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RUNNING HEAD: Children's sexual abuse reports

Describing individual incidents of sexual abuse:

A review of research on the effects of multiple sources of information on children's reports

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Abstract

Objective. For successful prosecution of child sexual abuse, children are often required to provide reports about individual, alleged incidents. Although verbally or mentally rehearsing memory of an incident can strengthen memories, children's report of individual incidents can also be contaminated when they experience other events related to the individual incidents (e.g., informal interviews, dreams of the incident) and/or when they have similar, repeated experiences of an incident as in cases of multiple abuse.

Method. Research is reviewed on the positive and negative effects of these related experiences on the length, accuracy, and structure of children's reports of a particular incident.

Results. Children's memories of a particular incident can be strengthened when exposed to information that does not contradict what they have experienced, thus, promoting accurate recall and resistance to false, suggestive influences. When the encountered information differs from children's experiences of the target incident, however, children can become confused between their experiences – they may remember the content but not the source of their experiences.

Conclusions. We discuss the implications of this research for interviewing children in sexual abuse investigations and provide a set of research-based recommendations for investigative interviewers.

Describing individual incidents of sexual abuse:

A review of empirical research on children's reports after exposure to contaminating sources

Sexual abuse investigations are frequently characterized by a lack of corroborating evidence, such as physical evidence, medical evidence, and non-victim witness statements, making alleged child victims' accounts of the suspected incidents of paramount importance. Although some jurisdictions allow prosecution to proceed with a general account of the alleged abuse, such as in some cases where a child has allegedly been repeatedly abused (Poole & Lamb, 1998), the norm in most abuse cases is that the child must provide detailed information about individual incidents (e.g., describe when, who, where, and specific actions) and this information must be specific to the time and place of separate alleged incidents if prosecution is to be attempted (S. vs. R., 1989).

Although much research has been conducted over the last two decades on children's reports about a personally-experienced, isolated event, children who are involved in sexual abuse investigations frequently experience other events related to an incident of sexual abuse and their exposure to these other sources of information can affect the accuracy of their descriptions of the target incident. In this article, we review the effects of two kinds of contaminating sources on children's reports of a particular incident. First, we review how exposure to related events (e.g., post-event discussions, watching similar events on television) affects children's reports of a personally-experienced incident. Second, we review how repeated experience of the same incident (as in cases of chronic abuse) affects children's reports of an individual incident from that series of repeated occurrences. We then discuss how the combination of both kinds of sources (i.e., related events and repeated experiences of the same event) affects children's reports of a particular incident. Specifically, we discuss the effects of a suggestive interview on children's recall of a particular incident of a repeated

event. Finally, we discuss the implications of these findings for investigative interviewing practices.

Reports of a particular incident after exposure to related events

If we consider the context of an incident of sexual abuse, we can reason that it is likely that some children who have been sexually abused experience other events that relate in some way to the incident (e.g., discussions with teachers or concerned parents during the disclosure process, conversations with peers who have had similar experiences, dreams about the incident). Exposure to similar events can have positive and negative effects on the amount and accuracy of information children later report about a particular incident (hereafter referred to as the target incident). Rehearsing information through repetition maintains memories of that information (Keeney, Canizzo, & Flavell, 1967). When given the opportunity to rehearse memories of a target incident, such as during a non-suggestive interview (Warren & Lane, 1995), a conversation with an adult who accurately mentions details consistent with what occurred during an event (Roberts, Lamb, & Sternberg, 1999), or by watching a videotape of a highly similar incident (Principe, Ornstein, Baker-Ward, & Gordon, 2000), children are more likely to retain accurate memories of the target incident than if they did not rehearse their memories. According to some researchers this is because rehearsal strengthens memory traces so that they decay at a slower rate than unrehearsed memory traces (Brainerd, Reyna, Howe, & Kingma, 1990; Pezdek & Roe, 1995; Warren & Lane, 1995). Recalling particular details from the target incident can also activate memories of other details in the event even if they were not explicitly addressed in the related events (Principe et al., 2000; Roberts et al., 1999). For example, if a child is asked whether she wore a sweater during the target incident and accurately remembers that she was indeed wearing a sweater, her recall may also spread to other details about the sweater such as it being red and too small for her.

