AN ABSTRACT OF THE THESIS OF

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Title: The Effects of Interviewer Role and Time Delay on Children's Memory for a

Uniquely Staged Familiar Event_____

Abstract approved:_____

This study investigated the effects of interview role, specifically non-familiar participant

compared to non-familiar non-participant, and children's recall capability for different

types of information presented at a unique birthday party. Atypical features, such as trick

candles and a stuffed cow party host named Jesse, were mixed with typical expectations

of a birthday party. Twenty-four children, ages six through eight years old, attended the

party in pairs of two. The party and interviews were video taped and transcribed

verbatim. The children were interviewed one week and seven weeks after the event. In

both interviews, the children were first asked general, open-ended questions about the

party, followed by more specific probes to elicit information. If children did not volunteer

the information in response to increasingly specific open-ended questions, they were

asked leading/misleading questions requiring a yes or no answer, but only at the end of

the seven-week interview. Children reported more features overall to the non-participant

interviewer, and although the children were quite accurate in their reports, they were able

to recall fewer features during the seven week interview. Recall for atypical features did

not appear to prevail over the children's schema based expectations for what should

happen at a birthday party. However, recall for atypical violations was exceptional at the

open-ended level. Evidence that attention does not focus on atypical disruptions long

enough to be strongly encoded was indicated by high incidence of reporting incorrectly to leading and misleading questioning. Omissions were correctly recalled once an open-ended prompt was presented.
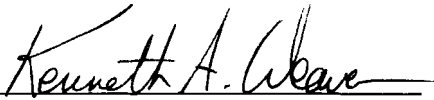
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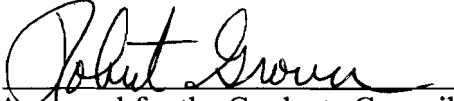
MEMORY FOR A UNIQUELY STAGED FAMILIAR EVENT

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A Thesis

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In Partial Fulfillment

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by

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CHAPTER 1

INTRODUCTION

The ability to produce accurate long-term recall is of critical importance when children are the only available witnesses to an event they saw or experienced, such as domestic, physical, or sexual abuse. Days, months, or years may transpire before the witnessed or experienced event is reported. A variety of people such as parents, court professionals, social workers, teachers, physicians, or psychologists may interview the child, trying to obtain the most complete and accurate account. However, this goal is not always achieved due to variations in the interviewing conditions (e.g., interviewer role), leading to tainted reports. The media is quick to expose cases in which children have falsely accused people of abusing them. Consequently, young children are rarely asked to provide eyewitness testimony in the courtroom.

Psychologists claim that both the interviewing conditions and time delay between the crime and retrieval have an impact on memory accuracy (Ornstein, Larus, & Clubb, 1991). Interviewing conditions include specific aspects of the interviewer (e.g., familiarity, personality, rapport) and the types of questions used to elicit recall. The interviewer can be someone familiar to the child, as in the case of parent, or can be a stranger, such as a social worker, clinician, or police officer. The interviewer may develop a rapport with the child or hold an authoritarian position over the child. The interviewer can be a co-participant or a non-participant. Similarly, the interviewer can use general questions or specific questions to obtain testimony. The amount of time that has passed between the crime and retrieval of the facts will also impact accuracy. Some statistics show that the police do not interview witnesses, on average, until three days after the crime, and in some cases, not for five to six days (Kapardis, 1997).

The main purpose of this study is to investigate how interviewer characteristics and

passage of time affect reporting accuracy in elementary school aged children. Of special interest are children's reports of a familiar event normally recognized for its expected, typical features but made unusual through atypical activities. One of the questions addressed in this research was, "Do children differentially provide information about a personal experience to interviewers according to whether the interviewer participated in the event?" The second question posed is, "Does the amount of information that children remember about a personal experience change over time?" This paper will begin with a description of memory processes, followed by a review of the literature on the relationship between knowledge and memory and on how interviewing conditions affect recall.

Memory Processes

Psychology offers numerous theories or models to explain episodic memory and semantic memory functioning as information processing. Episodic memory refers to one's memories for personal experiences, whereas semantic memory includes generalized information or facts about events (Tulving, 1972). Regardless of the specific theory, encoding, storage and retrieval are three major components of memory (Houston, 1991). In Atkinson and Shiffrin's (1968) information processing model, information is processed first through sensory memory (i.e., one's senses). Sensory memory acts as a receiver and transfers information to short-term memory. If information is perceived as important, it gets stored in long-term memory where it may be retrieved at a later time. Information from the experience is stored in long-term memory according to one of three groupings: specific details about your personal experiences is stored in episodic memory, general knowledge about events is stored in semantic memory, and how to perform tasks within the event is stored in procedural memory.

Ornstein, Larus, and Clubb (1991) modified the information processing model to incorporate developmental changes. They describe several factors that affect encoding,

storage, and retrieval processes. First, not everything that occurs in an event will become encoded in memory. Prior knowledge of details or items of interest influence what aspects of an event one attends to consciously and acts as a framework for encoding. When the sequence of actions in an episode is consistent, an event schema is formed and recall will be facilitated. Second, information in storage changes. It can become updated due to intervening experiences that may or may not fit with expectations in the general event representation. According to Nelson (1986), with each event episode, information is added to both the episodic and semantic stores. New information that is consistent with the general action sequence is connected to previously stored information in the general knowledge base and strengthens the event schema, whereas unique information is tagged and stored in the episodic store. Third, retrieval is not guaranteed. While some information cannot be retrieved due to encoding problems, information can also be forgotten because too much time has passed between encoding and retrieval. Schacter (1996) suggests that only a fraction of episodic memories are explicitly retrieved from storage.

Knowledge and Memory

Prior knowledge of events is one of the most powerful factors influencing the memory process. In particular, a child's knowledge or understanding of an event will influence what information is attended to and subsequently encoded, stored, and retrieved (Brainerd & Ornstein, 1991; Ornstein et al., 1991). Because knowledge serves as a mechanism for recall, understanding children's ability to construct and use event knowledge to form episodic memories is important.

Learning through cognitive recognition of past experiences leads to the formation of a general knowledge system. In particular, children gain a knowledge base through their daily experiences. Repeated experiences help children to construct a strong framework for what is expected to happen in a particular event (Fivush & Hudson, 1994; Hudson &

Shapiro, 1991; Nelson, 1986). This mental organization of general event knowledge, called an event schema, is made up of temporally and spatially sequenced actions (Nelson). According to Nelson, "generalized event representations dynamically organize recall by providing a framework of expectations to guide retrieval" (p. 103). Specifically, the structure of the event representation is general so that expectations formulated from one episode or from repeated episodes of the event are applicable to all episodes.

Children as young as 3 years organize general event knowledge into event schemas (Fivush & Slackman, 1986; Nelson, 1986; Nelson & Gruendel, 1986; Slackman, Hudson, & Fivush, 1986). These researchers showed that children give ordered and conventionalized reports of their general knowledge for routine events, such as birthday parties, grocery shopping, and baking cookies. For example, Study 1 reported by Nelson and Gruendel involved children ages 48 to 61 months who provided verbal reports of what happens in three types of eating situations—at school, at home, and at McDonalds. The results showed that nine acts were commonly mentioned for lunch at school and 63% of the children mentioned each of these actions. Similarly, 11 acts were reported by 82% of the children for McDonalds and 8 acts were mentioned by 75% of the children for dinner at home. An examination of the children's responses indicated that they agreed on which actions constituted these events. That is, the fact the children reported the same features demonstrated that they had formed general event representations of what is routine in that event. Thus, simply engaging in activities allows children to learn what to expect the next time the event is experienced.

Other studies by Nelson (1986) and her group explored changes in children's event representations with increases in experience. Nelson and Gruendel (1986, Study 2) compared reports by seven children who were new to a day care center to those by seven children who were returning from the previous year. One quantitative improvement in completeness of the report was that children gave longer accounts, with more actions

recalled in sequence. Fivush and Slackman (1986) examined development in knowledge reports by kindergartners as they learned what happens at school over a 10-week period. They found that although the structure of the report did not change, children's temporal organization became more complex (e.g., included more conditional statements) and the reported activities became more schematized (i.e., abstract). In addition, children's reports consisted of more component actions and there was a high level of commonality among children in the reporting of actions (e.g., minigym, lunch).

In recent investigations, Shapiro and her colleagues (Shapiro, Clubb, & Furtado, 1995; Shapiro & Waymire, 2001) studied nursery school and elementary school aged children's event knowledge of birthday parties and pediatric examinations. Half the children (verbal group) were taken to a lab room and asked to provide knowledge reports by simply telling what they knew. The other half (enactment group) was taken to rooms decorated as a doctor office and for a birthday party containing props and a doll that could be used to talk about these events. They reported that older children demonstrated a greater knowledge for birthday parties and for pediatric examinations than did younger children in three specific ways. First, the features they reported consisted of a greater number of elaborative details, for example, specifying the medical instrument used. The children in the enactment group had more information in their reports than those in the verbal group. Age did not matter because the older and younger children in the enactment group performed equally well, suggesting differences in reporting performance were due to verbal ability. Second, the features they reported were more consistent with those also judged always to occur. Finally, their conceptualization of typically performed medical procedures and birthday party activities was more similar to that of their parents. These findings were congruent with Nelson's (1978, 1986) work indicating that children's knowledge reports contain the most typical features of the event.

The relationship between knowledge and episodic memory is complex. From the first

experience, children represent the general aspects of the event in their semantic memory and the specific details of the experience in their episodic memory (Nelson, 1986). Because memory is parsimonious, 'one-time' experiences will be lost unless they are deemed important to the child (i.e., tagged within episodic memory). However, if the child has several similar experiences after the original one, the 'one-time' experience will be absorbed into the general knowledge base and attempts to report information about it will be reconstructive in nature (i.e., consist of the general schema plus a few unique aspects). Several investigators have indicated that young children were able to remember unique activities of a novel (one-time) event over long periods of time (e.g., Fivush & Hamond, 1990, Hudson & Fivush, 1991), but that recall was reconstructive and inferential with increasing time. Hudson and Nelson (1986) indicate that it is very difficult for children to remember a particular experience if they have had several similar ones, even when the event consisted of some unique or atypical features. For example, children may recall their first experience of going to McDonalds with grandma if they only went one time, but are more likely to provide a general report that includes typical features making it indistinguishable from other McDonald experiences if they have gone many times. Furthermore, if grandma died shortly thereafter, the child should recall a few unique aspects including that Grandma was there but would basically be reconstructing the main aspects of the event using his/her schema.

