THE INFLUENCE OF EVENT FREQUENCY AND AGE ON CHILDREN'S RETRACTION RATES OF FALSE BELIEFS

by

Jennifer M. Lucyk
B.A. (Hons.) Kings University College at the University of Western Ontario
2007

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

In the
Department of Psychology

SIMON FRASER UNIVERSITY
Summer 2010

APPROVAL

Name: Jennifer M. Lucyk

Degree: Master of Arts (Department of Psychology)

Title of Thesis: The Influence of Event Frequency and Age on Children's Retraction Rates of False Beliefs

Examining Committee:

Chair: Dr. Mario Liotti
Professor

Dr. Deborah Connolly
Senior Supervisor
Associate Professor

Dr. Ronald Roesch
Supervisor
Professor

External Examiner:
Dr. Maureen Hoskyn
Associate Professor
Faculty of Education
Simon Fraser University

Date Defended : August 18, 2010

Declaration of Partial Copyright Licence

SFU SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

STATEMENT OF ETHICS APPROVAL

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

(a) Human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

(b) Advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

(c) as a co-investigator, collaborator or research assistant in a research project approved in advance,

or

(d) as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library
Simon Fraser University
Burnaby, BC, Canada

ABSTRACT

Research on children's memory for events has demonstrated that children often have difficulty accurately recalling specific instances from within a series of similar events and that these reports may be compromised if suggestive interviewing techniques are used. However, less information exists as to whether these children will maintain false reports if challenged. The current study examined children's retraction rates of false statements. Kindergarten and Grade 3 children participated in either one or four craft session(s). Four days later, children participated in a biasing interview, which included minor suggestions about the target session. The following day, children participated in two memory interviews about this session. A source-monitoring training session was implemented to help children distinguish between the suggested information and the experienced event. Results demonstrated that children in the repeat-event condition were not more suggestible than children in the single-event condition. In terms of retraction rates, children in the single-event condition answered more questions correctly after the source-monitoring training session; however, this session had no effect on retraction rates of false statements.

Keywords: Children; Repeated Event Memory; Suggestibility; Retraction Rates; Source Monitoring Theory; Script Theory.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my Senior Supervisor, Dr. Deborah Connolly for her guidance, support, and encouragement throughout this thesis process. From suggesting new ideas and editing numerous drafts to discussing the state of children in the legal system over brunch, Deb has been vital in the completion of this project and has provided me with skills, knowledge, and good humour that I will carry on to the next stage of my education.

Secondly, I would like to thank Colleen Widdis, Joann Woo, Soyun Jung, and Cait Walker for their assistance in data collection and data entry. I would also like to thank the many students, teachers, and principals who participated in this project for letting me interrupt their normal classroom schedule to run this study.

I would like to thank the past and present members of the Connolly Lab – Heidi Gordon, Jesse Elterman, and Emily Slinger – for their support and friendship throughout this process.

Finally, I would like to thank my parents for their love and support.

This research was supported by an AP-LS Grants-in-Aid Award.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

When criminal prosecutions of child sexual abuse (CSA) occur, the child in question is often asked to testify against the accused. With over 17, 000 cases of alleged sexual abuse investigated in a given year in Canada alone (Public Health Agency of Canada, 2003), understanding how children remember and report events is of critical importance. Research on CSA has demonstrated that abuse often occurs repeatedly (e.g., Connolly & Read, 2006). In these cases, children are typically asked to report enough specific details about the abuse so as to provide the defendant with enough particular information to raise a defence (Guadagno, Powell & Wright, 2006; Lamb et al., 2007; *R.* v. *B.(G.)*, 1990). This is referred to as the "specificity principle." In these cases, children do not necessarily need to provide information related to the exact time or date of the offence, but they are often asked to describe details from a particular instance or instances within the series of abusive events to trigger a formal investigation and to proceed to trial. Unfortunately, children often have difficulty accurately recalling specific instances from within a series of similar events and these reports may be especially compromised if suggestive interviewing techniques are used (Connolly & Lindsay, 2001; Connolly & Price, 2006; Powell & Roberts, 2002).

At present, most research on children's suggestibility for events has focused on the experience of a single, unique event. In these paradigms, generally, children progress through three stages: an event, a biasing interview, and a memory interview.

First, the child will participate in a child-friendly event, such as a magic show or a play session. During this event, the leader typically completes several salient activities, such as doing an exercise, putting on a costume, and eating snack. These activities are referred to as *event details*. The child will be asked about these details in a future memory interview. Following this, a biasing interview occurs. Here, the child is given false information about some of the things that happened during the event. For example, if the leader put on a cape and ate an apple during the event, in the biasing interview, the interviewer might suggest that the leader actually put on an apron but will not introduce any biasing information about the snack choice. In this situation, the apron would be referred to as a *suggested detail* and the snack would be a *control detail*. Finally, the child will be interviewed about the experienced event to determine whether he will report any of the suggested details introduced by the interviewer.

A suggestibility effect is observed when, (1) children report that the suggested details really happened during the event and, (2) they do so more often when asked about event details that had been misrepresented during the biasing interview, e.g., the costume in the above example, than when asked about event details that had not been misrepresented, e.g., the snack. By including both *biasing* (includes false information) and *control* (does not include false information) questions, researchers are able to rule out the possibility that children merely guessed the suggested detail.

Recently, however, there has been increased interest for research on suggestibility for repeated events - similar events that recur. In a repeat-event paradigm, instead of participating in only one event, children may, for example, experience four similar events across four days, that vary in predictable ways. For example, on each day, the leader may wear a different costume, e.g., a cape, a scarf, a hat, and a glove. Each of these items is a different kind of costume and they are referred to as *options*. These children will then be given false information about one *instance* within the series of events (typically the final instance), and will then be interviewed about that instance to see if they report any of the suggested details.

This heightened interest in memory for repeated events is an important development, as according to numerous studies (e.g., Farrar & Boyer-Pennington, 1999; Fivush & Hudson, 1990; Hudson, 1990; Nelson, 1986; Powell & Thomson, 1996), there are important differences between how children remember a single, unique event in comparison to one instance within a series of similar events. This means that the suggestibility literature on children's memory for single events may be ill-equipped to advise us on how children who experience a series of events may remember them.

Script Theory

One memory theory that has been used to explain how children retain and recall information for repeated events is script theory (Connolly & Price, 2006). According to this theory, when an event is experienced in similar ways on multiple occasions, individuals develop a set of general expectations – a script - for what is likely to occur in them (Fivush & Hudson, 1990). For example, many of us have a general script for the sequence of events that occurs when we eat at a restaurant. Scripts are spatially and temporally organized sequences that provide us with a set of general expectations about the actors, actions, and props that are likely to be present during a given event (Fivush & Hudson, 1990; Nelson, 1986; Schank & Ableson, 1977). While scripts develop more fully when an event is experienced repeatedly, children often form a general set of expectations after their very first experience with a particular event, e.g., the first day of school (Fivush, 1984; Nelson & Gruendel, 1986). While quite skeletal, children as young as 3-years old can provide general, temporally organized accounts of repeated events, which are qualitatively similar to older children's and adults' reports of repeated events (Hudson, 1993; Hudson, Fivush, & Kuebli, 1992; Nelson, Fivush, Hudson, & Lucariello, 1984). These accounts become more elaborate and complex with age and experience.

Scripts are often referred to as dynamic information sets because they are updated as new information becomes available to the subject (Fivush, 1984). When a child encounters new information that is consistent with the script, it is easily accepted into the existing information set, whereas information that is not script consistent is not as easily accepted into the set (Connolly & Price, 2006; Fivush, 1984). One source of new information can be experience, while another could be an interview that may contain false or biasing information. Biasing information can be presented in the form of a question or statement that presents new, incorrect and non-experienced information to the child, e.g., telling the child that they wore an apron during the event, instead of the cape they actually wore (Greene, 2006). These questions (or statements) are often leading (Bruck & Ceci, 1999), sometimes repeated (Poole & White, 1991), and may include erroneous references to reports made by other children (Garven, Wood, Malpass, & Shaw, 1998). Suggestive questioning is sometimes a result of interviewer bias - preconceived notions held by the interviewer about what happened and questioning children to get these presupposed answers (Ceci & Bruck, 1995).

In terms of one's script for an event, there is evidence that the presentation of new false information that is script consistent will lead to higher rates of suggestibility than the presentation of new false information that is not script-consistent (Connolly & Price, 2006). Considering that children who are witness to, or experience repeated crimes are sometimes exposed to leading and biased questions by forensic interviewers, it is important to understand how suggestibility functions for children who experienced repeated events.

Suggestibility for Repeated Events

Similar to the differences found in memory function for children who experience a single- versus a repeat-event, researchers have also demonstrated that there are differences between how single- and repeat-event children respond in suggestibility studies (Connolly & Lindsay, 2001; Connolly & Price, 2006; Price & Connolly, 2004; Powell, Roberts, Ceci, & Hembrooke, 1999; Powell & Roberts, 2002). In terms of the single, unique event, previous research has demonstrated that post-event interviews containing false information about the original event can promote false reports that fall in line with the original suggestions (see Ceci & Bruck, 1999 for a review). In terms of children who experienced a series of repeated events, these children have been found to *sometimes* be more suggestible than their single-event counterparts.

A major influence on suggestibility in repeat-event studies is the type of details that are included in the experiment, such as fixed/variable details and high/low association details. *Fixed details* refer to details that remain the same across all instances in a set of events, e.g., a child does three jumping jacks every morning. *Variable details* are details that predictably change across instances, e.g., doing three jumping jacks one morning, three sit-ups on the next, and three push-ups on the final day. Connolly and Lindsay (2001) examined the relationship between fixed and variable details and suggestibility on 4-, 6-, and 8-year olds' reports of a single event or their reports of the last instance in a series of four similar instances. In comparison to the children in the single-event condition, Connolly and Lindsay found that children in the repeat-event condition were more acquiescent to suggestive responding related to variable details and were less so when they responded to questions about fixed details. In a similar experiment by Powell, Roberts, Ceci, and Hembrooke (1999, Exp. 2), 5- and 6-year old children were exposed to one event or four similar events, which contained both fixed and variable details. One week after the target session, a biasing interview was administered, followed by a memory interview on the next day. Powell et al. found that for the children who experienced the repeat-event condition, their memory for fixed details was superior to those in the single-event condition and they were less suggestible. In contrast, repeat-event children were less accurate in their recall of variable details, but were not more suggestible for them. When the delay from target event to reporting was lengthened to 3-weeks, as done by Powell and Roberts (2002), 5- and 6-year old repeat-event children were more likely to acquiesce to false suggestions about variable details (when questioned with yes/no recognition questions) than their single-event counterparts. Thus, the inclusion of variable details can increase the likelihood of suggestive responding among repeat-event children relative to single-event children, especially at a longer delay and in response to closed-ended questions.

Variable details can, furthermore, be of high or low association. *High-association* variable details are components from the same set or category, while *low-association* variable details do not belong to the same category. An example of a high-association variable detail would be if the child put on a different colour of cape each day for three days, such as a red cape, then a green cape, and then a blue cape. These items (red, green, and blue) are all components of an overarching category (colours). Meanwhile, an example of a low-association variable detail would be if a child was given a sticker of a bug on the first day, a sticker of a pear on the second day, and a sticker of a bicycle on the third. In this example, the items are not components of the same overarching category.