Exposure to events that are related to the target incident can have negative effects, however, when children are exposed to information that is inconsistent with what they experienced, such as when adults' descriptions of details do not match children's memories. Related events can have negative effects on reports of a target incident when they are experienced after the target incident and are, therefore, known as "post-event" experiences. In some studies, for example, preschoolers and school-aged children confused memories of details that they had actually participated in and memories of other, similar details that they had simply observed on television (Roberts & Blades, 2000b; Thierry, Spence, & Memon, 2001) or heard in a story (Poole & Lindsay, 2001). Another dangerous post-event experience is a suggestive interview about the target incident. In some research, for example, when children were repeatedly interviewed about a target incident with questions containing inaccurate descriptions of incident details, they spontaneously reported the inaccurate details when later questioned with non-suggestive, open-ended prompts (e.g., Bruck, Ceci, Francoeur, & Barr, 1995; Warren & Lane, 1995). Finally, preschoolers' memories of an incident were contaminated when they were invited to speculate about details that did not happen in the target incident (e.g., Ceci, Loftus, Leichtman, & Bruck, 1994; Garven, Wood, Malpass, & Shaw III, 1998).

Children's reports of target incidents can also be contaminated by "pre-event" experiences, that is, related events that occur before the target incident. Leichtman and Ceci (1995), for example, spoke with 3- to 6-year-olds about a man (confederate) called "Sam Stone" on several occasions before the children met Sam Stone. During the pre-visit conversations, Sam Stone was described as a clumsy man who tends to break things. When directly asked 10 weeks later whether Sam Stone had broken an item when he visited (e.g., ripped the book), 37% of the children inaccurately, though in accordance with the stereotype

that was created in the pre-event visits, claimed that Sam Stone had broken the item (Leichtman & Ceci, 1995).

The amount of children's confusion is dependent on how similar the related event is to the target incident and when the related incidents occur. Children and adults are more confused between memories of similar events and details than they are between less similar events (e.g., Foley, Harris, & Hermann, 1994; Lindsay, Johnson, & Kwon, 1991; Roberts & Blades, 1999). Hence, Lindsay and his colleagues found that children had more difficulty distinguishing which of two female speakers had spoken a word than distinguishing between words spoken by a male speaker and a female speaker. Regarding the timing of experiences, when children are reminded about the target incident shortly after the incident has taken place, the reminder can serve to "consolidate" that memory and protect it from immediate decay (Poole & White, 1993). If the post-event experience occurs after memories of the incident have begun to decay, however, the boost in the amount of information recalled is typically larger than if presented soon after an incident when little forgetting has occurred (Roberts et al., 1999; Rovee-Collier, 1995). Finally, children are less likely to be misled about details for which they have strong rather than weak memory traces and so children can be more suggestible when questioned a while after rather than shortly after an event, and when they have not had the opportunity to rehearse memories of actually-experienced events (Holliday, Douglas, & Hayes, 1999; Marche, 1999; Pezdek & Roe, 1995; Warren & Lane, 1995).

Children's reports after multiple experiences of a highly similar event

In the studies discussed above, children's reports of once-experienced events were modified through exposure to related events. Children's reports of a target incident are also affected when they have repeatedly experienced highly similar incidents. In our experience, children who are asked about multiple abusive incidents in forensic interviews will often

describe individual incidents with generic phrases like “the same as last time” or “he always does it like this” showing the highly repetitive nature of many children’s sexual abuse experiences. Research on children’s memories of non-abusive events shows that, after repeated experience of the event, children establish a “general event representation” whereby characteristics that are common across the occurrences are well-remembered and are used to structure recall (see Hudson, Fivush, & Kuebli, 1992). Imagine, for example, the predictability of a visit to a restaurant: Typically, one would first sit down, then look at the menu, order food, eat, and pay the bill. In other words, we remember a ‘script’ of what usually happens and memories of such scripted aspects of an event can be extraordinarily accurate (Schank & Abelson, 1977). Even 3-year-olds can develop such sophisticated scripts and produce accurate and organized accounts of events (Fivush, 1984; Fivush, Hudson, & Nelson, 1984; Nelson, 1986). In other words, children can accurately recall general features that do not vary across repeated occurrences.