Psychologists have attempted to answer why children sometimes would have difficulty recalling specific (i.e., atypical) information about a unique experience when they had several common experiences afterward. Children's reliance on event schemas to form memories for new experiences can lead to the facilitation of recall (Nelson, 1986). Nelson's research showed that children focus on remembering routines as a way of making their world predictable. The result is that children will forget novel and unusual experiences (i.e., those that violate the expectations generated by the schema).

Congruent with this notion, some investigators report that recall for schema consistent (i.e., typical) information in events is better than for schema-inconsistent (atypical) information (e.g., Brewer & Treyens, 1981; Hudson & Nelson, 1986). Hudson and Nelson (1986, Study 2) compared knowledge and memory reports by three-, five- and seven-year-old children. They found that with increased familiarity with events, children's reports became more schematized (i.e., generic, including many typical features) and included few details or atypical features. Thus, children do recall both typical and atypical experiences, but without an objective record of what happened it is impossible to determine whether the accounts were of one experience, or were drawn from a series of events with highly similar features (i.e., repisodic or repeated aspects of a series of events) as it would seem, due to the generality of the memories reported.

Instead of using real-life experiences, some researchers have created stories with both typical (i.e., schema consistent, commonly occurring) and atypical features (i.e., schema inconsistent, novel or unexpected) features. Stories were used as the recall stimulus in order to have an objective record for understanding how these features differentially affected memory. Different types of atypical actions have been examined, some of which are important to the goal of the event and others that are not. For example, violations/obstacles set up problems that must be remedied in order for the event to proceed, whereas disruptions that only temporarily prevent progress would be irrelevant to the act sequence. Hudson (1988) read two stories, going to McDonald's and going grocery shopping, which contained six typical actions, six atypical goal irrelevant actions, and six atypical goal disruptive actions to preschoolers and first graders. Using the one-day delayed recall data, she found that children remembered the atypical goal disruptions more than both atypical goal irrelevant and typical actions. Davidson and Hoe (1993), who read stories about "going to the movies" to preschoolers and first graders, found that children's one day story recall was also better for atypical than for typical actions. In

addition, they reported that implausible, atypical actions were remembered better than plausible, atypical actions. Davidson and Hoe used the von Restorff or isolation effect to explain why atypical features were recalled well. They suggested that children's general knowledge of typical features may provide a homogenous, experiential background against which atypical features stand out. Thus, retrieval of a specific experience can be improved through the use of general knowledge developed through repetition of similar experiences (Ornstein, Shapiro, Clubb, Follmer, & Baker-Ward, 1997). This explanation, however, does not adequately explain why more typical than atypical features were reported when the to-be-remembered stimuli were from an experience rather than a story. This may be because the von Restorff effect was generated originally to explain adult recall data for another type of artificial stimuli, that of words.

Farrar and Goodman (1990) developed the schema confirmation-deployment hypothesis to explain why children's recall for unique events or for schema-inconsistent information was good sometimes and not other times. That is, they proposed a model using developmental concepts to explain that unexpected (i.e., atypical) features require more attention than scripted features for processing. When forming event knowledge, children initially focus on typical aspects of their experiences (i.e., routines) which Farrar and Goodman labeled schema confirmation. These common elements provide the foundation for the event schema. In contrast, once children are comfortable with an event, they are able to attend to and encode unusual or atypical aspects. Subsequently, these are incorporated into the event schema through a process called schema deployment. According to Farrar and Goodman's data, these changes are age-related. Unlike the four-year-olds, the seven-year-olds formed separate and distinct memories for routine (i.e., typical) and novel (i.e., atypical) experiences. Other researchers concur with these conclusions, indicating that young children's conceptualizations of events are not well developed, leading them to confuse novel (i.e., atypical) events with routine (i.e., typical)

events (Farrar & Goodman; Shapiro et al., 1995; Shapiro & Waymire, 2001). With age, children learn to differentiate these two types of episodes by tagging atypical experiences.

This developmental model does explain the aforementioned findings, in some cases better than others. When the event was novel or had only been experienced a few times, recall focused on typical features consistent with the schema confirmation phase (Farrar & Goodman, 1990). In contrast, when the event was familiar, even in story format, children recalled more atypical aspects than typical aspects because of the role of schema deployment (e.g., Davidson & Hoe, 1993; Hudson, 1988). Even Hudson and Nelson's (1986) findings that more typical than atypical information was recalled for routine (i.e., repeatedly experienced) events can be explained with this model which fits with Nelson's ideas about the economics of memory. Typical features were reported because memory was reconstructed using the event schema. Thus, rather than remembering each episode, the generic version was reported with some atypical features. Schema deployment allows the child to detect unique aspects, but what is reported depends more on interviewer prompts. Thus, in some cases the child will report more typical than atypical features, in other cases an equal amount or more atypical than typical features will be given. In contrast, it may be that when the child initiates the conversation, that more atypical than typical aspects will be reported. Hudson and Shapiro (1991) support this notion because reports of personal experiences by children in their study, elicited by experimenters through the use of specific prompts, were not as coherent as those volunteered by children in other studies. It is unclear whether the schema confirmation-deployment model can be used to explain the data from studies examining novel experiences (i.e., Fivush & Hamond, 1990; Fivush, Hudson, & Nelson, 1984) because the researchers focused on total recall and did not compare typical and atypical features.

Prior knowledge can function to enhance or deter memory accuracy. One way to

understand the specific contribution of prior knowledge on recall is to compare normative and recall data on the same event. Ornstein et al. (1997) reanalyzed five-year-olds' recall protocols using five-year-olds' knowledge for pediatric examination to determine the proportion of children who recalled each component in response to open-ended questions. The memorability of the pediatric examination components varied widely. For example, 64% of the children in the knowledge group reported shots as a typical component of examinations and this feature was recalled by 76% of the children in the memory group initially. In contrast, only 10% of the children in the memory group recalled having their feet checked, even though 32% of the children in the knowledge group included this feature in their reports. Shapiro et al. (reported in Ornstein et al.) reclassified knowledge features into scripted/typical and non-scripted/atypical features. They found that children recalled more of the scripted than non-scripted components of the examination at each of the four assessment periods (immediate, one week, three weeks, six weeks). Consistent with Nelson (1986), scripted items were recalled more consistently than non-scripted items over time.

Although prior knowledge can support memory, it can also hinder recall accuracy (Hudson & Shapiro, 1991; Nelson, 1986). First, inaccuracy may occur because the child fills in memory gaps using event schemas to reconstruct the event (Ceci & Bruck, 1995; Ornstein et al., 1991). Second, when children experience several similar episodes, it may be very difficult to reconstruct a specific instance accurately. Neisser (2000) found that John Dean reported "repisodic" memories when giving testimony during Watergate. That is, rather than reporting a particular episode, he related a repetition which consisted of common characteristics of a whole series of events. Hudson (1986) explored 5- and 7-year-olds' ability to report events they had experienced once, two to five times, and more than five times. The results showed that the more familiar the child was with an experience, the stronger schematizations were in memory. Furthermore, when an event

was experienced often, fewer details were remembered, thus a general knowledge of the event, rather than details, became more important. In this way, additional experiences with the same event lead to recall inaccuracy because information about a specific experience is not accessible or becomes lost.

The Role of Interview Context on Recall

Children are asked to provide reports about their experiences by a number of different people, inside and outside of the laboratory. Humankind records history, through memory of personal stories which define individual identity and serve to entertain and gain a shared sense of community (Nelson, 1993). A review of the literature indicates that under optimal interview conditions, children's reports of past experiences are quite good (Ornstein et al., 1997). Various characteristics of the interview situation, however, affect the amount and accuracy of information recalled (Nelson). The interviewer plays an important role in that the person's status or relationship to the child will contribute to the social demands or expectations the child will have during the interview (Ceci & Bruck, 1993, 1995; Christianson, 1997). Christianson indicated that stress during retrieval, such as being interrogated by an unfamiliar person, will impair recall. That is, the memory report will be jeopardized if children are uncomfortable in the interview situation. This may occur when they perceive the adult as authoritarian, particularly when rapport has not been established or when the adult pressures the child to comply with misleading suggestions (Bruck & Ceci, 1995). Interviewer status also refers to whether or not the person asking the child about the experience is someone who participated in the event. For example, the interviewer may be a co-participant in the event, such as a parent who is interested in the child's perspective of the experience and wants to find out whether the child is capable of this social task of relating their experiences to others. In other cases, the interviewer is someone who was not present, such as a grandparent who is willing to

endure the story just as a way of connecting with the child or an experimenter who is assessing children's ability to recall information.

The question that has been raised among psychologists is whether children provide more information to participants than to non-participants who do not have the facts about what happened. Children as young as four years are capable of adjusting their narratives to the audience's needs (Menig-Peterson, 1975) and providing different information about an experience depending on their relationship to the interviewer (Fivush & Hamond, 1990). Many of the studies that explored how the interviewer role affected children's recall compared interviews by parents versus experimenters. Fivush and Hamond asked 2.5 year-old children to recall novel experiences, such as airplane rides and trips to the circus. In the first interview the children were questioned by their mothers and in the second interview, conducted six weeks later, the children were questioned by a female experimenter. Children responded differently to the types of questions posed by their mothers than by experimenters. Mothers asked specific questions in their efforts to force the children to recall particular information regarded by mothers as interesting or worthwhile to discuss, whereas experimenters asked open-ended questions. The experiment showed that the children adjusted their reports by providing new and different information to the non-participant experimenter. Of importance was that the mothers of the children confirmed that this new and different information was indeed accurate.

