-ended, nonsuggestive questions). The findings of this experiment may not generalize to situations in which children have been misled (e.g., Powell, Roberts, & Thomson, 2000) or are directly asked only for specific pieces of information rather than spontaneous reports.

The results also suggest a degree of flexibility with which children can switch between representations of individual occurrences and the general event representation, which involves different types of representational processes, memory storage, and retrieval mechanisms (Hudson & Nelson, 1986). Although many more questions remain, the current research is a valuable and unique contribution to the growing body of research on children's memories for instances of repeated events because these data are the first to provide an in-depth picture of the effects of recall order not only on the number of details reported and their level of specificity, but also on children's attributions of those details to specific episodes, which were not diminished by accessing scripts prior to episodic information.

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