The ability to form scripts readily can be an advantage when children experience an occurrence that deviates in some way from the usual experience and there are developmental differences in the speed with which a script is formed. In a study by Farrar and Goodman (1992), for example, 4- and 7-year-olds participated in a staged event involving dressing up in animal costumes. The children experienced this event once or three times (the “standard visit”) before they experienced a “deviation visit” in which some of the features deviated from the standard visit (e.g., a different animal costume was worn). When the children were asked general questions about the standard and deviation visits, such as “What happens when you put on the [standard visit/deviation visit] animal costume?”, the 7-year-olds who had thrice experienced the standard visit accurately recalled more of the details that were specific to each kind of visit (standard and deviation) than did their age-mates who had experienced the standard visit just one time. In contrast, the amount of experience with the standard visit

did not benefit the 4-year-olds; rather, the responses from the 4-year-olds showed that, regardless of whether they experienced the event one or three times, they were more confused than the 7-year-olds between the standard and deviation visits. Farrar and Goodman argued that the older children were able to abstract the common features of the standard events to form a script that was used to structure their recall.

Although scripts can be used to organize and produce accurate recall of the general aspects of events, they can also lead to several kinds of memory errors. The use of the script to guide recall is so strong that script-consistent details can be recalled even when they were not actually experienced or witnessed. In one study, for example, adults read several stories about visiting a restaurant (Bower, Black, & Turner, 1979). In some stories, the temporal order of the events was manipulated (e.g., the bill was paid at the beginning instead of at the end of the visit) or details that are part of a restaurant script were not mentioned (e.g., paying the bill was omitted from the story). When memory for the stories was tested, the participants re-arranged the order of the actions in the event to fit a restaurant script (e.g., claimed that the bill was paid at the end of the visit) and inaccurately reported that they had read about script-consistent details that were not actually present in the stories. Hence, if children's recall follows the same pattern as adults' recall, children may sometimes report script-consistent details when those details were not present. Research by Powell and Thomson (1996) suggests that children do tend to report more frequently experienced details rather than less frequently experienced details even when the high-frequency details were not part of the target incident and this is more likely to happen over time as the specific details of the incident are forgotten.

As reflected in the discussion above, much of the research on children's reports after multiple experience (e.g., Davidson & Jergovic, 1996; Farrar & Goodman, 1992; Powell & Thomson, 1996; Price & Goodman, 1990) has focused on how the presentation of atypical

details affects recall of more typical details. Also of relevance to child abuse investigations, however, is children's ability to accurately recall specific details when those details vary slightly each time an event is experienced, even though the basic structure of the event is the same, as may occur in real-life experiences (e.g., the daily specials or the number of people may be different each time you visit your favorite restaurant). In another study by Powell and Thomson (1997a), 4- to 5- and 6- to 8-year-olds took part in some activities on six occasions. Each incident was identically structured (e.g., there was a story each time) but four target items varied during each incident (e.g., the story was about a police lady, a sea monster, a horse, a birthday party, "Supercat", and an Easter egg during Incidents 1-6, respectively). The children wore a badge in the final incident and were interviewed about this incident 1- or 6-weeks later. When directly probed about the four target items (e.g., "What was the story about the day you wore the badge?" for the above example), the children reported a detail that was present in one of the first five occurrences for, on average, 2 of the 4 target items. In other words, the children accurately remembered details that they had experienced, but inaccurately remembered the details as occurring in the target incident. Similar errors have been reported when younger children repeatedly experience an event (Hudson, 1990; Fivush, Kuebli, & Clubb, 1992). In the current literature, these errors are referred to as "source-monitoring errors" or "source confusions" to reflect that details from different experiences are remembered but the memories are not tagged to the correct source or experience (see Johnson, Hashtroudi, & Lindsay, 1993; Roberts & Blades, 2000a). Memory for content appears to be more durable over time than the ability to accurately tag a memory to its source (Powell & Thomson, 1997a; Schacter, Harbluk, & McLachlan, 1984).