One problem with comparing a parent to an experimenter is that two factors are varied at the same time—familiarity and participation status. That is, parents obviously are familiar to the child and they were also participants in the events, whereas experimenters are strangers to the child and they were also non-participants in the events. To ascertain the interviewer role on recall in a non-confounding way, recent research has focused on using the same or different people across two or more interview sessions, all of whom were non-participants (Bjorklund et al., 2000; Purdy, 2001; Quas, Goodman,

Schaaf, & Luenberger, 1997). Some researchers have reported that children's memory reports were enhanced when interviewed by the same person across sessions (Bjorklund et al.; Quas et al.). For example, Bjorklund et al. investigated the effects of using the same versus different interviewers in questioning five- through seven-year-old children about a videotaped bicycle theft. Two days after an initial interview, a second interview was conducted. Half of the participants were interviewed by the same person and half were questioned by a person who did not conduct the first interview. The same free recall probes and recognition choices were used in all of the interviews. Bjorklund et al. reported that having a different interviewer resulted in more errors than having the same interviewer, even when the person used suggestive questions. In contrast, Purdy found that more errors were made when children ages five to eight years were questioned suggestively by the same interviewer than by a different interviewer. One reason for this discrepancy is that unlike Bjorklund's study, children in Purdy's study were forced to comply with suggestions.

Another aspect of the interview condition that influences recall is the type of questions that are asked. Interviewers should use general open-ended questions (i.e., questions addressing a general topic without implied meaning) or non-leading questions (i.e., questions that refocus on the topic but do not provide specific information regarding correctness) rather than leading and misleading questions (i.e., questions that provide specific information and require a yes or no answers) to elicit memory (Geiselman & Fisher, 1997). For example, asking a child, "Tell me what happened yesterday when you went home after school," is better than, "Did you watch "Discovery Channel" after school yesterday?" The first prompt provides the child with an opportunity to compose a response using the actual experience, whereas the second may entice the child to comply with the interviewer's perceived ideas about what happened, even though it did not.

Cassel, Roebers, and Bjorklund (1996) used a videotaped theft as the stimulus in their

study investigating kindergarten, second grade, and fourth grade children's response to different types of questions. Their experiment showed that asking open-ended questions elicited the most accurate information, whereas specific, misleading questions produced the most errors from the youngest children. Burgwyn-Bailes, Baker-Ward, Gordon, and Ornstein (2001) found that even in stressful situations, in their study it was minor medical emergency sutures for facial lacerations on three- to seven-year-olds, open-ended questions produced accurate recall. Goodman and Quas (1997) investigated children's recall for an extremely stressful, and sometimes painful, experience. Children who underwent an invasive diagnostic test known as voiding cystourethrogram fluoroscopy (VCUG), which is used to identify possible causes of various urinary infections and problems such as enuresis, were questioned about their experience. The interviewer used free-recall questions, which were followed by open-ended questions. In contrast to the Burgwyn-Bailes et al. study, no significant findings relating to age difference were detected when free-recall or open-ended questions were employed. To summarize, the specificity level of the questions used to elicit recall has an impact on children's responses such that open-ended questions yield the most accurate, if not the most complete report of their experience.

As indicated in the previous paragraph, researchers have used a variety of event topics to explore children's memory, some of which involved arousal of negative emotions. Strong arousal or stress during the encoding phase has been shown to enhance long-term recall of the to-be-remembered event, particularly central and critical aspects, but arousal at retrieval impairs accessibility to event information (Christianson, 1997). To relate research in the laboratory to that of the real world as in forensic situations, it is necessary to understand what the witness recalls of the event. Ornstein et al., 1997 reported that a study examining children's recall for the VCUG medical procedure found memory performance was very good because of the stress aspect. Heuer (1987) argues

that retrieval for details in emotional events center around the causes for the emotions, such as the cognitive processes of thinking, feeling, reacting that the central character engages in. This would allow the person to focus the narrative account on the central aspects of the emotional experience and promote elaborative rehearsal leading to enhanced recall. This notion suggests that experiencing arousal, whether for positive or negative emotions, allows memory of central features to remain accessible.

Finally, the amount of time between the experience and the retrieval of the event also has an impact on recall accuracy and completeness. In general, as the length of the delay interval increases, the amount and veracity of children's total recall decreases (Baker-Ward, Gordon, Ornstein, Larus, & Clubb, 1993; Brainerd & Ornstein, 1991; Cassel & Bjorklund, 1995; Fivush et al., 1984). Baker-Ward et al. examined three-, five-, and seven-year-olds' long-term memory for a routine medical examination. Interviews were conducted immediately and again either at one-, three-, or six-week intervals. Initially, seven-year-olds reported 60% of their checkup features in response to open-ended questions, whereas five-year-olds reported 40% of their checkup features. Subsequent reports at one to six weeks using open-ended prompts consisted of 50% to 60% of the checkup features for seven-year-olds and 30% to 40% for five-year-olds. When information provided through specific probes at six weeks was considered, seven-year-old children reported approximately 90% of the examination features and five-year-old children reported 75%.

Cassel and Bjorklund (1995) found that children ages 6 and 8 years need specific cues to elicit recall for a filmed bicycle theft after delays of one week and of one month. Although correct free recall was stable across the one-month period, free recall in both delay interviews was lower than total recall in the initial interview, demonstrating forgetting occurred. Investigations using even longer delays between the event and its recall suggest that without the opportunity to rehearse information, recall fades rapidly

(Dow & Ellis, 1998; Ornstein et al., 1998). Dow and Ellis reported that preschoolers' memory at nine months was better for witnessed events that were discussed with parents than for events that were not discussed. Other research has shown that although kindergarten children lost some memory for details of a novel event (i.e., trip to the archeology museum) when questioned immediately, six weeks, one year, and six years later, their reports were still specific with surprising accuracy (Fivush et al., 1984; Hudson & Fivush, 1991). At the longer periods, 87 % of the children could recall details (e.g., digging in sand, finding artifacts) with the aid of cues, whereas no one remembered the event without cues. Hudson and Fivush concluded that "forgetting in autobiographic memory seems to involve three processes: decreases in amount recalled, changes in accessibility, and changes in memory content" (p. 347).

Current Investigation

Although a variety of interview conditions clearly affect recall accuracy, this study focused on interviewer role and time. Unlike past research, the current investigation does not examine recall elicited by a parent who is familiar to the child and who has participated in the event, and is not being compared to recall elicited by a non-familiar stranger who has not participated in the event. Experimenters followed specific instruction sets when interviewing children, whereas parents do not. A comparison is also not made of recall elicited by the same versus different interviewers across sessions. Instead, initial familiarity was held constant (i.e., always non-familiar) and only participation was manipulated (i.e., person either did or did not partake in the event that the child is asked to recall).

The amount of time between an experienced event and retrieval also has an impact on recall accuracy and completion. In general, as the length of the delay interval increases, the amount and accuracy of children's recall decreases. For elementary school children,

recall is still good at about a 6-week delay (e.g., Baker-Ward et al., 1993) so to examine forgetting, this study used a 7-week delay.

Research findings have been inconsistent in terms of which type of feature is recalled better, typical or atypical. This may be due to variations in the type of event used, such as typical pediatric checkups and unique medical visits (e.g., VCUG), and how the event was presented, such as through stories or by experience. An experimental setting to facilitate determination of which type of features were remembered better was created by an unusual birthday party setting. The combined use of atypical and typical features offered an opportunity to observe how knowledge enhances or impedes children's recall for salient details of a familiar event. If atypical features were not used, it would have been difficult to determine whether the child was recalling the particular experience given by the experimenter or another experience. Additionally, manipulating certain features, such as who the birthday host is, made it easier for the child to distinguish this party from other parties.

Children were given a birthday party experience to determine how interviewer role and time delay affect recall accuracy. A birthday party was selected as the event because the activities are centered around children, making it a highly enjoyable (positive affect) event (Nelson & Gruendel, 1986). Birthday parties, which are infrequently experienced, consist of a number of essential features that can be temporally sequenced in various ways. Past studies have used event topics of different emotionality, including neutral, negative, and positive. The current study was interested in examining how recall is affected by positive emotionality. Previous research on events of negative emotionality showed heightened recall when stress or arousal was not too high (Christianson, 1997). A preliminary assessment of knowledge for birthday parties by a separate group of children ages 6 to 8 years yielded 20 features. Four features were classified as low knowledge items as they were nominated by 0% to 19% of the children (i.e., sing happy

birthday, take photographs, receive prizes, and blow out candles). Six features were considered to be moderate knowledge items reported by 31% to 50% of the children (i.e., lunch, get ready, wear hats, get party bags, decorations, and invitations). The final 10 items were considered high knowledge items included in 63% to 100% of the children's reports (i.e., serve cake, eat cake, theme, birthday child, bring presents, open presents, clothes worn, arrive, play, and end).

Most children ages 6 to 8 years have experienced several birthday parties and have a general idea of what usually happens that coincides with an adult's conceptualization (Shapiro et al., 1995). To make the stimulus memorable, it was manipulated such that it was composed of 20 features—half of which were typical and the other half were atypical (see Table 1). There were three types of atypical features: violations—features incongruent with what is expected to happen, omissions—features that did not occur, and disruptions—features occurring after a time delay. In some cases, one person gave the party and a different person served as the interviewer, whereas in other cases the same person who gave the party also served as the interviewer. To investigate the effect of time on recall accuracy, interviews were scheduled one week and seven weeks after the birthday party.

Hypotheses

The first question this study addressed was, "Do children differentially provide information about a personal experience to interviewers according to whether the interviewer participated in the event?" Hypothesis 1 predicted that children would provide more complete and elaborate reports to the non-participant interviewer than to the participant interviewer. The rationale was that children will assume if the person was present for the event, then the person would already know what happened and therefore would not need as much information.

Table 1

List of Typical and Atypical Birthday Party Features

Typical Features	Atypical Features	Atypical Type
Get Ready	Party for a Stuffed Cow, Jesse	Violation
Invitations	Cow Costumes Provided	Violation
Arrival at Party	Jesse's Daddy's Real Hats Worn	Violation
Decorations	Sang "Old MacDonald's Farm"	Violation
Pictures Taken	No Lunch Served	Omission
Activities	No Present Brought	Omission
Get Party Bags	No Presents Opened	Omission
Cake was Eaten	Cupcakes Smashed	Disruption
Candles on Cake	Trick Candles Would Not Go Out	Disruption
End of Party	Bag of Prizes Temporarily Lost	Disruption

The second question addressed in this study was, "Did the amount of accurate information that children remembered about a personal experience change over time?" Hypothesis 2 predicted that children's reports would contain fewer features and elaborations over time. The main reason for this expectation is that forgetting occurs as time passes. The information available was expected to be accurate because the children were asked open-ended questions, which have been shown to elicit accurate long-term retention in elementary school age children.