Connolly and Price (2006) examined the influence of high- and low-association details on suggestive reporting by repeat-event children. Children experienced one or four play sessions and were later exposed to a biasing interview. Children who experienced the single event could only experience one set of details and, thus, could not be influenced by the level of association between them. Their only event contained the same details as the target event for children in the repeat-event condition. For high association details, older children (6- and 7-year olds) were more suggestible than younger children (4- and 5-year olds) and for older children only, those who experienced repeat events were more suggestible than those who experienced a single event. For low association details, older children were more suggestible than younger children and both older and younger children who experienced the repeat-event condition were more suggestible than comparable single-event children.

Another major influence on suggestibility for children who have experienced repeat events is the temporal spacing between presentations of the instances. In Price, Connolly, and Gordon's (2006) study (Exp. 1), children experienced four similar instances of an event: instances were presented all in one day (4 in 1 day) or instances were presented across four days (4 in 4 days). Children were more suggestible when they experienced events that were presented over four days than when the events were presented in one day. However, children who experienced four events in one day reported more details from the other instances than children who experienced four events across four days, indicating heightened source confusion when the events were massed together.

A final possible influence on levels of suggestive responding has been the interview method used with children. Some researchers (Powell & Roberts, 2002; Powell, Roberts, Ceci, & Hembrooke, 1999) have used cued recall questions in their designs, while others (Connolly & Lindsey, 2001; Powell & Roberts, 2002) have used a yes/no recognition paradigm. These differing paradigms have found different results in relation to suggestibility and event frequency. When some researchers used a cued recall test, children who were part of the repeat-event condition were not any more suggestible for variable details than children who experienced only a single event. In contrast, when researchers used the yes/no recognition paradigm, children who experienced the repeat-event condition were more suggestible for the variable details. However, more recent studies (e.g., Connolly & Price, 2006; Price, Connolly, & Gordon, 2006; Price & Connolly, 2004) have found heightened suggestibility for children in a repeat-event condition compared to a single-event condition, even when cued recall questions were used. The ability of these researchers to find heightened suggestive responding using both cued recall and recognition tests indicates that it is likely not the question type that is influencing said responding.

The research thus far has demonstrated that, when responding to questions about variable details, under particular circumstances, repeat-event children are more likely to respond in line with suggestive statements in comparison to single-event children.

Furthermore, the research has demonstrated that even within the repeat-event condition, there are likely to be differences in levels of suggestibility due to the level of association between details, spacing between instances, age of the child, and the testing methodology used.

Retraction Rates of False Statements

Despite the research that has been completed in the area of suggestibility for repeat events, there is a dearth of research examining how strongly children hold onto suggested false beliefs for an instance within a set of events. Oftentimes, in a forensic setting, children are interviewed repeatedly and this repeated interviewing can raise assent rates for suggested or false events (Ceci, Crotteau-Huffman, Smith, & Loftus, 1994). However, once a false statement is reported, if gently challenged, is this statement likely to be retracted? And, moreover, does event frequency or age of child impact this rate?

Retraction rates were examined for a unique event in the seminal “Sam Stone” study (Leichtman & Ceci, 1995). In this study, young preschoolers (3- and 4-year olds) and old preschoolers (5-and 6-year olds) were visited by a man named Sam Stone. During his 2-minute visit, Sam was introduced to the children, commented on the story they were reading, and strolled around the room. Children participated in a forensic-like interview about the visit approximately 10 weeks later. Prior to Sam’s visit, children in the *stereotype* condition were provided with information about Sam’s personality, e.g., Sam is a very nice but clumsy individual who often breaks things. Between the visit and the interview, children in the *suggestion* condition were provided with misleading information about his visit, e.g., children were told that Sam had actually ripped a book and soiled a teddy bear during his visit to the classroom. Children in the *stereotype plus suggestion* condition, a combination of the two previous conditions, were exposed to stereotype and suggestive information. Finally, children in the *control* condition received no additional information about Sam Stone prior to his visit, but were interviewed several times before the forensic interview in a neutral manner.

At the 10 week interview, a new interviewer insinuated that she had "heard" about the ripped book and soiled teddy bear and asked each child about these events. For the children who reported that Sam Stone committed the non-events, countersuggestions (e.g., "Did you really see Sam Stone rip the book?") were posed. After the presentation of the countersuggestions, if these children continued to claim that they had witnessed the non-event, they were gently challenged again.

For children in the *suggestion* condition, 21% of 3- and 4-year olds and 14% of 5- and 6-year olds made spontaneous claims that Sam had committed these acts. When further probed about Sam's misdeeds, 53% of the younger children and 38% if the older children claimed that Sam had committed one or both of the misdeeds. When the children who initially reported that the misdeeds were committed were presented with a countersuggestion, 35% of the youngest children stated that they had seen Sam commit these acts and when challenged again, 12% of these children continued to claim that Sam had committed these acts. For the older children, approximately 12% claimed that they had seen Sam commit these acts and when challenged again, 9% continued to claim that Sam had committed these acts.

In the *stereotype plus suggestion* condition, 46% of the younger children and 30% of the older children claimed that Sam committed these acts in their free narrative.

When further probed, 72% of the younger preschoolers stated that Sam did one or both of the misdeeds. When further asked if they had actually seen Sam commit these acts, 44% of the younger children stated that they had and when challenged again, 21% continued to claim that they saw Sam commit these acts. The older children mimicked these results, albeit to a lesser extent (38%, 15%, and 9%).

Children in the *control* condition made minimal false allegations. Only 5% of the youngest children claimed to have seen Sam commit a misdeed and, of these children, only 2.5% continued to hold onto this belief when challenged. None of the older children claimed to have seen Sam commit either of the misdeeds.

While the majority of children recanted their false statements when challenged, a solid minority did not. Of this group, the younger preschool children were especially likely hold on to their false reports. Leichtman and Ceci (1995) postulated that younger children performed more poorly than older children because of both demand characteristics and source-monitoring problems. For example, children falsely attributed memories about what they had only *heard* Sam do to his actual classroom visit. In terms of retraction rates of children's reports for multiple events, there is no study that is directly comparable to Leichtman and Ceci's. The research that has been completed on retraction rates has focused on the implementation of source-monitoring tests to decrease false responding due to source misattributions (Bright-Paul, Jarrold, & Wright, 2005; Poole & Lindsay, 1995, 2002; Roberts & Powell, 2006).

Source-monitoring Theory

One theory that has been used to explain problems with source confusion is the aptly named, source-monitoring theory. Source-monitoring refers to the ability to attribute a memory to the correct experience (Lindsay, 1990; Roberts, 2002). Misattributions occur when an individual claims that something was experienced in one context when it was actually experienced in a different context. The ability to source monitor is important in terms of suggestibility because people sometimes confuse memories from different sources (e.g., Johnson, Hastroudi, & Lindsay, 1993), such as attributing the false information they were presented with in the biasing interview to the event they actually experienced. In this situation, the individual would be misattributing this false information to the experienced event. Misattributions are more likely to occur when an individual bases his source judgement largely on familiarity rather than a rigorous attribution process (Johnson, Hastroudi, & Lindsay, 1993), when items from the different sources are highly associated (e.g., Johnson, Raye, Foley, & Foley, 1981; Connolly & Price, 2006), and when the original stimuli are easy to process (Foley, Durso, Wilder, & Friedman, 1991).

Poole and Lindsay (2001) implemented a source-monitoring procedure with 3- to 8-year old children. Children participated in science experiments, after which they were read stories about experienced and fictitious science experiments. Prior to interviewing the children about their memory for the actual experiments, interviewers administered a source monitoring training procedure to half of the children. In their procedure, Poole and Lindsay explained the difference between what it means to *see* something versus *hear* something and provided examples to illustrate these differences. Source-monitoring training reduced the number of errors made by the 7- and 8-year old children, when answering direct questions (e.g., recalling science experiments that they had only read about). However, the training procedure did not reduce the number of false reports during free recall and had no effect on the younger children's reports. This study replicates previous research that children's source memory improves with age (Ackil & Zaragoza, 1995; Quas & Schaaf, 2002).

Roberts and Powell (2006) also examined the influence of source-monitoring instructions on 6- and 7-year old children. However, they administered the source monitoring test *after* the children's initial event reports to determine whether source monitoring would allow them to change their reports and retract their initial statements. Children participated in a single classroom event or four repeated events across a 2-week period. Activities consisted of 16 target details embedded within several activities, e.g., listening to a story or doing a puzzle. One or four weeks after the final event, children participated in a biasing interview, in which a new interviewer made false suggestions about half of the details contained in the final event for repeat-event children or the only event for single-event children. Suggestions were either consistent or inconsistent with the theme of each activity. For example, at each event the children sat on the floor on a particular item, such as a mat. A false-consistent suggestion would imply that the child sat on something different at floor level, e.g., "I heard that the leader brought you something to sit on. What colour was the *newspaper* that you sat on that day?" In contrast, a false-inconsistent suggestion would imply that the child sat on an item that was not at floor level, e.g., "What colour was the *wooden chair* that you sat on that day?" On the following day, a memory interview about the final (or only) play session was administered. Immediately after the memory interview, children were given a source-monitoring test in which each of the details about which suggestions were presented was probed. For each detail, children were asked if they actually *saw* a specific detail or if someone only *told* them about that detail. No further instructions were provided.

Source-monitoring training helped children to accurately identify the source of false-inconsistent items, but not false-consistent items. In their retraction analyses, Roberts and Powell found that even though children made false reports at the memory interview, they retracted a substantial number of these reports after the source monitoring test. However, children also retracted a substantial number of their *accurate* reports, especially when questioned about false-consistent details. Specifically, children retracted 40% of both true and false reports when questioned about false-consistent details. In contrast, when questioned about false-inconsistent details, children retracted 25% of their true reports and 65% of their false reports. Overall, children who experienced a series of events were more confused about the source of information than those who only experienced a single event and this confusion was heightened when suggestions were consistent compared to inconsistent with the experience.

Roberts and Powell demonstrated that when children were exposed to false-inconsistent details, they were able to retract their initial false reports. However, when false-consistent details were present, children were as likely to retract initial false reports as they were true reports. This presents a problem as children were not always discriminately retracting their statements. Sometimes, they were retracting both true and false statements at an equal rate. In terms of the forensic interview, indiscriminate retracting is not ideal and may be the result of children failing to understand or pay attention to the source-monitoring test. An effective source-monitoring test will help children to retract the majority of their false statements but retain their true statements.