The combination of different sources on children's reports

To summarize the research discussed so far, children's reports of a target incident can be affected in both positive and negative ways by a) exposure to related events, and b)

repeated experience of a highly similar event. Children who have been repeatedly abused and are involved in investigations are likely to experience a combination of these two situations, however, because they may have experienced a number of similar, abusive incidents and then be exposed to non-abusive events related to the abuse (e.g., forensic interviews, therapy sessions, discussions with parents, dreams), all of which can affect their reports of individual incidents. In the Sam Stone study discussed earlier, for example, preschoolers who were given the clumsy stereotype-inducing visits and later suggestively questioned about what Sam Stone did when he visited (i.e., both pre- and post-event experiences contradicted what the children had actually experienced) gave more false reports than did children who were given the pre-event visits without the suggestive interview (i.e., the pre- but not the post-event visits contradicted their experience) and other children who did not experience the pre-event visits but were suggestively interviewed (i.e., the post- but not the pre-event experiences contradicted their actual experience; Leichtman & Ceci, 1995). Research investigating children's reports after the combined experiences of related events and repeated experience of a similar event is unfortunately sparse, though recently several groups of researchers have examined the particular issue of whether a suggestive interview adversely affects children's reports of a target incident when children have had repeated, prior experience of the event (Connolly & Lindsay, 2001; Fasig, 1999; McNichol, Shute, & Tucker, 1999; Powell & Roberts, in press; Powell, Roberts, & Thomson, 2000; Powell, Roberts, Ceci & Hembrooke, 1999; Roberts & Powell, 2000).

In one study, 5- to 6-year-olds participated in a scripted event once or four times and the children wore a badge during the single or last occurrence so that the badge could be used as a cue to the target incident in the following interviews (Powell et al., 1999, Experiment 2). Half of the 16 items in the activities were identical across each of the repeated incidents (fixed items; e.g., the cloak was always red) and half varied each time (variable items; the

theme of the story varied), though the assignment of items to fixed or variable status was fully counterbalanced so that each item served as a fixed or variable item. The children were suggestively interviewed about the target incident a week after the last (or only) incident in the series. In the suggestive interview, misleading details about 8 of the 16 critical items (4 fixed, 4 variable) in the target incident were embedded in questions (e.g., “How did she tie the white cloak on the day that you wore the badge?” when the cloak was green during the target occurrence). The following day, the children were non-suggestively interviewed about the target incident with cued-recall questions (e.g., “What color was the cloak?”) to see whether the misinformation presented in the suggestive interview affected memory for the target incident. The design is presented in Figure 1.

Insert Figure 1 here

As rehearsal leads to strong traces (Brainerd et al., 1990; Pezdek & Roe, 1995; Poole & White, 1993), Powell et al. (1999) expected that children in the repeated condition would be more resistant to suggestions about fixed than variable items because the fixed items were experienced in exactly the same way during each occurrence, unlike the variable items for which there were subtle differences in each occurrence. No differences in the suggestibility of the children in the single condition for fixed and variable items was expected because these children experienced each item just one time.

As expected, the children in the repeated condition of Powell et al.'s (1999, Experiment 2) study were more resistant to suggestions about the fixed items than the variable items (see Table 1). To directly explore whether prior experience affected suggestibility, the responses from children in the single- and repeat-experience conditions were compared. When asked about items that were fixed across the incidents, children with

repeated experience less often reported the false, suggested detail from the suggestive interview than did children who experienced the event one time. In addition, children with repeated experience more often (accurately) reported the target incident detail and less often (inaccurately) reported that a detail that was never experienced in any of the events was in the target incident than did children in the single-experience condition. In response to questions about items that varied across the incidents, however, although prior experience led to increased reporting of the target incident detail, there were no differences in the number of false suggestions reported from children in the single- and repeat-experience groups. In other words, prior experience made the children resistant to the suggestions about fixed items but had no effect on suggestibility regarding items that varied each time they were experienced.

Powell et al.'s (1999, Experiment 2) finding that children were resistant to suggestions about fixed details has been replicated several times (Connolly & Lindsay, 2001; Fasig, 1999; McNichol et al., 1999; Powell et al., 1999, Experiment 1). With respect to suggestibility for items that vary each time, however, Powell et al.'s (1999, Experiment 2) finding that repetition has no effect on suggestibility has been replicated only once (Powell et al., 2000), in one study repetition decreased suggestibility (Powell et al., 1999, Experiment 1), and in other studies repetition increased suggestibility for variable items (Connolly & Lindsay, 2001; Fasig, 1999; McNichol et al., 1999). Investigation into this discrepancy has illuminated the important role of interview technique on the accuracy of children's reports after multiple experience, and it to this issue we now turn.