The third question this study addressed was, "Which type of features, typical or atypical, will children recall better?" Hypothesis 3 predicted that children would recall typical features better than atypical features immediately and after a delay. Consistent with the schema confirmation-deployment hypothesis, children would rely on their strong event schema for a birthday party during reconstruction.

The fourth question addressed was, "Do children differentially recall various types of atypical features after a long delay?" Hypothesis 4 predicted that violations would be remembered better than omissions and disruptions. This is because violations are incongruent with the children's expectations for all types of birthday parties. However, omissions, such as 'presents' would not be inconsistent with expectations for birthday parties held in the classroom and disruptions only cause temporary obstacles to fulfilling expected goals. Therefore, the interviewer would have needed to use more specific prompts to elicit omissions and disruptions as compared to violations.

CHAPTER 2

METHOD

Participants

This study utilized a subset of 1995 archival data from a large study conducted in North Carolina investigating how preschool and early elementary school aged children update event knowledge and how memory for a personal experience changes over time. In this study, 24 predominantly white, lower-class to middle-class, elementary school children served as participants. An equal number of boys and girls, ages six through eight years were recruited from private day care centers and nursery schools and from public elementary schools in central North Carolina. Their parents provided written informed consent and the children verbally consented to participation.

Design

The design of this study was a 2 (Interviewer role: participant interviewer vs. non-participant interviewer) x 2 (Time delay: one week vs. seven weeks) with interviewer role as the between-subjects factor and time delay as the within-subjects factor. There were two groups of 12 children, all of whom were questioned at one and seven week delay intervals. In one group the interviewer was the person present at the event (participant interviewer), whereas for the other group, the interviewer was not present at the event (non-participant interviewer).

Materials

Stimulus. A birthday party, for a stuffed cow named Jesse, consisted of a mixture of 10 typical features and 10 atypical features. Table 1 shows the list of both types of features (Table 1). There were three types of atypical features: (a) disruptions, which were features that occurred after a brief delay (e.g., cupcakes are smashed and must be replaced), (b) omissions, which were features that should have occurred, but did not (e.g., no gifts were brought to the party), and (c) violations, which were features that were

incongruent with expectations (e.g., guests sing the cow verse of "Old MacDonald Had A Farm" instead of "Happy Birthday").

Memory interviews. Appendix A contains the complete memory interviews. The one-week and seven-week delay interviews consisted of hierarchically organized questions, beginning with general, open-ended questions (e.g., "What happened at Jesse's birthday party?"), followed by temporally organized, open-ended questions (e.g., "What is the first thing that happened?"), and then, only when the child previously volunteered a vague reference (e.g., "We ate.") non-leading, but specific questions were used (e.g., "What did the children eat at the party?"). However, at the end of the seven-week delay interview, additional questions were added. This 'special' interview consisted of a set of 10 non-leading questions corresponding to the 10 atypical features, followed, when necessary to elicit a response, by leading and misleading questions (i.e., "Were the cupcakes burned?" or "Were the cupcakes smashed?"

Procedure

The 24 children participated in groups of two in a fifteen minute long birthday party that contained several unique features to make it memorable, including a stuffed cow named Jesse as the party host. The party was standardized through use of an experimenter script (Appendix B) that was followed rigorously by party leaders. All of the children were interviewed one week and seven weeks after the party by either a participant interviewer or by a non-participant interviewer. The unique birthday party and all interviews were video tape-recorded and transcribed verbatim.

Scoring

A coding manual (Appendix C) was developed for this study to obtain a measure of completeness (i.e., total number of features) and elaboration (i.e., amount of detail). Each protocol was examined for the level of prompt, either open-ended or leading/misleading, needed to obtain accurate and inaccurate responses. First, responses corresponding to the 20 features were assigned one of three codes: a partial response in which some

information, often a detail, was given (worth one point), a complete response in which specified information was given (worth two points), and an elaborated response in which both specified information and at least one detail was given (worth three points). For example, the feature of children's clothes received a partial accurate code if the child said, "We wore nice clothes," a complete accurate code for saying, "We wore cow costumes," and an elaborated accurate code for saying, "We wore white cow suits with black spots." The amount of accurate (inaccurate) details provided was calculated by summing the total points across the 20 features. Second, protocols were coded for the presence or absence of each feature. Only responses at the complete or elaborate level were included and tallied into accurate or inaccurate total number of features. Third, responses elicited using both open-ended (including non-leading) and leading/misleading prompts in the seven-week interview corresponding to the 10 atypical features were examined. If the feature was present, determination was made as to whether or not it was accurate and the level of prompt needed to elicited a complete response was assigned. A tally of the number of features not present was also made. Because the number of violations possible differed from the number of omissions and of disruptions possible, proportions were calculated using the total number of a particular atypical feature divided by the total number possible. For example, if a child accurately reported two violations and inaccurately reported one, then the proportion would be .50 for accurate and .25 for inaccurate.

CHAPTER 3

RESULTS

Completeness and Elaboration of Memory Reports

There were four analyses used to test the first two hypotheses posed in this research. The first two analyses examined completeness of memory reports for accurate and inaccurate information. A 2 (Interviewer role: Participant or Non-participant) x 2 (Time delay: one week and seven weeks) mixed model analysis of variance (ANOVA) was conducted using the total number of features accurately recalled. Interviewer role effect was significant, $F(1, 22) = 6.80, p < .02$, showing that children reported more features to the non-participant interviewer ($M = 9.98, SD = 2.53$) than to the participant interviewer ($M = 7.54, SD = 1.64$). There were also significant time effects, $F(1, 22) = 8.02, p < .01$, showing that children remembered fewer features in the seven week interview ($M = 8.08, SD = 2.54$) than in the one week interview ($M = 9.08, SD = 2.15$). The interaction was not significant. A second 2 (Interviewer role: Participant or Non-participant) x 2 (Time delay: one week and seven weeks) mixed model ANOVA was conducted using the total number of features inaccurately recalled. There were no significant main effects or interactions. On average, children inaccurately recalled .92 out of 20 features at both the one week ($SD = .78$) and seven week ($SD = .93$) interviews.

The next two analyses examined elaboration in the memory reports, whether accurate or inaccurate. A 2 (Interviewer role: Participant or Non-participant) x 2 (Time delay: one week and seven weeks) mixed model ANOVA was conducted using the amount of details accurately recalled. Only interviewer role was significant, $F(1, 22) = 9.98, p < .01$. Children provided more details in their reports for the non-participant interviewer ($M = 27.08, SD = 1.27$) than for the participant interviewer ($M = 1.42, SD = 1.27$). A second 2 (Interviewer role: Participant or Non-participant) x 2 (Time delay: one week and seven

weeks) mixed model ANOVA was conducted using the amount of details inaccurately recalled. Again, there were no significant main effects or interactions.

To summarize, the findings from the total number of features and from the amount of details addressed the first question, "Do children differentially provide information about a personal experience to interviewers according to whether the person participated in the event?" Clearly, interviewer role had an impact on both the completeness and the elaboration of the memory report, but only for accurate information. Therefore, Hypothesis 1 indicating that children would remember more features and provided more details of the birthday party to the non-participant interviewer than to the participant interviewer was confirmed. Additionally, the results addressed the second question, "Did the amount of accurate information that children remembered about a personal experience change over time?" Hypothesis 2 stating that the completeness and elaboration of children's memory reports would decline over time was only partially supported because elaboration did not vary.

Type of Features Recalled

The next set of analyses focused on the type of features accurately recalled. No analysis was conducted for inaccurate information because children rarely provided any inaccurate responses. Therefore, the first analysis addressed the third question in this study, "Which type of features, typical or atypical, will children recall better?" A 2 (Interviewer role) x 2 (Time delay) x 2 (Feature: atypical and typical) mixed model ANOVA was conducted to examine whether children remembered more typical than atypical features. Although time effects were found, they were consistent with previous analyses indicating that children recalled fewer features in general over time. The effects of feature and of interviewer role were interpreted within the significant interaction Feature x Interviewer role, $F(1, 22) = 9.54, p < .01$. The Greenhouse-Geisser correction was applied to this interaction, and it was still significant. To determine which means

were significantly different, *t* tests were performed ($p < .05$). As shown in Figure 1, fewer atypical features ($M = 2.92$, $SD = 1.17$) were recalled than typical features ($M = 5.67$, $SD = .98$) for both interviewers. A higher number of typical features were reported to the non-participant interviewer than to the participant interviewer. There was support for Hypothesis 3 that children would report typical features better than atypical features, although the number of typical features reported was mediated by interviewer role. This latter effect was probably an artifact given that children provided more information in general to the non-participant than to the participant interviewer.