There is currently no standardized source-monitoring procedure and researchers have used different methods to help children orient their memories. For example, some researchers have presented children with a forced choice between relevant sources (e.g., Roberts, 2000), e.g., “Did the leader wear an apron or a cape?”, while others have used more implicit forms of source monitoring, in which children are given a task to perform that requires them to make source attributions to complete that task (Roberts & Blades, 2000; Thierry, Spence, & Memon, 2000). In repeat-event suggestibility studies, which include a source-monitoring test, the interviewer often starts off by stating that the previous interviewer was confused and that she needs to find out what the child actually experienced. After this introduction, some researchers have presented the child with the experienced detail and the relevant suggested detail and asked the child to choose which one actually occurred (Powell & Roberts, 2002). Some have asked the child whether he *saw* a specific detail or if someone only *told* him about that detail (Roberts & Blades, 2006) and others have, furthermore, explained this difference and provided examples (Poole & Lindsay, 2001). Using examples or providing the child with a test can be beneficial as it can be used as a “check” to make sure that the child is actually considering the sources and not just “yeah-saying” (Roberts & Blades, 2000). For a source-monitoring test to be effective, children must be motivated to understand and pay attention to the training procedure.

Current Research

The present study evaluated retraction rates of false statements for Kindergarten and Grade 3 children who either experienced a single event or a series of repeat events. In this study, children participated in one craft session or four repeated craft sessions across four days. Each craft session included 16 variable event details. Four days after the single or final craft session (the target session), a biasing interview was conducted. Interviewers introduced suggestive statements (i.e., misleading details that were not experienced during any of the craft sessions), which were consistent with the themes of the originally experienced details. During the biasing interview, the interviewer also stated that other children in another classroom had acquiesced to these suggested details. One day after the biasing interview, children participated in two memory interviews consisting of free and cued recall questions about the target session. After the first memory interview, children were given a source-monitoring (SM) training session. As SM instructions have not been beneficial for younger children in previous research (e.g., Ackil & Zaragoza, 1995), the current study implemented an interactive game into the SM training session to improve the motivation of both younger and older children to attend to and understand SM instructions and to measure their source-monitoring skills. Finally, children were given a second memory interview, which consisted of the same free and cued recall questions asked in the initial memory interview.

There were three overarching hypotheses in the current study:

(1) Children in the single-event condition will benefit more from SM training than children in the repeat-event condition.

(2) Children in the single-event condition will be less suggestible than children in the repeat-event condition.

(3) Children in Kindergarten will be more suggestible than children in Grade 3.

METHOD

Participants

Children were recruited from elementary schools within the Catholic Independent Schools of the Vancouver Archdiocese (CISVA) in the lower mainland. Elementary schools within the CISVA district were contacted and letters were sent home to the parents of children in Kindergarten and Grade 3 classrooms in the schools that consented to participation. Four schools consented to participation and, in total, eight classrooms (two classrooms per school) took part in the study. Classrooms were randomly assigned to the single or repeat event condition. All children in a classroom participated in the craft session(s) but only children who returned consent forms signed by a parent/guardian assenting to their participation were allowed to take part in the interview portions of the study. In addition, each child was asked for oral assent prior to being interviewed about the craft session(s).

Power calculations using a medium effect size (0.50) indicated that 73 children would be required to participate to obtain a power of 0.95. In total, 91 children (Kindergarten: aged 5-6 years old, *M*age = 69.31 months, *SD* = 3.26; Grade 3: aged 8-9 years old, *M*age = 107.21 months, *SD* = 2.93) participated in the study.

Design and Procedure

This study was a 2 (grade of participant: Kindergarten, Grade 3) x 2 (frequency: single, repeated) x 2 (question: biasing, control) x 2 (interview: first, second) mixed model analysis of variance (ANOVA) with grade and event frequency as between-subjects variables and question type and interview as within subjects variables.

Craft Sessions

Classrooms were randomly assigned to participate in the repeat-event (RE) condition, composed of four craft sessions, or the single-event (SE) condition, composed of one craft session. The craft sessions in the RE condition took place over four consecutive days, with one craft session occurring each day. All craft sessions were conducted with the entire classroom.

Each craft session consisted of one craft that included 16 event details, listed in Table 1. The presentation order of the details can be read along the left-hand column of the Table. Children in the RE condition experienced a different option of each detail across the four craft sessions. For example, while in each of the craft sessions the leader used a stage name (detail), the stage name she used was different every day (options), e.g., Bugs Bunny on Day 1, Mickey Mouse on Day 2, Daffy Duck on Day 3, and Scooby-Doo on Day 4. Sponge Bob would be the suggested detail presented in the biasing interview. These detail variations can be read along the rows in the table.

All variable details have an intermediate level of association with one another. Previous research (Connolly & Price, 2006) has demonstrated that the level of association between details can differently influence the suggestibility rates of younger and older children in SE and RE conditions. To maximize suggestibility in both the younger and older children and to avoid creating a reverse developmental trend in the data, an intermediate level of association between details was chosen. This means that the details are related at a superordinate level (e.g. types of animals) but not at a subordinate level (e.g. types of dogs). Children were directed to each event detail three times during each craft session. For example, the craft session leader might make statements such as, “My stage name today is Bugs Bunny. Bugs Bunny is a really funny cartoon character. See, even my nametag says Bugs Bunny.”

All craft sessions began with the craft session leader looking outside and describing what she saw (sun, leaves, snow, tree, flowers). Next, the children participated in a warm up activity (turning, shake legs, wiggle fingers, touch toes, stretch arms). Then the leader told the children that she was going to use a special name while making the craft (Bugs Bunny, Mickey Mouse, Daffy Duck, Scooby-Doo, Sponge Bob). Following this, the craft session leader put on a costume (ring, cape, apron, goggles, scarf). Next, the leader told the class to close their eyes and pretend that they were in a special location (home, art studio, library, friend’s house, cave). Next, the craft session leader sang a song with the class (Itsy Bitsy Spider, Hot Cross Buns, Row Row Row your Boat, Wheels on the Bus, Mary had a Little Lamb). Following that, a lucky charm was brought out (scissors, pencil, paintbrush, marker, eraser). Then, a special assistant was brought out (giraffe, leprechaun, tiger, dog, troll). Next, the craft session leader then took out a mat to stand on (moon, towel, box, backpack, suitcase). The craft session leader then took all the art supplies out of a container (plastic container, basket, box, backpack, suitcase) and distributed them to the class. Next, the leader instructed the children on how to do the craft (colouring, portrait, paper bag puppet, paper plate flower, origami). Children were directed to write their name on their craft. Completed crafts were collected by the craft session leader and returned to the children after the final memory test. Following this, the children were given a sticker (bicycle, boat, bus, wagon, train) for completing the project.

Next, the craft session leader said who she was going to give her craft to and showed a picture of that person (mom, teacher, doctor, sister, neighbour). Then the craft session leader said that she wanted to eat a snack and brought out the snack (orange, candy, apple, cookies, chips). Next, the craft session leader said where she was going after the craft session (movies, park, bank, birthday party, grocery store). Finally, the craft session leader said goodbye (curtsey, high five, bow, wave, shake hands) to the children. Each craft session was conducted with the entire class and lasted approximately 20 minutes.

The fourth (and final) instance for the children in the RE condition was identical to the only instance experienced by the children in the SE condition. The final/only session was the "target" instance, which children were later asked questions about. To differentiate it from the other sessions, the craft session leader brought in a large, colourful banner that read "Last Craft Day!" and the craft session leader referred to it several times throughout the session. This target instance was called "Last Craft Day" to help children identify it in the subsequent interviews. Two random orders of details were created (e.g., 1, 3, 5, 4, 2 and 2, 1, 4, 3, 5), such that half the children in the RE condition experienced options 1, 3, 5, and 4 on days 1, 2, 3, and 4, and 2 was the suggested option. The other half of the RE children experienced options 2, 1, 4, and 3 on days 1, 2, 3, and 4, and 5 was the suggested detail. For the children in the SE condition, half experienced detail 4 as their only craft session (option 2 was suggested) and half experienced detail 3 as their only craft session (option 5 was suggested).

Biasing Interview

Four days after the final (or only) craft session, the biasing interview occurred. A different experimenter conducted the individual interviews. The interviewer began by establishing rapport with the child by asking him several questions to make him feel comfortable, e.g., "Are you having a fun day?", "Do you have any brothers and sisters?", "What is your favourite subject?" During the rapport building period, the interviewer also asked the child some questions to gauge their understanding of the English language, e.g., "How many languages can you speak?" and "What language do you speak at home?" These questions can be viewed in Appendix B.

Next, the interviewer told each child that she was interested in hearing about what happened on the Last Craft Day. The interviewer told the child that she had spoken to some children from another classroom that also made a craft on the Last Craft Day and they told her about some of the things that happened. The interviewer then asked the child if he remembered this day and asked him to describe the banner. Once it appeared that the child remembered this day, based on the banner description, and was aware that all questions pertained only to this day, the interviewer asked 16 questions about the target session, in the order of the presented details. Eight questions were biasing and introduced new information to the child (i.e., information that was not experienced during any of the craft sessions) and the other eight questions will were control and referred, non-specifically, to the details actually experienced on the target day. Biasing and control questions were counterbalanced such that each event detail served as a suggested item for half the participants and a control item for the others. Details were randomly assigned to be suggestive.

For the biasing questions, information about details that did not occur in any craft session was presented. Biasing questions also included positive statements about the suggested detail, allegedly made by children in another classroom who had also participated in the Last Craft Day. Each suggestion was presented three times to the participant: first in a statement about the occurrence of the event, second in a general statement about that detail, and third, in a question posed to the participant. Questions were posed such that acquiescence to the suggestion was not required. For example, a biasing question may be posed as, “I heard from some of the other kids at school that you *ran* in place to warm up. *Running* can be good exercise. Do you like to *run* around outside for fun?”

For the control questions, each question was presented in two stages: first in a statement about the occurrence of the event (e.g. “The experimenter showed you a lucky charm before starting the craft”), and second in a general question to the participant (e.g. “Did that help you make the craft?”). Questions were posed such that they did not remind the participant of the specific detail that occurred, as doing so could inflate memory for these details in comparison to the suggested details.

Along with the 16 detail questions, two questions were asked about a new, complex event. In Poole and Lindsay’s (2001) design, children were not only introduced to new details, but entirely new events, i.e., a fictitious science experiment that children only heard about but did not experience, which many children later described as true. Here, children were told that the craft session leader’s friend came to visit on the Last Craft Day and they were asked questions about this visit. These questions were posed in a similar format to the suggestive questions.

The interview lasted approximately 5-10 minutes. A full set of biasing questions is presented in Appendix C.

Memory Interview 1

Five days after the target instance (1 day after the biasing interview), children participated in a memory interview. A five day delay between target event and memory interview was chosen to facilitate access to gist memory (Brainerd & Reyna, 2004). According to fuzzy trace theory, two memory traces are created when an event is experienced: a gist memory trace and a verbatim memory trace. The verbatim memory provides a specific account of what occurred, e.g. specific details, while the gist memory provides a more general account, e.g. an overview or gist (Brainerd & Reyna). Over time, access to gist memory increases, while access to the verbatim memory decreases. By delaying the memory interview, it is more likely that participants will tap into gist accounts of the instance, as opposed to verbatim accounts, which should facilitate higher rates of biased responding.