In some studies, children's memory of a particular incident of a repeated event has been tested using "cued-recall" questions that inquire about a particular item but require the child to generate the specific detail without any suggested options from the interviewer. If a child is asked, for example "What color was the shirt?", s/he has to retrieve the exact color that was present in the target incident. Other researchers have used "yes/no" recognition

questions (e.g., “Was his shirt red?”) that require children to simply recognize whether the information produced by the interviewer was present during the target incident and agree or disagree with that information. Interestingly, when children’s memory of a particular incident of a repeated event is tested using cued-recall questions, there is typically no effect or a decrease in children’s suggestibility for variable items (when compared to children’s suggestibility after a single experience; e.g., Powell et al., 1999, 2000), while suggestibility after repeated experience is increased when yes/no questions are used to test memory (e.g., Connolly & Lindsay, 2001; Fasig, 1999).

It is plausible that these different interview techniques (cued-recall vs. yes/no recognition questions) are responsible for the discrepant results regarding suggestibility for variable items because each type of question has different processing demands. Consider that yes/no questions merely require children to make a “quick-match” – to make a judgment as to whether information suggested by interviewers matches what children remember. In other words, if a child is asked about a false, plausible suggestion that was recently presented by an interviewer (e.g., asking “Was his shirt red?” when he was wearing a blue shirt in the target incident but it was described as red in the suggestive interview), s/he may assume that the instantiation was present during the target incident because it is familiar. Indeed, recognition judgments are often made on the basis of familiarity without a thorough appraisal of the source of the detail (Lindsay & Johnson, 1989). In contrast, to answer a cued-recall question, the child is required to reconstruct the target incident and retrieve the specific detail from that incident. This deeper processing can provide information that can enable children to make a source judgment (Johnson et al., 1993), in this case, between experienced and suggested details.

To directly test whether question type mediates children’s suggestibility for variable items, Powell and Roberts repeated their 1999 experiment but questioned children using

either cued-recall or yes/no recognition questions (Powell & Roberts, in press). Five- to 6-year-olds participated in the activities one or four times, were suggestively interviewed about the target incident (the only or final occurrence), and were questioned about 16 variable details from the target incident. Half of the children in the single- and repeat-experience groups were asked about the details using cued-recall questions (e.g., “What was the story about?”) and the rest were asked about the same details using yes/no questions (e.g., “Was the story about a police lady?”; both true and false details were probed). When questioned three weeks after the target incident, children with repeated experience were more suggestible about the variable details than were children who had experienced the event once.

Importantly, this effect was only evident when the children were questioned with yes/no probes; prior experience had no effect on children’s suggestibility when asked cued-recall questions about the variable details. Discrepancies between studies, then, may be largely because of the interview techniques used to assess suggestibility. We can conclude that both the amount of prior experience of an event and the way in which reports are elicited affect the accuracy of children’s accounts after experiencing a suggestive interview. Many experts have recommended that recognition questions not be used during investigative interviews (Home Office, 1992; Poole & Lamb, 1998), and the results presented above illustrate that yes/no questions may be particularly damaging to children’s testimony if they have prior experience of an event because they have more difficulty resisting false suggestions embedded in yes/no questions than children with a single experience of an event.

Implications for investigative interviewing

The research discussed above shows that children’s reports of a particular target incident are affected in positive and negative ways by their exposure to other incidents or other related events (e.g., watching television). Although children’s memory can be strengthened through repetition, details from the different events can also be confused. The

finding that children may remember their experiences well but confuse them highlights a difficult issue in the justice system. Is it fair to expect children to separate their experiences and be able to accurately identify the source of all their experiences? The fundamental issue of any child abuse investigation is whether the child has been abused or not but in many jurisdictions prosecution is only possible if an allegation of abuse at a specific time and place can be supported. How can a defendant have the opportunity to corroborate alibis, for example, if the time and place of the alleged transgression is not made explicit? On the other hand, if a child accurately describes an incident of abuse but confuses the time and place of the incident with another similar incident, the perpetrator may be able to provide an alibi and be exonerated even though the child may be truthfully relaying abuse that had actually occurred at some point in the past.