The second and third analyses had a dual purpose. They served as part of a manipulation check to determine whether or not children had encoded the ten atypical features initially. They also addressed the fourth question, "Do children differentially recall various types of atypical features after a long delay? To examine accurate and inaccurate recall, two separate 2 (Interviewer role) x 2 (Prompt: open-ended or leading/misleading) x 3 (Atypical features: omissions and violations and disruptions) mixed model ANOVAs were conducted using the proportion of atypical features. Table 2 shows the mean number of children who provided accurate and inaccurate recall of each type of atypical feature by prompt. The significant prompt and atypical features effects were interpreted within the significant interaction Prompt x Atypical features, $F(2, 44) = 13.06, p < .01$, for accurate responses. As shown in Figure 2, the children differentially reported atypical features in response to an open-ended prompt: a higher proportion of violations were given than omissions, and in turn, a higher proportion of omissions than disruptions were provided. In contrast, the use of leading/misleading prompts were rarely required for children to recognize violations, but were important for recognizing omissions and disruptions. That is, children recognized a higher proportion of omissions than disruptions and violations, and a higher proportion of disruptions than violations. Children were able to recall a higher proportion of omissions and violations with

Figure 1

Mean Number of Typical and Atypical Features Recalled by Interviewer Role
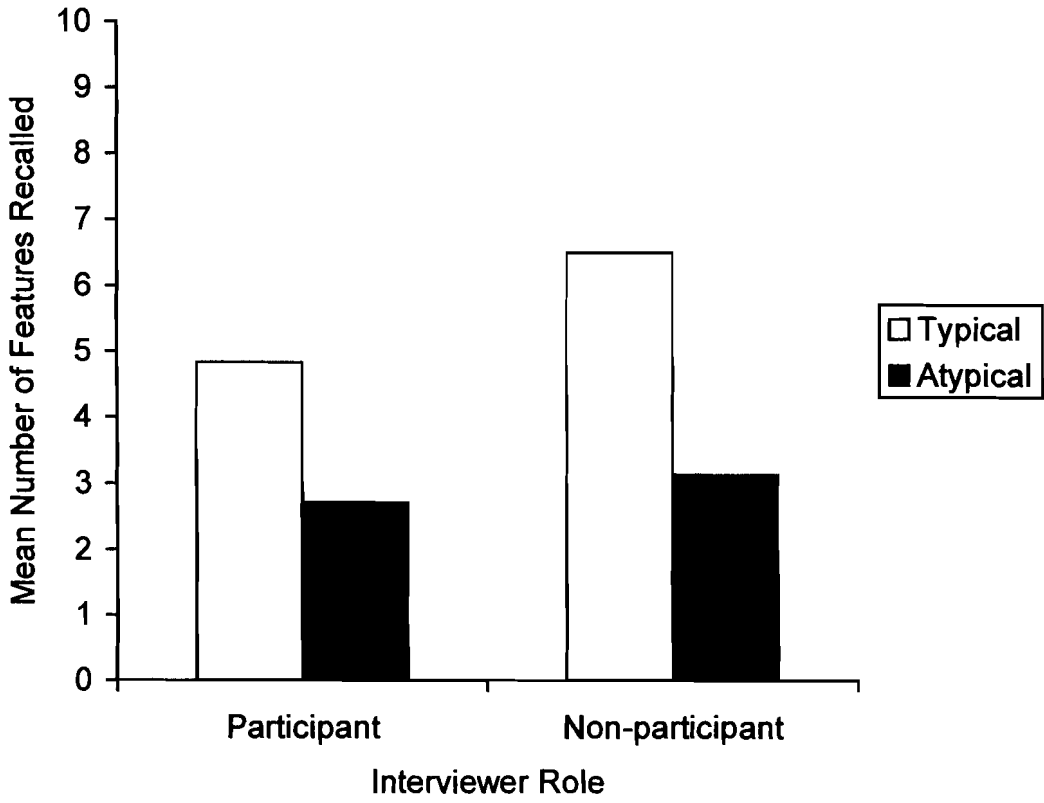
Table 2

Number of Children Who Reported Types of Atypical features by Prompt

Atypical Feature	Present				Absent
	Accurate		Inaccurate		
	OE	LQ	OE	LQ	
Violations					
Birthday Child	23	0	0	0	1
Cow Costume	24	0	0	0	0
Wear Hats	22	2	0	0	0
Birthday Song	6	1	15	0	2
Omissions					
Bring Presents	16	5	2	1	0
Open Presents	17	0	4	2	1
Lunch	8	14	0	0	2
Disruptions					
Smashed Cake	12	6	3	2	1
Dip Candles	6	9	1	7	1
Prizes Lost	3	0	8	11	2

Figure 2

Proportion of Each Type of Atypical Accurately-Recalled Features by Prompt
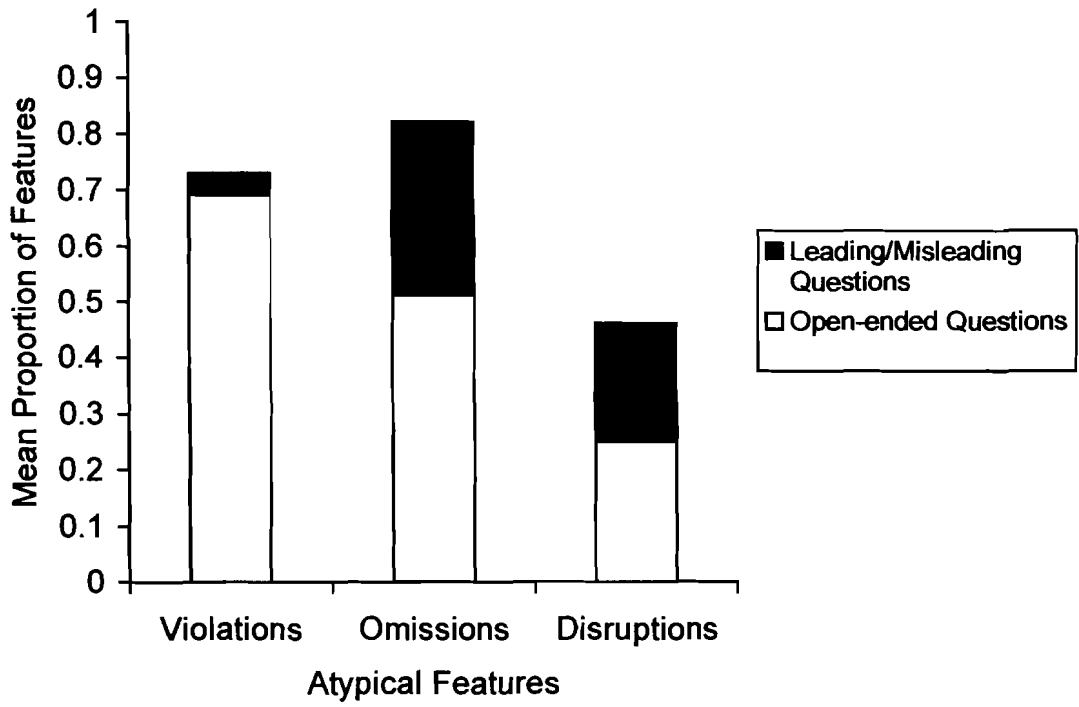
open-ended prompts than with leading/misleading prompts, however there was no difference for disruptions.

A similar pattern of results was found for the inaccurate recall of atypical features by prompt and atypical feature effects interpreted within the significant Prompt x Atypical features, $F(2, 44) = 88.30, p < .01$. As shown in Figure 3, children inaccurately recalled a higher proportion of violations than omissions or disruptions using open-ended prompts, but inaccurately recognized a higher proportion of disruptions than omissions or violations using leading/misleading prompts. Clearly, children were more likely to volunteer incorrect information than to acquiesce to a misleading question when it came to violations, whereas they were more likely to fail to acquiesce to leading questions than to volunteer incorrect information. Table 2 reconfirms this interpretation. The pattern for violations was predominantly the result of children confabulating that "Happy Birthday" was sung with the cake, when it was not. In contrast, the table also shows that several children failed to recognize that the prize bag was lost and that the candles were dipped in water to extinguish. These findings supported Hypothesis 4, which predicted that children would accurately recall violations better than omissions and disruptions, and that recall for the latter two would require more specific prompts than would violations.

Figure 3

Proportion of Each Type of Atypical Inaccurately-Recalled Features by Prompt
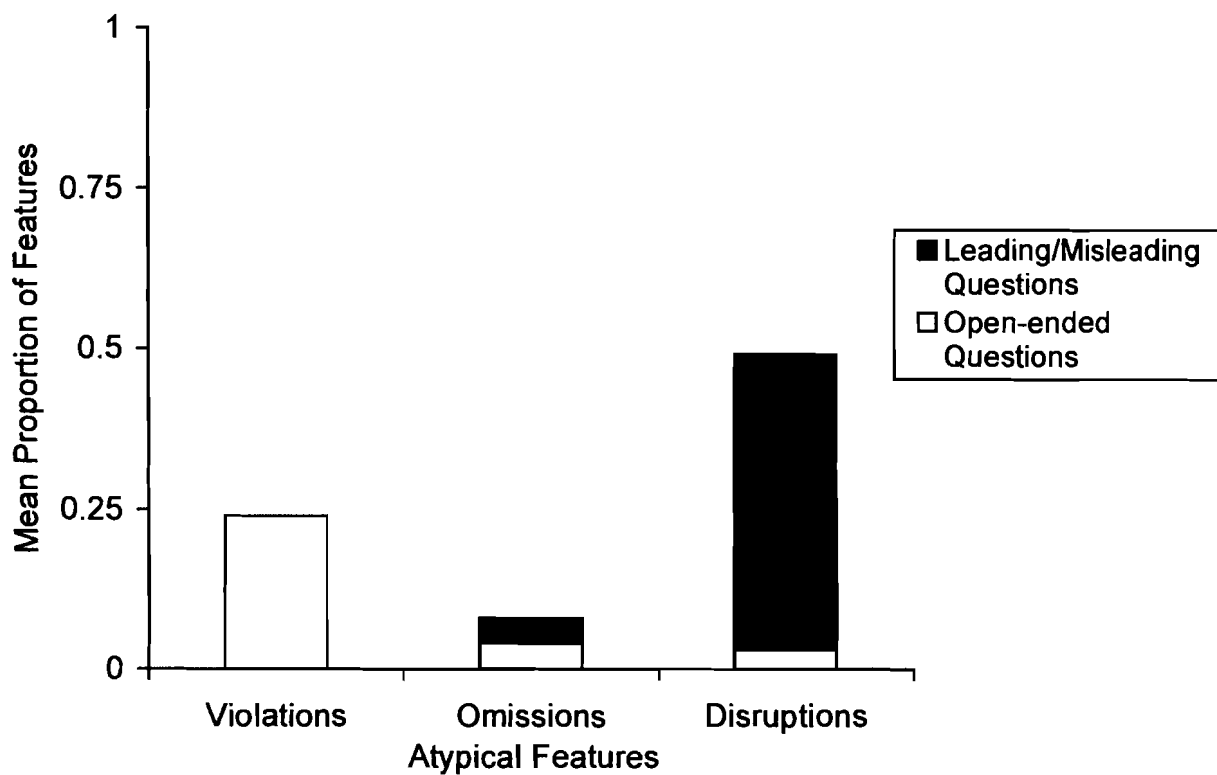
CHAPTER 4

DISCUSSION

The purpose of the present study was to investigate the effects of interviewer role on completeness and elaboration on school aged children's recall and how prior knowledge of what is usually expected to occur during a familiar event affects their ability to produce long-term recall. Specifically, this study investigated accuracy, interactions between interviewer roles, time delay, types of atypical experiences embedded in an event (i.e., violations, omissions, and disruptions), and question types (i.e., open-ended prompts and leading/misleading prompts).