In this interview, a different interviewer interviewed each child individually about the Last Craft Day. The interviewer began by establishing rapport with the child by asking them several questions about themselves. Following this, the interviewer told each child that she was interested in hearing about what happened on the Last Craft Day. The interviewer asked the child if he remembered this day and asked him to describe the banner. Once it appeared that the child remembered this day and was aware that questions pertained only to it, she began the interview by asking a free recall question about the target event. Children were told that the current experimenter was not present on the Last Craft Day and that she would like to learn more about the sorts of things that were done on that day. The experimenter asked the child to tell her everything he could remember about this day. During this account, if the child was silent for ten or more seconds, he was prompted by the interviewer for more information, e.g. “What else can you tell me about that day?”, “Can you think of anything else?” A maximum of three prompts were given. After free recall appeared to be exhausted (three prompts were used), children were asked 16 cued recall questions based on the 16 event details presented in the craft session, as well as one yes/no question about the suggested visit from the craft session leader’s friend. Questions about the event details were asked in the order in which they were originally experienced and the recognition question was asked at the end of the interview. This interview lasted approximately 5-10 minutes. The memory interview is in Appendix D.

Source-Monitoring Training Session

Immediately following the first memory interview, children participated in a source-monitoring (SM) training task. In the training task, children took part in an instructive game to help them understand the difference between being *told* that something happened and actually *experiencing* something that happened. The game also acted as a distracter task between the first and second memory interviews. Children were presented with a ball and cup game, in which the child was asked to locate an item under one of three identical cups. Children were told that they were going to play a game and answer some questions. Children were told that it was very important to pay attention to the initial instructions because they could only get a prize if they answered the questions correctly. The questions are modelled on Poole and Lindsay’s (2001) source-monitoring preparation tasks.

To start, the interviewer told the child that she needed to set up the game. The interviewer took out a bag and pulled out the needed articles from it. She said, “First I am going to take all things I need for our game out of this bag. [Takes out three cups and one red ball] Sometimes I like to zip the bag up when I have taken out everything I need. When I do zip up the bag it makes a zzzzzzz sound when I do." The interviewer then asked the child, "What did I just do to get the game ready?" If the child answered correctly, he was reinforced, e.g., "You got it! I did open my bag and take the toys out. You know this because you saw it happen. You only heard me tell you about the zipping but it did not actually happen, so it is good that you did not tell me that it did." If he answered with the event that was described (zipping up the bag), he was corrected, e.g., "Remember, I only told you that I sometimes zip up the bag, but I didn't actually do it. Do you remember seeing me zip up the bag? No, you didn't see me zip the bag." If the child stated something that did not happen and was not described, he was directly asked about the event, e.g., "Did I zip up my bag?", and then reinforced appropriately. If the child answered correctly, he received a sticker. If he didn't, the interviewer told him that he would get two more chances to get a sticker.

Next, the interviewer put all three cups in a row on the table. The interviewer said, "Now I am going to line up my cups and dust them off with a cloth. Sometimes I like to dust them with a feather. The feather I use is very soft and cleans the cups really well." Then the interviewer put away the cloth and asked what was done to get the cups ready. The child was appropriately reinforced and given a sticker if he answered correctly.

Next, the interviewer put a ball under one of the cups. The interviewer said, "Today I am going to place a red ball under this cup. Sometimes I like to put a yellow star under the cups, instead. The star I like to use is bright yellow and is really big." Then the interviewer asked what was put under the cup and the child was appropriately reinforced and given a sticker if he answered correctly.

Finally, the game was played. The interviewer informed the child that she was going to shuffle up the cups and that the child should pay attention to which cup the ball was under. This game was played three times and children were given an additional sticker at the end. A script of this training session can be found in Appendix E.

Memory Interview 2

Once the SM training was finished the child was asked to answer a few more questions. The interviewer told the child,

> "So, as you know, I wasn't here on the Last Craft Day or when [insert biasing interviewer name] came. She visits lots of schools and when I talked to her after she visited your classroom, she told me that she accidentally brought the wrong set of questions! Some of the things she told you about may not have actually happened. I am worried that she may have told you about some things that never actually happened to you on the Last Craft Day. I want to ask you some more questions about that day. I'm going to ask you the same questions I asked you before. This doesn't mean that your first answer was wrong; it's just that I have to ask you all the questions on my list. Is that okay? Great!
>
> When you answer these questions I want you to remember back to the Last Craft Day and tell me only the things that you remember happening to you, things you remember seeing and feeling yourself. If you only heard about something happening but you didn't actually see or feel it yourself, I don't want you to report it. This is just like what you did when we played the cups game. For example, you told me that I put a ball under the cups, not a star. You told me about things that you actually saw happen and you did a great job! When I ask you these questions, I only want you to tell me about the things you can remember seeing or feeling yourself. Does that make sense? Great."

The interviewer then proceeded to ask the same free and cued recall questions that were presented in the first memory interview. The only difference between the first and second memory interview was that in the second memory interview, when children responded to a cued recall question with a particular detail, they were asked if they remembered the detail *actually happening* or if they only remember being *told* that it happened. The final memory interview is presented in Appendix F.

Finally, children were told that the biasing interviewer made some mistakes during her interview with them and children were asked if they had any questions about this. This concluded the interview and children were given a prize for participating and walked back to class.

Coding

All final interviews were transcribed and each event detail was coded as one of four responses: Correct Response, False Suggestion, Incorrect Experienced Response, or Incorrect Non-Experienced Response. A response was coded as correct if the child reported the correct event detail, the general category name of a detail, or a non-specific description of the detail. A response was coded as a false suggestion if the child reported the detail that was suggested during the biasing interview. A response was coded as incorrect experienced if the child reported a detail that was experienced either during a different instantiation in the series of events or during the target instance but during a different activity. For example, if you refer to Table 1, you will see that in the first instance, the craft session leader looked outside and saw the sun. When asked about what she saw outside that day, if the child stated she saw something from one of the other instances, such as leaves or snow, this would be coded as an incorrect experienced detail. Similarly, if the child stated that she looked out the window and saw something from a different activity *within* that first instance, such as a bicycle, this would also be coded as an incorrect experienced detail. Finally, a response was coded as incorrect non-experienced when a child reported a detail that was not experienced during the target instance or during any other instance and it was not suggested, the child reported information that was off-topic, not understandable, or responded with “I don’t know”.

The coding protocol was adapted from Price and Connolly (2004), with one exception: if a child reported multiple details to the same question (e.g., the child said she wore a cape, an apron, and a scarf) and was unable to decide on one option, only the first reported detail was recorded and coded. The reason for this decision was that the first response was, arguably, the detail with the strongest memory trace. Out of 2912 possible cued recall questions across participants, less than one percent (0.016%) of responses contained multiple responses. For all analyses, only the most specific event details were used (e.g., if a child reported that the craft session leader wore an apron and a red apron, only the term red apron was coded).

Two independent coders obtained inter-coder agreement on 10% of the transcripts. Inter-coder agreement was computed as (agreements / agreements + disagreements) x 100 (i.e., percentage agreement). Disagreements occurred if one coder recorded information about an event detail and the other coder recorded it differently or did not record any information about the detail. Inter-coder agreement for each section of the final memory interview (free recall and cued recall) was 91.2%.

RESULTS

Ninety out of 91 children completed the source monitoring (SM) training procedure. During the training procedure, the interviewer asked each child three questions to gauge their understanding of the difference between actually experiencing something and being told about something. Children were considered to have “failed” the SM test if they answered zero questions or one question correctly and to have “passed” if they answered two or three questions correctly. All children answered at least one question correctly and only a small minority of children answered only one question correctly (5.1% of Kindergarteners and 1.9% of Grade 3 children). The majority of children answered all three questions correctly (53.8% of Kindergarteners and 78.4% of Grade 3 children) or two out of three questions correctly (41% of Kindergarteners and 19.6% of Grade 3 children). Rates of correct responding on the SM training test are reported in Table 2. Only children who “passed” the SM test were included in the following analyses.

Some additional children were also excluded from the analyses. In this study, there were four between subjects comparison groups: SE Kindergarten, SE Grade 3, RE Kindergarten, and RE Grade 3. The first three groups all had similar cell sizes (19, 18, and 22, respectively), however the last group, RE Grade 3, had a cell size of 28. As this group was considerably larger than the others and, thus, could influence the analyses, seven children were randomly excluded from this group to make the cell sizes across comparison groups more similar. The forthcoming analyses were run on 80 of the 91 participants.

All analyses reported include free and cued recall separately. The results section begins with a presentation of correct responses, followed by analyses of reported false suggestions, incorrect experienced responses, and incorrect non-experienced responses (all means and standard deviations are displayed in Table 3 for free recall and Table 4 for cued recall) . Following this, analyses of children's reports of events that "actually happened" vs. "told it happened" are reported (means and standard deviations of AH and TS responses are reported in Table 5) and finally, analyses on children's reports of the suggested, new event are presented. Alpha levels were set at .05 for all tests.

Correct Responses

Correct responses were analyzed in separate 2 (grade: kindergarten, grade 3) x 2 (event frequency: single, repeated) x 2 (question type: biased, controlled) x 2 (interview: first, second) mixed model analyses of variance (ANOVA), with grade and event frequency as between-subject variables and question type and interview as within-subjects variables, for both free and cued responses.

Free Recall

In free recall, was a main effect of question type, F (1, 68) = 19.52, $p < .05$, $\eta^2_p = .22$, with children more likely to respond correctly to control questions (M = 3.37, SD = 2.06) than biasing questions (M = 2.04, SD = 2.09); a main effect of grade, F (1, 68) = 21.92, $p < .05$, $\eta^2_p = .24$, with children in Grade 3 reporting more correct details (M = 6.67, SD = 2.95) than children in Kindergarten (M = 3.93, SD = 2.72); and, finally, a main effect of event frequency, F (1, 68) = 22.27, $p < .05$, $\eta^2_p = .16$, with children in the single event condition reporting more correct details (M = 6.40, SD = 3.34) than children in the repeated events condition (M = 4.48, SD = 2.52).

Cued Recall

In cued recall, similar results were found. The main effects of question type, F (1, 76) = 13.95, $p < .05$, $\eta^2_p = .15$, and grade, F (1, 76) = 14.55, $p < .05$, $\eta^2_p = .16$, were qualified by an interaction between question type and grade, F (1, 76) = 7.06, $p < .05$, $\eta^2_p = .08$. To explore this interaction, two paired samples t-tests were conducted to examine the number of correct responses to control and biasing questions for Kindergarten and Grade 3 children separately. Grade 3 children were more likely to respond correctly when asked a control question (M = 8.58, SD = 3.33) rather than a biasing question (M = 6.07, SD = 2.87) (t = 4.65, $p < .05$), while children in Kindergarten were no more likely to respond correctly to control (M = 5.76, SD = 3.61) than biasing questions (M = 5.32, SD = 2.97) (t = 0.78, $p > .05$).

There was a main effect of event frequency, F (1, 76) = 52.07, $p < .05$, $\eta^2_p = .40$, with children in the single event condition reporting more correct details (M = 16.30, SD = 4.47) than children in the repeated events condition (M = 9.53, SD = 4.61). This main effect was nearly qualified by an interaction between interview and event frequency, F (1, 76) = 3.62, $p = .06$, $\eta^2_p = .05$. To explore this trending interaction between interview and event frequency, two paired samples t-tests were conducted to examine the number of correct responses reported in the first and second interviews in the single and repeated events conditions separately. Analyses demonstrated that children in the single event condition were more likely to supply correct details in the second interview (M = 8.34, SD = 2.30) than in the first (M = 7.95, SD = 2.30) (t = 2.29, $p < .05$), while there were no differences in correct responding from the first interview (M = 4.85, SD = 2.39) to the second interview (M = 4.69, SD = 2.45) for children in the repeated events condition (t = 0.65, $p > .05$).