An important aim of a forensic interview, then, is to reduce the potential of source confusions between multiple experiences when children are questioned about alleged sexual abuse. What guidelines can be drawn from this research? Before generalizing from scientific studies to child abuse investigations it is necessary to note some caveats. The children who participated in the studies reported in this review did not experience any traumatic events for obvious ethical reasons, were interviewed at relatively short delays, and although the children were active participants in complex events and interviewed about typical details probed during investigative interviews (e.g., conversations, actions, appearance), it is not clear from the data reported here whether these effects would be observed when children experience the complexity of family dynamics and emotional strain of a child abuse investigation. The patterns found in the above studies, however, are similar to those reported in the clinical literature about children who have experienced repeated, traumatic events (Terr, 1991, 1994). With these issues in mind, we discuss several implications from these data.

It is important to acknowledge that a high proportion of children who are involved in sexual abuse investigations will experience a variety of events that can have effects on the structure, length, and accuracy of their reports of individual, abusive incidents. If information encountered in pre- or post-event experiences does not contradict children's experiences of target incidents, then the possibility of contamination from these sources is reduced, though this does not guarantee that there will not be other errors in children's accounts. When the target and non-target experiences differ, however, then there is the possibility of source confusions such as when children report that information seen on television occurred in real life (e.g., Roberts & Blades, 1999; Thierry et al., 2001), a potential source of contamination given the sexually explicit nature of many television programs (Roberts & Blades, 2000b).

What appropriate interviewing techniques can be used to minimize the risk of contamination in children's reports? Researchers have tested several techniques to reduce children's source confusions ranging from indirect methods such as asking open-ended questions about a particular incident, to attempts to "inoculate" children against making source errors, to the most direct method of explicitly asking children about the sources. As already discussed, children make fewer source-monitoring errors in response to open-ended questions that require the child to recall what happened (e.g., "Tell me what happened the first time") than to questions that focus on a particular detail (e.g., "Did he touch your pee-pee the first time?"; Poole & Lindsay, 1995; Powell & Roberts, in press; Roberts & Blades, 2000a). Researchers have also tried to train children in source monitoring prior to interviewing them about a target incident (Leichtman, Morse, Dixon, & Spiegel, 2000; Poole & Lindsay, 2001; Thierry et al., 2001). Although some reduction in children's source errors were reported, the results are inconsistent and research in this area is clearly still in its infancy. Explicitly questioning children and adults about the sources of their memories (e.g., "Did that really happen or did someone tell you about it?") can reduce, though not eliminate,

the number of source confusions reported (e.g., Ackerman, 1994; Lindsay & Johnson, 1989; Zaragoza & Lane, 1994). Very young children such as 3-year-olds, however, have difficulty answering these explicit source questions accurately (see Leichtman et al., 2000; Quas, Schaaf, Alexander, & Goodman, 2000; Robinson, 2000).

Directly asking children about different sources may not always be possible nor appropriate in investigations of child sexual abuse. The different sources may not be known to investigators, hence, it is not possible to ask about those sources. Even when it is suspected that children have been exposed to particular sources, there are several ways that their reports can be further tainted. First, investigators' and children's labels or "tags" for the different sources may not be the same and so interviewers and interviewees may unknowingly be discussing different events. Poole and Lamb (1998) describe a child who, when asked if an incident "had 'really' happened replied 'Yes.' Then, after a pause, she added, 'Mommy told me'" (p. 45). Explicit source questions are forced-choice questions and the use of these questions is recommended to be kept to a minimum and only to be used with information children have already provided or when it is essential for the investigation. A second concern is that questioning the source of children's memories may be interpreted by children as indicating that their accounts were not believed and this may discourage children from providing more information about the alleged incidents. It is hoped that careful research on the best ways of reducing children's source errors will illuminate appropriate investigative interviewing techniques. Until then, we echo recommendations that open-ended questions that encourage recall strategies and give children the opportunity of describing the events in their own words be used to minimize the contamination of their reports by non-target sources.