The first question posed in this study was, "Do children differentially provide information about a personal experience to interviewers according to whether the interviewer participated in the event?" Hypothesis 1 predicting that children would provide more complete and elaborate reports to the non-participant interviewer than to the participant interviewer was confirmed. Thus, like past research (e.g., Fivush & Hamond, 1990), children tailored their report to the audience (Menig-Peterson, 1975) by providing additional information to the person who did not know what happened in the event. The role of a clinician or lawyer or social worker is to learn what happened to a child and often there is not an objective record of the event. This study showed that children are cognizant that non-participants may need to know more information than would participants.

A second question was, "Did the amount of accurate information that children remembered about a personal experience change over time?" Hypothesis 2 predicting that children's reports would contain fewer features and details over time was partially confirmed. Forgetting did occur in terms of completeness, but not elaboration. Because open-ended questions were used primarily to elicit recall, accuracy was maintained (Cassel et al., 1996; Purdy, 2001). This suggests that children ages six to eight can

produce complete and elaborate reports in response to open-ended prompts, even if overall recall faded after seven weeks. It is important to investigate when forgetting occurs because investigations and subsequent court proceedings are often lengthy. Thus, these findings are encouraging because they showed that reports were accurate across a long delay.

The third question addressed was, "Which type of features, typical or atypical, will children recall better?" Hypothesis 3 predicted that children would recall typical features better than atypical features because the children would rely heavily on their strong event schema for birthday parties during the reconstruction. Support for this hypothesis was found in research showing that children's knowledge reports contain the most typical features of the event (Hudson & Nelson, 1986, Study 2). This conclusion is supported by Ornstein et al.'s, (1991) explanation that prior knowledge is an important factor in the encoding process and development of event schemas because it facilitates recall of consistent (typical) information as opposed to non-consistent (atypical) information. The findings are consistent with Farrar and Goodman's (1990) schema confirmation-deployment hypothesis. That is, children provided mainly typical information which would be predicted by schema-confirmation. However, children's ability to report some atypical features suggests that the six- to eight-year-olds in this study were in the transitional phase of development in which schema-deployment may have just begun to be activated.

The fourth question was "Do children differentially recall various types of atypical features after a long delay?" This question was posed to determine whether or not children had encoded the ten atypical features initially. Hypothesis 4 predicting that violations, which were incongruent with expectations thereby making them salient, would be remembered better than omissions and disruptions was confirmed. Although violations were well remembered overall, children confabulated one of the violations, specifically that Old MacDonald's Farm was sung with the cake. In response to open-

ended prompts, many of the children incorrectly reported that Happy Birthday was sung.

Additionally, after seven weeks specific memory cues were necessary to elicit omissions

and disruptions. The omissions were elicited mainly with non-leading prompts, but the

leading/misleading prompts were needed to elicit disruptions. The omissions used in this

study, presents and lunch, were not features expected when celebrating a birthday party at

school. Thus, for example, lunch was not mentioned until children were specifically

asked about it but it was accurately recalled as missing. In contrast, two of the

disruptions—losing the prize bag and dipping the candles in the water—resulted in

memory errors due to not recognizing (i.e., missed) that these features occurred when

leading prompts were used. This finding was predictable due to the fact that these

features only lasted briefly, such as when they were told that the prizes were misplaced,

but then children received their trinkets soon afterward. The disruption most well-

remembered, the smashed cupcakes, was not resolved quickly and had a more immediate

impact because the cupcakes were shown to them and then removed.

Conclusions

A potential confound was that the same person did not interview all of the children in

both groups. It would be less important that the same person lead the parties than

conduct the interviews because research has shown that interviewer role strongly

influences the amount of information children report. In the current study, the

experimenter led all of the birthday parties and interview sessions for the participant

interview group, whereas she served as party leader for half of the children and as

interviewer for the other half in the non-participant group.

This study examined how non-familiar interviewers elicited different amounts of

information from children because they did or did not participate in the to-be-

remembered event. Because parents are more typically the ones interviewing their

children about personal experiences, future researchers should compare how familiar

interviewers who either did or did not participate in the to-be-remembered event affect

the amount of information recalled. Another suggestion is that investigators study different delay periods longer than 7 weeks to test if forgetting is increased or if recall is further reduced. Finally, it is important to examine how children remember experiences containing other types of atypical features, perhaps those that are plausible or implausible.

In conclusion, this study was unique in that a comparison was made for recall by children interviewed by a non-familiar person who either participated or did not participate in the to-be-remembered event. Additionally, the findings showed that children could produce accurate reports that were both complete and elaborate over time. The type of information that children reported consisted mainly of typical features, although atypical features that violated expectations were also well recalled. This finding suggests that children's recall is reliant on their event schemas which help the child to focus on aspects of the experience that are either consistent or not consistent with what typically happens.

Findings such as these not only provide possible explanations to the scientific community, they provide insight for clinicians who diagnose and conduct therapy or assist in forensic investigations. Children are often perceived as not being skillful in their ability to understand and describe the events that take place in their world. A broad continuum of interview techniques is available, but they do not all elicit the most complete and detailed information. Professionals motivated from adult perspectives need to know not only how to approach children, but who should approach children in such a way that complete reports will be collected. This study offers evidence to support the idea that the deficits may lie in the professional's ability to collect information more than in the children's ability to report information.

Children's reliance on event schemas can be generalized to address the needs of many adult consumers of mental health services. These people often struggle to cope because of their reliance on thinking patterns (i.e., schemas) formed when they were young, which

may have satisfied their needs as a child, but do not effectively apply to their adult existence. This study offers insight regarding what types of information may have been attended to and how consistency in experiences can produce a framework to support memory and recall. More importantly, the clinician attuned to this process of ordering thoughts, remembering, and telling can listen for clues as to how the person can cognitively reframe ineffective responses to life circumstances and gain new perspective.

Although within the structure of the four questions posed by this study, question type was not specified as a deciding factor for outcomes, question composition can be seen to be much more than a peripheral aspect of the study. Questioning methods targeted toward receiving information that is not tainted as a result of clients responding to perceived expectations of the clinician are very important for assessment and therapy purposes. This study clearly shows that open-ended, non-leading questions are an appropriate and effective tool for collecting reports from adults and children.

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APPENDIX A
MEMORY INTERVIEWS

SET-UP CAMERA IN ROOM, ARRANGE NOTEBOOK, THEN GET SUBJECT.

Introduction to child (Establish rapport-let child see you, get consent)
INITIAL INTERVIEW: "Hello *child's name*. My name is *your name*. Your mommy/daddy and teacher said it was ok if we talk *explain location*. I will be asking lots of children to help with my project. Now it's your turn to help me with an activity that I think you have done before and know something about. Come be my helper—it will only take a few minutes, Ok?"

FOLLOW-UP INTERVIEW: "Hello *child's name*, remember before when you were my special helper. My name is *your name*. Your mommy/daddy and teacher said it was ok if we talk *explain location*. Lots of children are helping me with my project. It's your turn again to help me. Come be my helper--remember it doesn't take that long, Ok?"

If child says YES, then say, **"Ok, let's go."** (minimize chatter on the way to the room--if the child asks, "What are we going to do?" Just say, **talk about a fun activity**)

If Child hesitates but doesn't say NO, then say: **"it's OK if you want to think about it and tell me later when you are ready to go. I will be asking lots of children to help me with my project."** (select one of the following:) **"You can do what you are doing for a little longer** (like play/work on puzzle, etc.) **You can do that when you come back--it won't take that long."** (return in 5-10 minutes and say:) **"Are you ready to be my helper now?"** (If YES, then bring child to room).

If child says, NO, then say, **"That's OK if you don't want to do it now. I will be back another day/later and you can be my helper then. Bye."** (If child says NO a second time, say) **"That's OK. Sometimes children don't feel like talking."** (let another interviewer try once--if still not interested--STOP).

**DO NOT LET THE TEACHER BULLY THE CHILD INTO GOING WITH YOU. BUT IT IS OK IF THE CHILD WANTS THE TEACHER TO WALK HER/HIM TO THE ROOM.

INTERVIEW BEGINS IN THE ROOM. **"Ok, *child's name*. Sit over here** (show the child where to sit). I **am going to turn on the is camera to help me remember what you say** (turn on camera--point it toward the child). **Is that OK with you? Good, tell me when you see the red light flashing** (check that it is recording).

Instructions: **"I am going to ask you about an activity that you did. One of the other things I do is find out what children remember about birthday parties. I am going to ask you some questions about a party you went to last week (a couple of months ago). A friend of mine told me that you went to a birthday party for Jesse. I want you to tell me everything that you remember really happened at Jesse's birthday party. I don't want you to tell me about anything that you don't remember happened at Jesse's birthday party. Just do the best you can. OK?"** (Interviewers feel free to use the following when necessary: **"What did it look like?" "Tell me more about it." "Anything else?"**)

OPEN-ENDED GENERAL QUESTIONS
Instructions: Let the child create a list of all the features that happened. Then ask elaboration questions. If the child adds new features while elaborating, follow-up on it immediately, then go back to list and continue asking elaboration questions. At the end, ask the children one more time, "Is there anything else that happened?"
1.) "Tell me everything that happened at Jesse's birthday party." (OE1)
   --(If the child doesn't answer or says IDK, say:) "Tell me one thing that happened."
   --(If the child still doesn't answer say:) "OK. Think about the birthday party. Tell

me all the things that went on at the birthday party."
--(If still no response, go to question #2)

[follow-up with:] "What else happened?" "Anything else?" (OE1 repeat)

Instructions: Next, go back through the list and get elaboration by using either general elaboration questions (below) or specific elaboration probes (see list).