False Suggestions

Free Recall

Reports of suggested details in response to biasing questions *only* were analyzed in a 2 (event frequency) x 2 (interview) mixed model ANOVA. Children made few reports of suggested details in the free recall section (refer to Table 3 and 4) and this abundance of zeros made it impossible to run an interpretable 4-way ANOVA. As event frequency and interview are, arguably, most important to the central research question, grade was collapsed. Suggested details in response to control questions were also omitted from the analyses. The reason that question type was not also collapsed was that suggested details in response to biased and control questions are qualitatively different. When a child responds with a suggested detail to a control question, this is a mere guess. On the other hand, when a child responds with a suggested detail to a biasing question it may reflect a guess or an effect of the biasing interview. Control questions were included to measure guessing and to confirm that when children responded to biasing questions with suggested details it did not reflect a mere guessing bias. Once it is determined that a biasing effect is present – biasing questions are more likely to elicit a false suggestion than control questions – including false suggestions to control questions does not provide us with meaningful information. To determine if a biasing effect occurred in the current data, a paired samples t-test was run between the number of reports of suggested details made to biasing questions and the number of reports of suggested details to control questions. Indeed, children were more likely to report suggested details to a biasing questions (M = 0.21, SD = 0.62) than to a control questions (M = 0.01, SD = 0.11) (t = 2.91, $p < .05$) and so the main analyses was done.

There were no main effects or significant interactions in free recall.

Cued Recall

Similarly, in cued recall a paired samples t-test was first computed to determine whether a biasing effect was present. Mirroring the free recall results, children were more likely to report a suggested detail in response to a biasing question (M = 1.75, SD = 2.04) than to a control question (M = 0.10, SD = 0.41) (t = 7.38, $p < .05$).

Similar to the analyses completed on the free recall data, the question type variable was dropped and analyses were completed on the reports of suggested details to biasing questions only. Thus, false suggestions were analyzed in a 2 (grade) x 2 (event frequency) x 2 (interview) mixed model ANOVA. There was a main effect of grade, F (1, 83) = 6.79, $p < .05$, $\eta^2_p = .08$, with Grade 3 children reporting more suggested details (M = 2.26, SD = 2.24) than Kindergarten children (M = 1.13, SD = 1.55).

Incorrect Experienced Responses

Only children who experienced four events are able to make a true incorrect experienced response. While, children who only experienced a single event did, occasionally, provide a detail that had been experienced by children in the repeat-event condition, this reflects mere guessing and is not informative. In free recall, children across both event frequency conditions made a total of 52 incorrect experienced responses across both memory interviews. Of these 52 responses, only one was made by a child in the single-event condition. In cued recall, children made a total of 426 incorrect experienced responses across all conditions. Sixty (about 15%) of these responses were made by children in the single-event condition and 366 (about 85%) were made by children in the repeat-event condition. Thus, single-event children were not included in the analyses. The question type variable was also collapsed in these analyses as there is no theoretical reason to expect children to report incorrect experienced details more often to biasing questions than to control questions. Thus, incorrect experienced responses made by children in the RE condition only were analyzed in separate 2 (grade) x 2 (interview) ANOVA.

Free Recall

There was a main effect of interview, $F\ (1, 35) = 4.74$, $p < .05$, $\eta^2_{\text{p}} = .12$, such that children reported more incorrect experienced responses in the second interview ($M = 0.89$, $SD = 0.96$) than in the first ($M = 0.49$, $SD = 0.73$).

Cued Recall

There were no main effects or significant interactions.

Incorrect Non-Experienced Responses

Free Recall

Across all conditions, only one incorrect not-experienced report was made. Due to the number of zeros in the free recall section, as evidenced in Tables 2 and 3, an interpretable ANOVA was not able to be run and the free recall section was dropped from the analyses.

Cued Recall

In cued recall, incorrect non-experienced responses were analyzed in a 2 (grade) x 2 (event frequency) x 2 (interview) ANOVA. The question type variable was, again, collapsed, as there is no theoretical reason to expect children to report incorrect non-experienced details more often to biasing questions than to control questions

There was a main effect of grade, F (1, 83) = 14.84, $p < .05$, $\eta^2_p = .18$, such that children in Kindergarten reported more incorrect non-experienced responses (M = 24.59, SD = 10.10) than children in Grade 3 (M = 15.91, SD = 8.53).

Actually Happened vs. Told

During the cued recall portion of the second interview, when a child responded to a question with a particular detail, they were asked to further clarify whether they remembered that detail as "actually happening" (AH) during the craft session or whether they remembered being "told by someone" (TS) that the detail occurred. If the child wasn't sure which option to choose, a "don't know" (DK) response was recorded. Analyses were conducted to determine whether children were able to correctly classify whether the detail they reported actually happened or not.

In the first analysis, correct and incorrect experienced responses were collapsed into one category – Experienced Details. This was done to encapsulate all the details the child would have experienced during the craft sessions. Although the child would not have actually experienced an incorrect experienced detail in the final craft session, they would have experienced it in one of the prior event instantiations. Thus, when given the option of choosing whether the incorrect experienced detail actually happened or not, the correct answer is that it did happen. In the second analysis, only suggested responses were analyzed. Incorrect not-experienced details were dropped from the analyses because these details neither happened, nor were told to the child. Thus, AH and TS are both incorrect answers in response to these details. Finally, as there were only 33 reports (out of a total 956) in which children responded DK when asked whether the detail actually happened or not, this category was also omitted from the analyses. In the following analyses, children's knowledge of whether a reported detail was AH or TS is investigated. Thus, only main and interactive effects of the response variable are relevant.

Experienced details were analyzed in a 2 (grade: kindergarten, grade 3) x 2 (event frequency: single, repeated) x 2 (question type: biased, controlled) x 2 (response: AH, TS) mixed model analysis of variance (ANOVA). The main effects of response, F (1, 76) = 120.06, p < .05, η^2_p = .61, grade, F (1, 76) = 9.08, p < .05, η^2_p = .11, and question type, F (1, 76) = 4.22, p < .05, η^2_p = .05, and the significant interactions between response and grade, F (1, 76) = 13.84, p < .05, η^2_p = .15, and response and questions type, F (1, 76) = 5.08, p < .05, η^2_p = .06, were qualified by a 3-way interaction between response, question type, and grade, F (1, 76) = 11.97, p < .05, η^2_p = .06. To interpret the three-way interaction, a 2 (event frequency) x 2 (question type) x 2 (response) ANOVA was run on responses made by Kindergarten and Grade 3 children, separately.

For Kindergarten there was a main effect of response, F (1, 35) = 31.43, p < .05, η^2_p = .47, such that, when providing a response that was an experienced detail, children were more likely to provide a AH response (M = 5.75, SD = 2.78) than a TS response

(M = 2.16, SD = 1.82).

For Grade 3 children, the main effect of response, F (1, 41) = 97.62, $p < .05$, $\eta^2_p = .70$, was qualified by an interaction between response and question type, F (1, 41) = 7.49, $p < .05$, $\eta^2_p = .15$. To explore this interaction, two paired samples t-tests were completed to examine the AH and TS reports to controlled and biasing questions, separately. For control questions, children were more likely to respond with AH (M = 4.97, SD = 1.91) than TS (M = 0.56, SD = 0.70) (t = 13.68, $p < .05$). Similarly, for biasing questions, children were more likely to respond with AH (M = 3.84, SD = 1.54) than TS (M = 0.97, SD = 3.37) (t = 5.02, $p < .05$).

False suggestions were similarly analyzed in a 2 (grade) x 2 (event frequency) x 2 (question type) x 2 (response) ANOVA. The main effect of grade, F (1, 76) = 5.78, $p < .05$, $\eta^2_p = .07$, was qualified by three-way interaction between grade, question type, and response, F (1, 76) = 6.58, $p < .05$, $\eta^2_p = .08$. To interpret the three-way interaction, a 2 (event frequency) x 2 (question type) x 2 (response) ANOVA was run on responses made by Kindergarten and Grade 3 children, separately.

For Kindergarten children, there were no effects involving the response variable. They were as likely to respond AH and TS to a suggested detail.

For Grade 3 children, the main effect of question type, F (1, 41) = 34.41, $p < .05$, $\eta^2_p = .46$, was qualified by an interaction between question type and response, F (1, 41) = 12.17, $p < .05$, $\eta^2_p = .23$. To explore this interaction, two paired samples t-test were conducted on AH and TS reports in response to control and biasing question, separately. In response to control questions, Grade 3 children were no more likely to make a AH response (M = 0.23, SD = 0.15) than a TS response (M = 0.00, SD = 0.00)

($t = 1.00$, $p > .05$). In contrast, in response to biasing questions, children were more likely to make an AH response ($M = 0.95$, $SD = 0.20$) than a TS response ($M = 0.21$, $SD = 0.41$) ($t = 3.67$, $p < .05$).

Reports of the New Event

During the biasing interview, half of the children were given information about a new event, i.e., that the artist's friend came to visit during the final (only) craft session. During both memory interviews, children were asked if they remembered this visit. Rates of responding across both memory interviews are reported in Table 6.

During Interview 1, of the children who were given biasing information about a visit ($N = 42$), almost one-third (31%) reported that this visit actually occurred. The remainder of the children either reported that the visit did not happen or that they did not know if it happened (52.4% and 16.7%, respectively). For those given no information about the visit ($N = 38$), about one-fifth (21.1%) of children reported that the visit occurred, 65.8% reported that the visit did not occur, and 13.2% reported that they did not know if the visit actually happened. The difference between the children who were given biasing information and the children who were not given biasing information was not significant, χ^2 (2, $N = 80$) = 1.52, $p > .05$. Of the children who reported that the new event occurred, 71.4% were in Kindergarten and 28.6% of children were in Grade 3 [significant, χ^2 (2, $N = 80$) = 7.38, $p < .05$]. Of the children who reported that the new event occurred, 57.1% were in the single event condition and 42.9% were in the repeat event condition [ns, χ^2 (2, $N = 80$) = 2.24, $p > .05$].

Responses in the second interview mirrored those in the first. Of the children who were given biasing information about a visit ($N = 40$), over one-third (35%) reported that this visit actually occurred. The remainder of the children either reported that the visit did not happen or that they did not know if it happened (42.5% and 22.5%, respectively). For those given no information about the visit (N = 36), 19.4% of children reported that the visit occurred when prompted, 66.7% reported that the visit did not occur, and 13.9% reported that they did not know if the visit actually happened. Again, the difference between the children who were given biasing information and the children who were not given biasing information was not significant, χ^2 (2, N = 76) = 4.47, $p < .05$. Of the children who reported that the new event occurred, 71.4% were in Kindergarten and 28.6% of children were in Grade 3 [significant, χ^2 (2, N = 76) = 11.87, $p < .05$]. Of the children who reported that a new event occurred, 57.1% were in the single event condition and 42.9% were in the repeat event condition [ns χ^2 (2, N = 76) = 1.86, $p > .05$].