Regarding children who experience multiple incidents of abuse, it is important to acknowledge that these children may find it both easier and more difficult to give comprehensive accounts of their experiences than children who have been exposed to a single

abusive episode. If the incidents occurred a while ago, children with repeated experience may still be able to give coherent, sequenced accounts of the details common to the incidents when memories of equivalent, one-time episodes have faded. Indeed, Powell et al. (1999) found that, with repeated experience, young children (3- to 5-year-olds) and children who were interviewed three weeks after the target incident were just as accurate as 6- to 8-year-olds and those interviewed three days after the event, respectively. Also, specific details from multiple occurrences of a similar event were recalled three months after the event took place even though the source information (i.e., tagging the recalled details to the correct incidents in the series) was forgotten (Powell & Thomson, 1997b). These data further demonstrate that there are some circumstances in which children can give valid accounts of their experiences even when considerable time has passed (see Fivush & Shukat, 1995).

Given that children with multiple experiences of the same event can become confused, one technique that has been tried is to ask children to recall as many of the details common to the incidents that they can prior to making a decision about which detail was present during the target incident. Although theoretically this technique seems to have potential value (because it encourages children to think about multiple details and highlights that information comes from different sources), in the only published study addressing this use of this technique it was reported that it had little effect in reducing the number of source errors made by children (Powell & Thomson, 1997a).

When it is necessary to ask children who may have been abused on multiple occasions about specific details from individual incidents, extrapolating from one study, it appears better to ask children about the detail in the context of all of the alleged incidents than to link the detail to a specific incident, for example, asking “Did he touch your penis any time?” rather than “Did he touch your penis the first time?”. Powell et al. (2000) compared the effects of suggesting false details about a target incident with suggesting false details about

the general event (i.e., without reference to any one particular incident) on 5- to 7-year-olds' reports of a target incident. Children took part in "the Deakin Activities" on four occasions and they wore a badge during the final incident. All children were given a suggestive interview during which the suggestion was explicitly made about the target incident (e.g., asking "Did you hear a story about Supercat on the day that you wore the badge?") or about the series of incidents in general (e.g., asking "Did you hear a story about Supercat when you did the Deakin activities?"). When later asked cued-recall questions about the final incident, the children who were given suggestions directly about the final incident were more suggestible than the children who were suggestively interviewed without reference to a particular incident.

Summary

Before and during investigations of sexual abuse, it is likely that children are exposed to experiences that may affect the length, accuracy, and structure of their allegations (e.g., multiple incidents of abuse, informal interviews with parents or teachers, conversations with other victims, television programs, magazines, dreams and day-dreams). Children may also experience similar, abusive incidents on multiple occasions. Finally, children may experience a combination of these kinds of experiences and thus, be subject to repeated abuse and also be exposed to non-abusive events that relate to the abuse. In most investigations of single or multiple abuse, action can only proceed if the alleged child victims can give accounts of the specific incidents. Information such as the time, place, and exact nature of the actions involved must be provided for each alleged incident. Exposure to related events can strengthen children's memories through rehearsal and make them more resistant to suggestions but confusions between their memories of different events are also possible, though the risk of this confusion is lower when non-leading, open-ended questions are used.

Further research will hopefully illuminate appropriate ways of asking children about the sources of their memories.

It has been demonstrated in early and more recent research that children's memories after repeated experience of the same event, as in cases of multiple abuse, contain unique characteristics not associated with children's memories of a one-time experience. After experiencing multiple incidents of a similar event, children's reports can be more complete and organized than if they had experienced the event just one time, and aspects of their accounts can be quite accurate, particularly regarding details that are invariant across occurrences. Young children (e.g., those under 7-years) are usually more confused than older children and those under 4 years of age are most vulnerable to confusion. Even when details vary each time they are experienced, however, children of all ages rarely spontaneously report information that was never experienced when questioned non-suggestively, and do so less than children with a single experience of an event (Powell et al., 1999). After prior experience of an event, however, it can be difficult for children to provide details specific to each incident and they may make source-monitoring errors: In other words, children remember what they have experienced but have difficulty identifying the context of those memories such as when something happened.