General Elaboration Questions: encourage the child to tell more or tell you how to do various things and what is used when those questions make sense.
   a.   "You said _____. Tell me more about _____
        OR Tell me, how did you do that?"_____
   b.   "Tell me, what did you use to _____?"
   (If the child doesn't know the name of a prop, say) "Tell me what it looked like."

PROBED GENERAL QUESTIONS
Instructions: For questions 2-3 (temporal and participant probed questions), allow children to list features if they want. But, if they don't provide a spontaneous list, then follow up EACH NEW FEATURE (that is, a feature not mentioned before) right away with a request for elaboration (don't ask for more until you get elaboration).

"You did a good job. Now I want you to tell me everything that happened again. But this time I want you to start from the beginning and go to the end. Try not to leave anything out. And remember, I only want you to tell me what you remember happened at Jesse's party." (the goal here is to get the child to provide new information by using the temporal cues as guidance. Try to ask the follow-up-what happened next question--quickly)

2.)   "Tell me, what is the first thing that happened?" (TOE1)
      --(If the child responds, follow this up with: Tell me what happened next?" -(or)-
      "What happens after you _____?" [repeat]
      [Wait until they sound done, then ask:] "Is that the last thing?"
      --(If the child doesn't respond or says, I don't know, then say:)
      "Just try your best. Think about the birthday party. What is the first thing that
      went on (happened) at the party?"
      --(If still no response, go to Questions #3)

Instructions: Next, go back through the list and get elaboration

General elaboration Questions:
   a.   "You said____. Tell me more about _____."
   b.   "Tell me, what did you use to _____?"
   (If the child doesn't know the name of a prop, say) Tell me what it looked like."

PROBED QUESTIONS
Instructions: For the next set of questions, try to elicit features not already mentioned or described by the child. **Discourage the child from repeating features already mentioned by reiterating what they have told you (e.g., you said "ate cake", what else did you eat?}** We are TRYING to elicit the responses listed under the question. If the child has already mentioned them, skip to the next questions. **Give praise (e.g., You are doing a good job) periodically.**

3.)   "That was a good job. You have told me a lot of (some) things. Now think about
      Jesse and the children at Jesse's birthday party."

      a.) "[You told me_____.] Tell me what Jesse needed to do before the party to get
      ready for it." (TOE2) [decorations, invitations, set the table, get things ready]

1. Tell me how _____.
(If the child mentions one thing, then ask:)
2. Tell me what was used to _____.
3. Tell me what else Jesse did to get ready for it. (Toe2)
What else?

b.) "[You told me _____.] We know children wear clothes to parties. Tell me
what special things you and the other child wore at the party." (OE3) [BD party hat]
1. Tell me what _____.
(If the child mentions one thing, then ask:)
2. Tell me what else you wore. (OE3)
Anything else?

c.) "[You told me _____.] Tell me what (else) you and the other child ate at the
party." (OE3) [cake, ice cream, meal]
1. Tell me what you ate.
(If the child mentions one thing, then ask:)
2. Tell me what else you ate. (OE3)
Anything else?

d.) "[You told me_____.] "Tell me what (else) you and child's name did at the
birthday party." (OE3) [play games, eat meal and cake, get party bags, give presents, sing]
1. Tell me how _____.
2. Tell me what the children used to _____.
(If the child mentions one thing, then ask:)
3. Tell me what else children did. (OE3)

e.) "[You told me _____.] Tell me what (else) special things we ask Jesse to do at the
birthday party." (OE3) [candle ritual, get and open presents]
1. Tell me how _____.
2. Tell me what Jesse used to _____.
(If the child mentions one thing, then ask:)
3. Tell me what else Jesse did. (OE3)

f.) "[You told me _____.] Tell me what (else) you and the other children did at
the end of the party." (TOE2) [play games, prizes, get party bags]
1. Tell me how you did that.
2. Tell me what you used to _____.
(If the child mentions one thing, then ask:)
3. Tell me what else.

WELL. YOU DID A GOOD JOB. THANK YOU FOR HELPING ME [AGAIN]. [Rewind the tape,
Check that something was recorded. Then fast forward. change tapes for next subject. Walk the child back
to class.]

SPECIAL INTERVIEW

Instructions: BRING PHOTOS! If the child mentions one of the features in the OE report, then skip the question (exc. #3). If the child answers the OE question, skip the choices.

Memory Group & Knowledge Group: "You did a good job. Oh, by the way, a friend gave me this picture of you and another child at Jesse's party. Let's look at it. Is there anything else you want to tell me about the party?" (give them a chance to tell you something without probes.--then say:) "Let me ask you some more questions."

PROBE QUESTIONS:

1.) Tell me who Jesse was. _____
    a.) Tell me, was Jesse a stuffed <u>cow</u>?_____
    b.) Tell me, was Jesse a stuffed <u>cat</u>?_____

2.) "Tell me what special things you and the others wore at the birthday party."
    (if hat and costumes already mentioned, skip this question)_____
    a.) 1) Tell me, did you wear <u>paper party</u> hats?_____
       2) Tell me, did you wear <u>Jesse's daddy's</u> hat?_____
    b.) 1) Tell me, did you wear <u>baby cow costumes</u>?_____
       2) Tell me, did you wear <u>fancy dress costumes</u>?_____

3.) "Tell me what you ate." (if child mentions cupcakes, skip 'b' but still ask 'a'
    and if answer is 'cake', experimenter should clarify or ask 'a' and 'b'_____
    a.) Tell me, did you eat <u>lunch</u> at the party?_____
    b.) Tell me, did you eat <u>cupcakes</u> at the party?_____

4.) "Tell me what happened to the cupcakes."_____
    ----
    a.) Tell me, did the cupcakes get <u>squished</u>?_____
    b.) Tell me, did the cupcakes get <u>burned</u>?_____

5.) "Tell me what song you sang with the cupcakes."(if child says HB and experimenter asks 'a' and
    'b', skip answers because experimenter error)
    a.) Tell me, did you sing '<u>Happy Birthday to You</u>?' with the cupcakes_____
    b.) Tell me, did you sing '<u>Old MacDonald's Farm</u>?' with the cupcakes_____

6.) "Tell me what happened when you and *child's name* helped Jesse blow out   the candles on the
    cupcake?"_____
    ----
    a.) Tell me, did you and Jesse <u>blow</u> the candles one time to get them out?____
    b.) Tell me, did someone <u>dip</u> the candles in water to get them out?_____

7.) "Tell me what happened to the bag of prizes at the party (not the party   bags)."
    ----
    a.) Tell me, did you have to <u>look</u> for the bag with prizes because it got
       <u>lost</u>?_____
    b.) Tell me, did you have to <u>buy</u> another set of prizes because they got
       <u>broken</u>?_____

8.) "Tell me about the present you brought to the party for Jesse." (if child answers, I didn't bring
    any, still ask Q #9, but if child says there weren't any presents, then skip Q #9 and consider Q #9
    response correct)_____
    ----
    a.) Tell me, did <u>you and the other child bring presents</u> to the party for
       Jesse?_____

    b.) Tell me, did <u>Jesse's daddy and mommy give presents</u> to Jesse at the party?_____

9.) **"Tell me about when Jesse opened the presents at the party"**_____
----
    a.) Tell me, did Jesse not <u>open any presents</u> at the party?_____
    b.) Tell me, did Jesse <u>open all the presents</u> at the party?_____

APPENDIX B
PARTY SCRIPT

BRING: MATCHES, BOX OF CUPCAKES, BOX OF TABLE STUFF, DRINK MIX, PITCHER, BANDANNA, SCOTCH TAPE, SCISSORS, GAMES, TAPES, FOLDERS.

SET-UP: CAMERA IN ROOM, PUT BANNER AND BALLOONS ON WALL, PUT TABLECLOTH ON TABLE, SET TABLE (LAY OUT PLATES, NAPKINS, CUPS, HATS, BLOWOUTS, MATCHES, CANDLES, BOWL WITH WATER, PITCHER, PARTY BAGS WITH CANDY & 1 TOY), PUT BOX WITH SQUISHED CUPCAKES ON THE TABLE, PUT BAG OF PRIZES ON FLOOR UNDER TABLE, FILL PITCHER THEN POUR WATER, GET THE GAMES & COSTUMES READY, SET UP GAMES, PLACE BOX WITH CONTAINERS OF 'GOOD' CUPCAKES OUTSIDE DOOR, PUT "DO NOT DISTURB" SIGN ON DOOR, THEN GET SUBJECTS.

Ask teacher if there are children who are too disruptive when they are together--If yes, then do not pair these children up. HAND OUT INVITATIONS TO CHILDREN THE DAY OF THE PARTY.

Initial introduction to children (Establish rapport-let children see you, get consent from each child) THEN, gather both children together and say:

Hello _child's name_. My name is _your name_. I am a friend of Jesse's. Jesse asked me to give you these invitations so you would come to Jesse's birthday party. Your mommy/daddy and teacher said it was okay for you to o go to the birthday party. It is both of your turns to go to the party. It won't take long. Put your invitations in your cubbies. Are you ready? Let's go.

*If child says YES, then say: "Okay, let's go." (minimize chatter on the way to the room--if the child asks, "what are we going to do?" Just say, "we're going to have a party).

*If child hesitates but doesn't say NO, then say: "it's okay if you want to think about it and tell me later when you are ready to go. (select one of the following:) "You can _what ever the child is doing_ for a little longer. You can do that when you come back--it won't take that long." And then return to child in 5-10 minutes and say: "Are you ready for the party now?" If answer is YES, then bring child to room.

*If child says, NO, then say: "That's okay if you don't want to do it now. I will be back another day/later and you can go to the party then. Bye." If child says NO a second time, say: "That's okay. Sometimes children don't feel like going to a party." (let another person try once--if still not interested--STOP).

**DO NOT LET THE TEACHER BULLY THE CHILD INTO GOING WITH YOU. BUT IT IS OK IF THE CHILD WANTS THE TEACHER TO WALK HER/HIM TO THE ROOM.

SET UP:
Experimenter brings children to room and shows them where to stand, turns on camera.

"Ok _child's name here_. (Show the children where to stand while you turn on camera). I am going to turn on this camera to help me remember what happens at the party (turn on camera--point it towards the table). Is that Okay with you? Good." (check that it is recording).