DISCUSSION

The present study examined suggestibility and retraction rates of Kindergarten and Grade 3 children who experienced either one unique event or four similar events. Four days after experiencing the target event, children were given false information about this event in a biasing interview. One day later, children participated in a memory interview about the target event, a source-monitoring (SM) training session to help them distinguish between the false information and the actual event, and, finally, a second memory interview.

The overarching hypotheses of this study are largely clustered around the effects of SM training, event frequency, and age, and read as follows:

(1) Children in the single-event condition will benefit more from SM training than children in the repeat-event condition.

(2) Children in the single-event condition will be less suggestible than children in the repeat-event condition.

(3) Children in Kindergarten will be more suggestible than children in Grade 3.

There was partial support for hypotheses one and three; the second hypothesis was not supported. The ensuing discussion is organized around the central hypotheses of the study and each will be further examined in the order listed above. Following a discussion of the study hypotheses, the limitations of the current study will be evaluated and directions for future research discussed. Finally, the concluding portion of this discussion will highlight practical implications to the forensic system.

Hypothesis 1 – SM Training

There were no significant changes in false responding from the first memory interview to the second memory interview across either event frequency condition. However, there was an increase in correct cued recall responding from the first memory interview to the second for children in the single-event condition only. However, in cued recall, children also reported more incorrect experienced details in the second interview compared to the first.

It was originally hypothesized that children in the single-event condition would be more likely to retract initial false statements than children in the repeat-event condition. However, we did not find this effect – children in the single-event condition were no more likely to retract false statements than children in the repeat-event condition.

The rationale behind our initial hypothesis stems from possible source confusion around the number of events children in a repeat-event condition experience. In this paradigm, when answering a question about a biasing detail, children in the single-event condition had to contend with two kinds of competing information - the option they actually experienced in the target session and the false option that was suggested by the interviewer in the biasing interview. In contrast, children in the repeat-event condition had additional competing factors – the options from the other three instances they experienced. For example, when asked what kind of warm up activity they did on the target day, the repeat-event child would have five warm up options to choose from (one option from each of the four instances and one from the biasing interview), while the single-event child would only have to choose between two options (the actual option and the suggested option).

Based on the number of sources present, children in the repeat-event condition had more similar options to choose from and, consequently, we expected would experience more source confusion than their single-event counterparts. Thus, if these children initially make reports of false suggestions, based on their heightened source confusion, the implementation of a SM training paradigm may not actually prove to be helpful in directing them to the source of those suggestions. In contrast, since children in the single-event condition experience fewer sources, it should be easier to direct them to the correct one. However, in the current study, we found no differences in retraction rates of false suggestions for children in either event frequency condition. This result could be due to the near-floor suggestibility effect or because single-event children are actually not more likely to benefit from SM training than repeat-event children.

In terms of false suggestions, it is likely that the near-floor suggestibility effect affected our ability to observe changes in false responding across interviews, in general, as well as across event frequency conditions. While a biasing effect – more false suggestions reported in response to biasing than control questions - was present in the current study, the number of false suggestions reported in response to biasing questions was quite low - on average, children reported a mere 0.20 false suggestions in free recall and an average of just under two false suggestions in response to cued recall questions. Due to this near-floor effect on suggestibility, the possibility of observing a significant decrease in suggestive responding from Interview 1 to Interview 2 across all conditions was low, as was the possibility of determining whether any changes varied specifically as a function of event frequency. Had a larger biasing effect been larger, children would have had a greater base of false reports to work from and it would have been easier to determine whether children made significant changes in their false responding post-SM training. Based on the current data, it is difficult to draw any firm conclusions as to the actual influence of event frequency on retraction rates of false reports. A discussion of reasons for the near-floor effect is presented in the section on Limitations.

While the biasing effect in the current study is small, it is consistent with other rates of suggestibility in the repeat-event literature (e.g., Connolly & Lindsay, 2001; Price & Connolly, 2004; Powell, Roberts, Thomson, & Ceci, 2007, Exp. 1; Powell, Roberts, Ceci, & Hembrooke, 1999). For example, in Connolly and Lindsay's study, children reported a total of seven false reports across both free and cued recall questions. While the majority of these statements were reported by children in a repeat-event condition and to variable details, the limited number of responses prohibited the researchers from drawing firm conclusions based on these data. Instead, recognition data were used in their analyses. In a different study, Powell et al. (1999, Exp. 1) found that in response to questions about variable items, 3- to 5- year old children who experienced a series of events and were given biasing information about the target instance, reported an average of 0.79 false suggestions, while the 6- to 8- year old children reported an average of 0.44 false suggestions after a 3 day delay. Thus, it seems that children in the current study were suggestible at similar rates as children in previous repeat-event suggestibility literature, however perhaps not at a large enough rate to observe a decrease in suggestive responding post SM training.

It is also important to acknowledge the possibility that there is actually no differential effect of SM training on reports on suggestions for single- and repeat-event children. In other words, SM training may be unlikely to assist children in either condition to retract false statements once they have been reported. The reason that SM training may not significantly influence retractions of false suggestions from children in either condition is that both sets of children may have an equivalent ability to identify that suggested information. When gauging one's likelihood of making a false suggestion, we must examine whether one has the ability to distinguish between the experienced source(s) and the heard source. Children in both event frequency conditions have one very distinct source to contend with – the heard source. It could be that this source is equally easy to identify for both these groups of children and, thus, there would be no disadvantage to experiencing multiple episodes. Considering that previous research has demonstrated that repeat-event children are less likely to report incorrect information that was not experienced during the event or biasing interview, in comparison to single-event children (e.g., Powell & Roberts, 2002), it appears that repeat-event children know what they didn't do, but are less confident about what it is they actually did. Of course, to truly make this argument, we would need to observe this null effect within a sample that has a larger suggestibility effect. Nevertheless, it is important to keep in mind that the current study's null effect for differential SM training may speak to an underlying pattern in false suggestive responding.

While, the near-floor suggestibility effect likely influenced our ability to discern changes in false responding from Interview 1 to Interview 2 for children in the single- and repeat-event conditions, separately, we did observe changes in correct responding for children in the single-event condition only. In terms of correct cued recall responding, children in the single-event condition made significantly more correct responses in the second memory interview than in the first. There were no differences in correct cued recall responding across interviews for children in the repeat-event condition. These findings suggest that the SM training paradigm was successful in training children who experienced a single event to monitor their source memory in terms of correct responding. As this positive effect of training for correct responding was only present for children in the single-event condition, it suggests that this particular training paradigm may not be effective for children who experience a series of similar events and are asked to report a single instance from the series.

Importantly, children in the repeat-event condition also made more incorrect experienced responses during free recall in Interview 2 than in Interview 1. This effect was not observed in the cued recall test. For these children, the SM training procedure may have encouraged them to say more in the second interview, especially when given the chance to respond to a broad question about the entire target session. During free recall, children were asked a total of three times what they remembered about the target session. Children may have felt pressure to say more things when prompted several times for a response. As children in the repeat-event condition experienced more events, they had more experienced information that could be reported. In comparison, during cued recall, the interviewer clearly wanted only one response for each question.

This result may speak to the difficulties in training children who experience a series of events to make a correct source attribution and, furthermore, this training may even hurt them as they attempt to comply with repeated open-ended requests for more information. Because these children did experience the detail at some point during the series of events, their report might not *feel* inherently wrong. The inclusion of a confidence scale in future studies may provide some evidence as to whether children feel differentially confident about correct versus incorrect experienced responses.

In sum, children in both conditions failed to make any significant changes in reports of false suggestions from Interview 1 to Interview 2, but there was an increase in reports of correct and incorrect experienced details in cued recall from the first interview to the second. Overall, these results provide some support for using this kind of training paradigm with children who have experienced a *single* event. What is especially promising is that we were able to train both younger and older children to improve correct responding. Previous research (e.g., Ackil & Zaragoza, 1995) has found SM instructions to be less beneficial for younger children, however, in the current study, Kindergarten children were just as likely to increase correct responding across interviews as were children in Grade 3. Differing from previous research in the area (e.g., Poole & Lindsay, 2001), this study incorporated a simple, yet engaging game into the SM training procedure to encourage children to pay attention to the instructions and utilize them when the actual interview commenced. Future research should continue to examine younger children`s ability to perform SM tasks.

Hypothesis 2 – Event Frequency

In terms of correct responding, children's free and cued recall reports largely replicated previous research for event frequency (e.g., Price & Connolly, 2004). Specifically, in both free and cued recall, children in the single-event condition reported more correct details across both interviews than children in the repeat-event condition.

In contrast to the original hypotheses, however, event frequency did not significantly influence reports of false suggestions – that is, children in the repeat-event condition were not more likely to report a false suggestion than children in the single-event condition. While this result fails to replicate some of the previous research on children's suggestibility for repeated events – namely, that under particular circumstances children in the repeat-event condition are more suggestible than those in the single-event condition (e.g., Connolly & Lindsay, 2001; Price & Connolly, 2004; Connolly & Price, 2006), this result is not unusual and is consistent with other research in the area (e.g., Powell & Roberts, 2002; Powell, Roberts, Ceci, & Hembrooke, 1999). Nevertheless, this is an intriguing finding because it appears to go against many predictions that derive from the theoretical memory literature on children's ability to remember instances from within a series of events, most notably script theory and source-monitoring theory. Based the tenants espoused by these theories, children in the repeat-event condition are predicted to be more suggestible than children in the single-event condition because they are exposed to additional, similar information which is easily assimilated into their script for the event and/or because this additional information may increase source confusion between options. Despite these predictions, a heightened suggestibility effect was not found for repeat-event children in the current study. This result could be due to a myriad of issues, including but not limited to, the level of association between options, the memory interview format, the number of plausible options, and/or the near-floor suggestibility effect found in the study.

According to script theory, when we experience an event in similar ways across multiple occasions, we develop a set of general expectations or a *script* of what to expect in future instantiations of this event (Fivush & Hudson, 1990). The more times a similar event is experienced, the more fully developed the script can become (Fivush, 1984).

These scripts are continually updated as we come into contact with new information. New information that is consistent with the original script is easily accepted into the existing information set, but items that are script inconsistent are not as easily accepted (Connolly & Price, 2006; Fivush, 1984). Once information has been accepted into a script for a particular event, we are more likely to expect that information had occurred or will occur during future instantiations of that event. Furthermore, as a part of the script, that information is more readily available and may be referenced when describing the event.

In suggestibility studies, children are given false information that is very similar to the information they have experienced during the actual events. For example, in a warm up activity, children may actually do jumping jacks, touching toes, shadow-boxing, and sit-ups but in the biasing interview, it may be suggested that they, instead, ran in place. All activities fall into the same overarching category of exercises. Since the option given in the biasing interview (running) is consistent with the options experienced during the actual events it is probable that this false option will be easily accepted into that individual's script, increasing the likelihood of later reporting that this false option actually happened. Thus, if the options across instances are very similar and if the suggested option belongs to the same category, then one can expect a heightened suggestibility effect for repeat-event versus single-event children. However, if the options across sessions are dissimilar and/or the suggestion is not a member of the same category, then we would not expect this effect.