Children who have experienced a suggestive interview following repeated experience of an event can be accurate and resistant to suggestion when questioned about details that never varied across the occurrences. When questioned in a yes/no fashion about details that did vary, however, they can be more suggestible than when answering questions about fixed details, and can be more suggestible than children who have experienced an event just one time. Using open-ended questions reduces this increased risk of contaminated responses. Although older children may be able to answer questions probing the particular sources of children's memories, younger children (below age 6) may have difficulty. Exploring different

methods of questioning children about multiple experiences remains a challenge to researchers and practitioners. Until then, we conclude with the following recommendations for forensic interviews of children:

1. Ask children open-ended recall questions that omit the mention of a specific instantiation of a detail (e.g., “Tell me what happened” rather than “Did he touch your pee-pee?”). When questioned about a particular incident, children may agree with the specific instantiation if it happened at any time even if it did not happen during the particular incident about which they are being probed (Powell, Thomson & Dietze, 1997; Powell et al., 1999; Roberts & Blades, 1999, 2000b).
2. If children give an account of multiple incidents in general terms, it may be necessary to probe specific details that will identify individual incidents. These questions should be minimized as much as possible and used only after a concerted effort to obtain detailed descriptions of individual incidents using open-ended recall techniques. When it is appropriate to question about specific details, encourage the child to recall rather than give the child the opportunity to recognize information (e.g., asking “Where did it happen?” rather than “Did it happen at his house?”). The amount of source monitoring or internal intrusion errors in children’s reports increase as questions probe more specific items of information (Powell & Roberts, in press; Roberts & Blades, 2000a).
3. Conduct the required forensic interview(s) as soon as possible after a sexual abuse investigation has begun. As described earlier, memories are more resistant to suggestive influences when they are strong (e.g., Pezdek & Roe, 1995). Given that children’s memories for specific instantiations and their sources decay before their memory for the general gist of the event(s) (Brainerd et al., 1990; Powell & Thomson, 1997a), procedures that maximize the elicitation of details about

specific incidents (such as timely interviews) is advantageous for fair investigation and prosecution.

4. It may be necessary to explicitly question children about the sources of their memories (e.g., if it is unclear which parts of a child's testimony refers to the first and second described incidents) and we suggest the following precautions in these circumstances:
 - a). Acknowledge that children aged 3-years and younger may not be able to answer explicit source questions (see Quas et al., 2000; Robinson, 2000).
 - b). With older children, restrict explicit source questions to the sources already identified by children (e.g., if a child mentions two incidents, question only about those two sources).
 - c). Use the child's labels for the sources (e.g., use "the time in the bedroom" and "the time in the bathroom" if that is how the child described the incidents rather than interpreting those incidents as "the first time" and "the second time").
5. If it necessary to ask children about specific details from individual incidents that they have not already described, such as when there is strong, corroborating evidence, probe the detail generally rather than linking it to a specific incident (e.g., "Did he ever touch his penis?" rather than "Did he touch his penis the day you started camp?").

Finally, it is worth noting that although this review has focused on the quality and accuracy of children's reports, many of the factors discussed affect adults' reports in similar ways. Like children, adults are more confused between similar than dissimilar events (e.g., Lindsay et al., 1991; Roberts & Blades, 1999), make script-driven errors (Bower et al., 1979), and can be suggestible (e.g., Warren & Lane, 1995), though the absolute number of these errors is typically lower than that produced by children (see Ceci & Bruck, 1993).

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Table 1

Responses to cued-recall questions about fixed and variable items (Powell et al., 1999, Experiment 2).

Condition	Origin of reported detail			
	Target incident	Suggestive interview	Non-target incident	Not in experiment
	Fixed items (out of 8)			
Single event	4.17 (1.86)	1.17 (0.71)	-	0.94 (0.87)
Repeat event	7.67 (0.59)	0.06 (0.24)	-	0.17 (0.38)
	Variable items (out of 8)			
Single event	4.06 (1.35)	0.89 (1.02)	-	0.94 (0.73)
Repeat event	2.78 (1.26)	0.50 (0.71)	3.39 (1.50)	0.17 (0.38)

Note. Standard deviations in parentheses; Numbers do not add to 8 as a small number of unclear responses were excluded.

Figure 1

Design from Powell, Roberts, Ceci, and Hembrooke (1999, Experiment 2).