ENTER; INTRODUCTION TO PICTURE
(As you walk in the door, say) "Hi Jesse. (cow greets kids at door). Jesse this is _child's name_ and _child's name_. First, let's take a picture of both of you." (take a picture of them in front of the 'Happy Birthday Jesse' sign, then mark checklist)

PUT ON COSTUMES
(Say to the children) "You are Jesse's new friends. Now it's time to put on your baby cow costumes so you can look just like Jesse." (have the child with an outfit already on sit while you put the

other child's outfit on) **"Ok** *child's name* **go sit at the table while I finish putting on** *child's name* **costume."** (mark checklist, then put Jesse in high chair at the table)

HATS

These are your party bags and blow outs. (show them) **Before we start the party, we need to put on these** <u>real hats</u>. **Be very careful with them. They belong to Jesse's daddy."** (help them put on the hats.)

CUPCAKES

"Now it's time for the cupcakes. (get the cupcakes and look at them puzzled/surprised) "Oh No! Look what happened! **The cupcakes got squished."** (Let the children see. Act like you are trying to figure out what to do.) **"Oh I know. I have some more cupcakes in the office. Let me go get them. You can play with the blowouts."** (leave the room and return with cupcakes.)

BIRTHDAY RITUAL

(Put them on a plate and stick 3 candles into one of them.) **"Ok. Let me put in the candles. Jesse is two today, so we need to** <u>put in</u> **2 candles** <u>and another</u> **for good luck. I will** <u>light</u> **the candles so we can** <u>sing Old MacDonald's Farm"</u> (Light the candles and start the first stanza-with cow). **"Ok Jesse,** <u>make a</u> <u>wish</u> **and** <u>blow out</u> **the candles. I want both of you to get closer to Jesse and help blow out the candles."** (act surprised when the candles relight) "Oops!. **Try again, blow harder."** (act surprised when the candles relight) **"Hmm, maybe I should put them out by dipping them in the water."** (dunk in water and give out cupcakes)

(LET THEM EAT CUPCAKES--while you set up the games. **"Ok, you can eat now." "Before the party began, Jesse put up these decorations. Do you like them?** (point to balloons and banner) **Jesse also picked out some games for us to play. I will go get them ready so we can play after you finish eating."** (get games ready and paper towels wet)

(When they are done, say) **"Wipe your mouths on the napkins. Good."** (wipe their hands and mouths with wet paper towels.) **"Now hold out your hands. Let me see your face."**

GAMES & PRIZES

"Ok. It is time to <u>play games.</u> (put Jesse near the games) **Jesse just wants to watch you two play.** (Make sure that each child gets a chance to go first in a game.) **First we will play pin-the-tail."** (show them how to play) **"you both did really well. Let me give you a** <u>prize</u>. **Oh no, I thought I put the bag of prizes right here. But now they are lost. Help me look for them. Maybe they fell on the floor."** (pretend to look for them and find them.) **"Ok, good, here they are."** (hand a <u>**BALL**</u> to each child) **"Put the ball in your bag. Now let's play ring toss now."** (show them how to play-then HAND OUT a <u>**TOP**</u> to each child) **"Here is your prize. Put the top in your bag."**

END-REMOVE COSTUMES, HATS; GET PARTY BAGS

"Ok. Time to go back to class. Put your blowouts in your party bags. Let's take off the costumes and hats." (help them remove those items and walk them back to class)

APPENDIX C
CODING MANUAL

Decorations:

Accurate Responses	1pt.=	Set up decorations
	2pts=	Put up banner OR Balloons OR Decorated for party
	3pts=	Jesse put up HB banner OR Someone helped him/her OR Jesse picked the banner
Inaccurate Responses	1pt=	Balloons were plain

Invitations

Accurate Responses	2pts=	BD giver gave card/invitations OR We got invitations
	3pts=	People in the class were invited OR described details of wording or design of invitations
Inaccurate Responses	2pts=	Indicating invitations were "sent" OR children were called OR "Thank you" cards were sent/given
	3pts=	Elaborations of fabricated details on invitations

Birthday Child Identification

Accurate Responses	1pt=	BD child was a stuffed animal
	2pts=	Jesse was a cow
	3 pts=	Jesse was a stuffed cow OR one other detail such as: Black and white; Horns; bell on neck; black eyes
Inaccurate Responses	2pts=	Indicating Jesse was another type of animal OR a real child OR a real cow
	3pts=	Wrong description of what Jesse looked like

Arrival

Accurate Responses	2pts=	Went/go to party OR Went with Lauren OR walked in or to the party/room in other school building
	3pts=	Went to the teacher's room in elementary school OR special room in preschool or who was there
Inaccurate Responses	2pts=	Indication that the BD was in their regular class room

Special Clothing

Accurate Responses	1pt=	Dress OR pants OR nice clothes (because children wore these clothes under the costume)
	2pts=	Wore cow suits/costumes
	3pts=	Description of cow suits OR white with black dots/spots OR furry OR it was a sweatshirt OR had pink udder OR tail
Inaccurate Responses	1pt=	Indicating the wrong color of cow costume
	2pts=	Indicating another type of costume
	3pts=	Wrong type of costume and wrong color mentioned

Hats

Accurate Responses	1pt=	There were hats OR we wore hats OR Jesse had a little hat OR sort of white hats OR cow hats
	2pts=	Wore real hats
	3pts=	Kids wore Jesse's dad's hats OR we wore cloth hats OR hats were white with red and black trim OR Jesse wore a paper version of the kids' hats OR Jesse's hat was white with red and black trim
Inaccurate Responses	1pt=	Indicating the wrong color
	2pts=	Indication wrong type of hat (birthday, paper, party, straw, cowboy, inspector)
	3pts=	Wrong type of hat and wrong color and decoration on hat

Party Bags

Accurate Responses	1pt=	Get stuff or favors (the word "bag" is not mentioned)
	2pts=	Got a toy OR candy OR Bags
	3pts=	Specifies one of the following: dinosaur; blowouts; sweet tarts/sprees/smartees
Inaccurate Responses	1pt=	Names a prize in here if did not indicate price CAME in the bag
	3pts=	Specifies the wrong toys OR type of candy and any fabrication

Cake Eaten

Accurate Responses	2pts=	Ate cupcakes (not cake)
	3pts=	We ate cupcakes and/or includes one of the following: Jesse didn't eat his/her cupcake OR drink water OR cupcake was vanilla/had sprinkles/white icing
Inaccurate Responses	1pt=	Wrong flavor/deco/drink/candy (but correct food OR drink mentioned)
	2pts=	Eat cake (not cupcakes) OR eat candy
	3 pts=	Cake (not cupcake) plus elaboration of wrong flavor/decoration on cake OR name was on cake OR ice cream/drink other than water OR Jesse ATE his/her cupcake

Cake Served

Accurate Responses	1pt=	There was/were/had cupcakes/little cakes/muffins/icing/sprinkles (EAT is not clear)
	2pts=	First batch of BD cupcakes were not edible or any word representing "smashed"
	3pts=	Got second batch OR played with blowouts while waiting for second batch OR Jesse was served first
Inaccurate Responses	1pt=	Specified cake (not cupcakes) and/or wrong flavor/decoration OR Jesse didn't get one
	3pts=	Fabricated cake story

Blow Out Candles

Accurate Responses	1pt=	We asked Jesse to blow out candles (with no indication of success) OR we helped Jesse blow out candles
	2pts=	Trick candles OR candles did not work right OR tried to blow candles out a few times
	3pts=	Explaining in detail why they were trick candles OR needed to dip in water OR helped Jesse make a wish
Inaccurate Responses	2pts=	Blew candles out but they were trick candles
	3pts=	If omit information about trick candles AND just state candles were blown out

Sing Happy Birthday

Accurate Responses	1pt=	Sang a song
	2pts=	Mention the song "Old MacDonald Had a Farm" (OMHF)
	3pts=	Mention OMHF with cow verse OR with candles/cake OR explained that OMHF was sung instead of the "Happy Birthday Song" (HB)
Inaccurate Responses	2pts=	Sang HB song
	3pts=	HB and another song (e.g. How Old Are You Now?" OR any other fabrication)

Activities

Accurate Responses	1pt=	Just played or played games
	2pts=	Played pin the tail on the donkey (PTOTD) OR played ring toss (RT) OR if could not name them, described what the games looked like (e.g. look with pole)
	3pts=	PTOTD and RT OR indicated how they performed (e.g. I won)
Inaccurate Responses	1pt=	Named the ring toss game as horse shoes OR stated did not play games
	2pts=	Fabricated name or description of game played (e.g. pin tail on cow)

Prizes

Accurate Responses	1pt=	Got prizes
	2pts=	Named top spinner OR named ball OR described what they looked like or did
	3pts=	Mentioned that prizes/prize bag got lost OR found it under the table OR who found it
Inaccurate Responses	1pt=	Mentioned goodie bag item instead of prize item or saying a prize came in the goodie bag
	2pts=	Wrong prize mentioned or complete fabrication

End of Party

Accurate Responses	1pt=	You go OR leave OR said good by OR party was over OR thank you
	2 pts=	We went back to class OR took bag and left
	3 pts=	Discussed things that happened beyond the party (e.g. what they did in class afterward, went home, put goodie bag in cubby, took bags home)
Inaccurate Responses	2pts=	Went home

Get Ready for Party

Accurate Responses	1pt=	Think about/decide what kind of games too have
	2pts=	Set up games/table/put out dishes
	3 pts=	Jesse set up the games with Lauren's help OR picked out games
Inaccurate Responses	3pts=	Someone else set up games or picked out games

Pictures Taken

Accurate Responses	1pt=	We had a camera
	2pts=	Mention pictures taken
	3pts=	Picture was taken at beginning of party OR by the party giver
Inaccurate Responses	2pts=	Two pictures were taken

Bring/Get Presents

Accurate Responses	2pts=	Must report NO presents
Inaccurate Responses	2pts=	Indicating that there WERE presents
	3pts=	Specifying what the presents were and who gave them OR describing wrapping presents

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Signature of Author

5-13-03
Date

The Effects of Interviewer Role and
Time Delay on Children's Memory
for a Uniquely Staged Familiar
Event

Title of Thesis

Signature of Graduate Office
Staff Member

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