Similarities across instances may also heighten source-monitoring misattributions. Source-monitoring refers to the ability to attribute a memory to the correct experience (Lindsay, 1990; Roberts, 2002) and misattributions occur when an individual claims that something was experienced in one context when it was actually experienced in a different context. Claiming that a suggested option actually occurred in the target instance is an example of a source misattribution. When items from different sources are very similar (e.g., Johnson, Raye, Foley, & Foley, 1981; Connolly & Price, 2006), as occurs with items that are highly associated, source misattributions are more likely to occur. In the current study, children in the repeat-event condition were exposed to similar information across a series of repeated events, likely making it difficult for them to determine the source of each piece of information. In contrast, children in the single-event condition would experience less source confusion as they simply had fewer experiences.

In summation, both script and source-monitoring theory posit that repeat-event children will be more suggestible than single-event children. Script theory proposes that similar options across repeated instances will be easily integrated into one`s script for the event, leading to heightened suggestibility, and source-monitoring theory argues that the similar information across instances will heighten source confusion and, again, lead to increased suggestibility. Based on this theoretical background, it is logical to hypothesize that children in the repeat-event condition would be more likely to make a false suggestion, as evidenced in previous studies (e.g., Connolly & Price, 2007). However, this was not the case in the current study.

Prior studies that have investigated the influence of event frequency on children's false suggestive reports (e.g., Connolly & Price, 2006; Powell & Roberts, 2002), have noted that suggestibility is often heightened when the options are variable and highly associated with one another, e.g., a different coloured cape is worn in each session. Indeed, the inclusion of high association options can result in older children being more suggestible than younger children (Connolly & Price, 2006). In the current study an intermediate level of association between options was intended. Here, the options within a category were clearly related but, we expected, not as tightly associated as in other studies. For instance, instead of wearing a green cape, then a blue cape, and then a red cape over three days, the craft session leader, instead, wore a cape, then a scarf, and then an apron. The first category has a high level of association between options, while the second category has an intermediate level of association. It was hypothesized that by including options with an intermediate level of association, children would still view each option as being a part of the same category and this would lead to heightened suggestibility in the repeat-event condition relative to the single-event condition. However, it could be that by decreasing the level of association between options, we inadvertently affected how repeat-event children remembered them. Perhaps, the differences between options were larger than originally estimated and children in the repeat-event condition failed to see them as interchangeable. Thus, when given biasing information, it would be less likely to easily fit into their script for the event. However, based on the reverse developmental trend data discussed under Hypothesis Three, this possibility seems unlikely.

Some other possibilities for why an event frequency effect was not found in the current study may include the memory interview format, the number of plausible options, or the near-floor suggestibility effect. Turning first to the format of the memory interview, the current study utilized free and cued recall questions in the memory interview, as opposed to yes/no recognition questions, in an effort to improve external validity – i.e., in a forensic interview, recognition questions are often viewed as leading and discouraged. Several previous studies that used a cued recall paradigm to interview children about their target experience failed to find an effect of event frequency on suggestibility (Powell & Roberts, 2002; Powell, Roberts, Ceci, & Hembrooke, 1999), while other researchers (Connolly & Lindsey, 2001; Powell & Roberts, 2002) that used a yes/no recognition paradigm did find an such an effect. More recent research (e.g., Connolly & Price, 2006; Price, Connolly, & Gordon, 2006; Price & Connolly, 2004), however, has found heightened suggestibility for children in a repeat-event condition compared to a single-event condition, even when cued recall questions were used. Thus, it is unlikely that interview format influenced the null effect of event frequency on suggestibility in the current study.

A third possibility is that, because of the number of plausible options available to repeat-event children, they were more likely to report an option that was experienced in a different instance, instead of the false suggestion option. In other words, there may not be a difference in suggestibility between single- and repeat-event children except in very particular contexts. In the current study, a repeat-event child would, for example, participate in four warm up activities across four days. If given no biasing information about this activity, this child has four plausible options to choose from when asked what warm up activity they actually did on the target day. And, if given biasing information about this activity, they will have five plausible options to choose from at the memory interview. It could be that the four experienced options are more salient than the suggested one and when asked, in essence, to pick an option, the child may be more apt to choose one of the experienced ones. If all the options (experienced and suggested) are equally salient to the child then it becomes a sheer numbers game – children have a 1/5 chance of choosing the correct option, a 1/5 chance of reporting the false suggestion, and a 3/5 chance of reporting an option from another instance. On the other hand, children in the single-event condition have only two options to choose from – the event option or the false suggestion. If both options are similar, then the chances of reporting a suggestion is 1/2. Based on these numbers, children in the single-event condition have a higher likelihood of reporting a false suggestion, while children in the repeat-event condition have a higher likelihood of reporting an option from a different instance. Thus, the theoretical reasons for expecting heightened suggestibility in repeat- versus single-event children may actually be diminished by differences in the number of plausible responses across conditions.

Finally, there was a near-floor effect of suggestibility in the current study. Although a suggestibility effect was observed in all conditions, the absolute number of suggestions reported was quite low. There simply may not have been enough room "below" the single-event children for statistics to identify a difference among repeat-event children A minimal suggestibility effect limits the amount of interpretation that can be done with the data and it could be that with an increased effect, we would have seen a difference across event frequency conditions.

In sum, children in the repeat-event condition were not significantly more suggestible than children in the single-event condition and this null-effect may be due to a combination of several variables, such detail association, the memory interview format, the number of plausible options, or the near-floor suggestibility effect.

Hypothesis 3 – Age

In terms of correct responding, children's free and cued recall reports largely replicated previous research in terms of age (e.g., Connolly & Lindsay, 2001). Specifically, in free recall and cued recall, older children reported more correct details in both interviews than younger children.

In terms of suggestive responding, across both free and cued recall questions, Grade 3 children were twice as likely to make a false report, on average, as the Kindergarten children and were more likely to state that the false detail actually happened (versus told by someone that it happened) during Interview 2. Similarly, in response to cued recall questions, the Grade 3 children were more likely to respond correctly when asked a control question rather than a biasing question, while the children in Kindergarten were no more likely to respond correctly to control than biasing questions. In contrast to the heightened suggestibility effect of older children about the target event, when asked questions about an entirely new event, it was the younger children who were more suggestible across both control and biasing questions.

Typically, younger children are more suggestible than older children and reports of false information tend to decrease throughout childhood and adolescence (e.g, Eisen, Qin, Goodman, & Davis, 2002; Chae & Ceci, 2005). When older children are found to be more suggestible than younger children, this pattern is often referred to as a reverse developmental trend. While reverse developmental trends in suggestibility literature were once considered to be abnormal, more recent research has demonstrated that, under certain conditions, older children and adults can, in fact, be more suggestible than younger children (see Brainerd, Reyna, & Ceci, 2008 for a review).

A reverse developmental trend typically occurs, presumably, when the older participants pick up on a particular pattern among the presented details and their options that younger participants do not identify. For example, it is possible that older children or adults would be more likely to recognize that a cape, scarf, and apron are all different kinds of costumes in comparison to younger children. In suggestibility jargon, they recognize that the cape, scarf, and apron are all similar options within a category. By picking up on the similarities of a particular category, these children are more likely to report a suggested detail if that new option fits in with the general gist of the category. This is common in studies which use thematically related words on word lists, such as in the Deese-Roediger-McDermott paradigm (e.g., Brainerd & Reyna, 2002; Roediger & McDermott, 1995) or semantically related details in activity sessions (e.g., Connolly & Price, 2006). Connolly and Price have argued that when details are highly associated, the relationship between the details is more salient and this may positively influence gist memory and increase suggestibility among older children compared to younger children.

Interestingly, however, this reverse developmental trend was not unique to children in the repeat-event condition – Grade 3 children in both the single- and repeat-event conditions were more suggestible than Kindergarten children in either event frequency condition. One potential reason for the reverse developmental trend in the single-event condition could be that these children saw both the experienced detail and the false suggestion as options within the same category. Children often develop a skeletal script after the very first experience with an event (Fivush, 1984), and if the experienced detail and the false suggestion are similar, as they were in the current study, this false suggestion may be easily integrated into the script for what happens in the craft session. In contrast, the younger children would likely not have realized that both options were part of the same category, thus making them more distinct in their mind and likely not integrated as easily into a script. While it is arguable that repeat-event children would have a more fully formed script than their single-event counterparts because they experienced the craft session routine repeatedly, it could be that the format of the craft sessions was easy to pick up, making an initial script easier to form and utilize, at least for the older children. Thus, even if children only experienced one event, they would have an understanding of what kinds of activities were completed in it.

In addition to a heightened suggestibility effect for the older children, Grade 3 children were also more likely to claim that their false reports actually happened. During the second memory interview, when children were asked to determine if the detail they reported actually happened (AH) or if someone only told them that it happened (TS), in response to biasing questions, Grade 3 children were more likely to state that a false suggestion actually happened than to say that someone told them about it. In response to control questions, Grade 3 children were no more likely to say that a false suggestion AH versus TS. Kindergarten children were just as likely to say AH or TS when identifying the source of their false reports. Interestingly, all children were more likely to say AH than TS for experienced items but not more likely to say TS than AH for suggested details. It appears then, that when children made a false suggestion, they were more confused about its origin than when they reported an experienced detail.

It seems that Grade 3 children were also more affected by suggestions than Kindergarten children, as measured by correct responses. When looking to see if a biasing effect is present in the data, oftentimes, one finds that control questions are more likely to elicit correct responses than are biasing questions. Some have argued that this is because biasing questions, in addition to promoting false suggestions, can also hinder participants` ability to respond correctly. For example, Cassel & Bjorkland (1995) posit that the introduction of suggestions may actually make it more difficult for the participant to access the experienced information.

In the current study, in the free recall section, all children were more likely to respond correctly when asked a control question versus a biasing question. However, in the cued recall section, only Grade 3 children were more likely to respond correctly when asked a control question than a biasing question; Kindergarten children were no more likely respond correctly to a control or a biasing question. Thus, it seems that the biasing-control manipulation did not affect Kindergarten children`s ability to respond correctly to cued recall questions, however, biasing questions seemed to be a particular problem for the older children. It could be that the biasing questions both heightened suggestibility and hindered older children`s ability to access the correct detail.

Importantly, this reverse developmental trend is not likely due to idiosyncratic characteristics of the sample because when a completely new event was suggested– that the craft session leader`s friend visited while the class made their crafts – the reverse developmental trend was eliminated. In this situation, Kindergarten children were almost three times as likely as children in Grade 3 to report that the suggested, new event actually occurred.

Taken together, these results demonstrate that when asked about the target event, the older children were significantly more likely to be effected by the biasing information, more likely to make a false suggestion, and more likely to believe that said suggestion actually happened. Based on these data, it appears that when a pattern can be picked up on, older children are at a serious disadvantage for false reporting but when a single, new event is suggested, older children are significantly less likely to report the false information.

Limitations and Future Research

One of the major limitations of the current study was the failure to include source-monitoring (SM) training as an independent variable. In the current study, children in the single-event condition made significantly more correct responses in the second memory interview than in the first. However, because all children received the SM training, it is impossible to determine whether the SM training paradigm was the impetus for improvement in the second memory interview or whether a different variable, such as practice, was what actually influenced said improvement in correct responding.

Future research investigating the effects of training on responding should include SM training as an independent variable to examine the influence and extent of this training on children's rates of responding. It would be especially informative to include it as a 3-level independent variable, in which children experienced no SM training, SM training without an instructional game, or SM training with a game, to determine whether more "child-friendly" training paradigms are significantly more beneficial. Researchers should also aim to increase consistency from training to interview, e.g., posing questions in the interview in the same manner or format that questions were posed in the SM training session. This would allow children to work within a similar context and this would, arguably, improve their ability to transfer knowledge from the training paradigm to the actual interview.

In a similar vein, the manner in which children`s retraction rates are investigated could be further examined in future research. For example, in the current study, we asked children the same set of questions twice to see if responses would change from Interview 1 to Interview 2 with assistance from the SM training session. While this route is, arguably, more in line with the forensic context, within the context of an experimental study it might be advantageous if other, less complex avenues are explored. The above example can be considered complex because children must complete a two stage process, (1) understand the instructions from the SM training session and, (2) utilize and apply this new information when asked the second set of questions. Thus, for the SM training to be useful, the children must be able to complete both parts of the process. If one part fails, then the training instructions will not be useful. Thus, future research should examine less complex methods of training, e.g., methods that do not require multiple stages, methods in which the training and interview are less distinct, or methods that utilize children's recognition ability as opposed to their recall ability. It would, furthermore, be interesting to determine whether less complex and more complex training paradigms are more beneficial to the child. Creating a method with minimal cognitive demands on the child may be helpful, in general, but also useful as a way to determine whether children, especially those who experience multiple events, can make the distinction between experienced and heard details under optimal conditions. If they are able to complete more basic methods it would provide support for children`s ability to discern sources and more advanced methods could, in turn, be constructed from these findings. However, if they are unable to perform this task, it provides more evidence for source confusion and the inability to truly recall a specific instance.

In addition to examining different levels of SM training complexity, it may also be beneficial to examine the influence of a modeling or practice session prior to asking the training questions. In this scenario, instead of having the child work through the questions on his own, as was done in the current study, the experimenter would begin by giving him a practice example and then telling the child what an appropriate answer would be and why. By doing this, the child can see what is expected of him during the training session and it may provide him with a template for the best ways to respond. The inclusion of a modeling session may more efficiently help children to understand the point of the training session and, subsequently, increase rates of correct responding.

Finally, while there were no changes in correct responding across interviews for children in the repeat-event condition, researchers should continue to attempt to develop new methods of directing these children to the proper sources of information. It may be that SM training paradigms for children who experience a series of similar events must be designed differently to be truly effective for them, as in comparison to children in a single-event condition,

A second limitation of the current project was the near-floor suggestibility effect and the probable inability to discern changes in false suggestive responding from the first memory interview to the second and between single- and repeat-event conditions. This is especially unfortunate as one of the central tenants of this project was to examine changes in false responding across interviews. In the present study, several methodological decisions were made with the hopes of maximizing suggestibility: variable details were used, there was an intermediate level of association between options, the delay from target event to biasing interview was four days, and the biasing interviewer stated several times throughout the interview that other children acquiesced to the false suggestions.

Future research that is interested in examining the influence of a SM training paradigm on false responding and retraction rates across event frequencies should endeavor to increase levels of suggestibility in order to better observe changes in said responding post-training. Certain things that may help heighten the suggestibility effect include further increasing the delay from target event to biasing interview, the inclusion of repeated biasing interviews, and/or asking children to acquiesce to the actual detail.

Extending the delay from target event to interview to two or three weeks would likely increase the suggestibility effect as found in past research. Furthermore, the inclusion of delay as a variable would allow us to examine whether suggestibility rates fluctuates over time. Referring back to the seminal Sam Stone study (Leichtman & Ceci, 1995) which examined retraction rates for a single event, in the most suggestible condition - stereotype plus suggestion condition – children were given negative information about Sam`s personality prior to his visit, as well as misleading post-event information. Perhaps including both prior- and post-event suggestive information would also increase the suggestibility effect. Finally, by having children acquiesce to the actual suggested detail or asking them to manipulate the detail in some manner, e.g., saying it out loud or making up a sentence that involved the detail, it may be more salient to them because they are more actively participating in the suggestion process.

A third limitation in the study was that children were not questioned about whether they believed the biasing interviewer or whether they thought that she made mistakes when she interviewed them. Including this question in the design may have provided some additional information as to why the suggestibility effect was low. While we did ask if children if they remembered the detail actually happening or if they were only told about it, this question does not tell us how they felt about the biasing interview, overall. Furthermore, it could be that the children did not "buy" the information she introduced during the biasing interview and, thus, they may have been less likely to report this information later on. If they didn`t report the biasing information, then we were not able to ask them if they remembered it actually happening or not. Anecdotally, the research assistants who performed the biasing interviews made no reports of children verbally stating that the suggested detail didn`t occur, while they did note that some children looked a bit confused when the false detail was suggested. Although, this does not necessarily mean that the children wholly believed the interviewer, as children may have not wanted to interrupt the interviewer during questioning or, perhaps, thought that they themselves were confused on what really happened, it does indicate that the suggestions, at least, made sense within the context of the event, i.e., they were not so outrageous as to be completely unbelievable. Future research should incorporate questions about interviewer believability.

Another limitation is the selected age ranges of the children in the study. The Kindergarten children were 5- to 6-year olds and the Grade 3 children were 8- to 9-year olds. While the findings in this study could be extrapolated to other Kindergarten and Grade 3 children, one should be wary of extending these findings to pre-school children, e.g., 3- to 4- year olds, or teenagers, and adults. For example, while 6- to 8-years old is, quantitatively, a small age range, qualitatively these children can be very different, as evidenced by how children understand (or fail to understand) options within a category.

Similarly, pre-school children can perform differently from Kindergarten and older children on particular tasks (e.g., Farrar & Boyer-Pennington, 1999). While, older children often perform similarly to adults, it is still important to confirm that this similarity holds in the present research paradigm.

Another limitation in the current study is the ecological validity of the research materials. In this study, and others in the literature, the overarching goal is to apply the findings to children who may be suggestively interviewed in a forensic context. In these situations, the child in question has often been abused or has been the witness to a crime...not a participant in a magic show or craft session. Thus, some have argued that the findings in these non-invasive studies are not applicable to the real world context and there is debate within the literature over whether memory for emotionally arousing events is qualitatively different from memory for neutral events (e.g, Byrne, Hyman, & Scott, 2001; Goodman, Hirschman, Hepps, & Rudy, 1991). While, clearly there are differences between the events a child in a forensic interview is discussing versus a child in an experimental study, this does not necessarily mean that different memory systems are at play. For example, Price and Connolly (2007) conducted a study in which children who were afraid of water and children who were not afraid of water participated in either one or four swimming lessons. Consistent with previous research, they found that children in the repeat-event condition remembered less than their single-event counterparts, however they also found that children`s anxiety over water did not considerably influence most measures of recall. In this study, it appears that emotion was not a significant factor in children’s memory for events.

Finally, it is important to note that this research is still in the theory development stage and before advising individuals in the field, it is imperative that we develop and use controlled materials to draw conclusions. Only when controlled materials are utilized successfully can we begin to develop theories and test these theories in the field.

Implications

Arguably, for many researchers, the overarching goal of children`s suggestibility research is to eventually apply the experimental findings to the construction and betterment of actual forensic protocols, as well as to improve the training and knowledge of forensic interviewers, police officers, and other front line personnel who interview children who are victims of abuse, witnesses to crimes, or both. Children who make an allegation of child sexual abuse (CSA) are interviewed numerous times from the moment a complaint is made until the culmination of a trial (if court proceedings are chosen). The child in question is often asked to testify against the accused and if the abuse occurred repeatedly they will likely have to speak to a specific instance within that series.

One of the major assumptions about children and suggestibility is that younger children are more suggestible than older children. However, that is not always the case. In some situations, older children and even adults can actually be more suggestible than younger children For example, older children and adults are typically more suggestible when presented with false information that fits into a particular pattern or a gist of what had happened. In contrast, younger children are typically more suggestible when told about a new, unique event.

What is especially interesting about these differences in suggestibility, in the current study, is that they were demonstrated in two groups of children that were quite similar in age, i.e., 5- to 6- year olds and 8- to 9- year olds. Within a span of three years, children reacted to different experienced/suggested information in very different ways. We may tentatively conclude that when a child is able to pick up on a relationship between presented options and when the suggestion is consistent with the pattern, that child is likely to be more suggestible than when such a pattern is not identified. Considering that during forensic interviews, interviewers may ask questions involving similar options, e.g., “Did he touch you in the kitchen or did he touch you in the bedroom?”, it is important to recognize that the relationship between options may influence children of different ages in significantly different ways. This speaks to the need for specific training in the developmental differences between younger and older children and for interviewers to be vigilant in applying this information in actual interviews.

Secondly, the results from the current study demonstrate that training programs may be beneficial in directing both younger *and* older children who experience a single event to the correct source of information in memory. This is an encouraging result and supports the notion that, under particular circumstances, younger children`s memory can be reliable. As younger children have sometimes been perceived as more unreliable witnesses in the courts (see Ceci & Bruck, 1993 for a review), the finding that Kindergarten children can benefit from source-monitoring training is encouraging and should continue to be explored. Furthermore, the results imply that when training is more engaging to the child, they will be more likely to pay attention to it, retain the information, and apply it to novel contexts. Seeking out “child-friendly” methods of training and interviewing for the forensic context may be a fruitful avenue to explore.

However, in the context of the actual forensic interview, it is imperative that children be able to not only understand this information within the training program but also extend this knowledge to the forensic interview.

By conducting research in the realm of children`s suggestibility for repeated events, we are better able to advise the forensic system of what is important and necessary when constructing and conducting training sessions and interviews. With more research we may be able to make more concrete statements about children`s remembering and recall ability, but until then it would be prudent to refrain from wholly advocating a particular method. Research thus far has demonstrated how difficult it is for children who experience repeated events to identify and describe an instance from within that series, which makes it imperative that we continue to examine children’s capability to do just that.

REFERENCES

Ackil, J. K., & Zaragoza, M. S. (1995). Developmental differences in eyewitness suggestibility and memory for source. *Journal of Experimental Child Psychology, 60*, 57-83.

Brainerd, C. J., & Reyna, V. F. (2002). Recollection rejection: How children edit their false memories. *Developmental Psychology, 38*, 156-172.

Brainerd, C. J., & Reyna, V. F. (2004). Fuzzy-trace theory and memory development. *Developmental Review, 24*, 396-439.

Brainerd, C. J., Reyna, V. F., & Ceci, S. J. (2008). Developmental reversals in false memory: A review of data and theory. *Psychological Bulletin, 134*, 343-382.

Bright-Paul, A., Jarrold, C., & Wright, D. B. (2004). Age-appropriate cues facilitate source-monitoring and reduce suggestibility in 3- to 7-year-olds. *Cognitive Development, 20*, 1-18.

Bruck, M., & Ceci, S. J. (1999). The suggestibility of children's memory. *Anuual Review of Psychology, 50,* 419-439.

Byrne, C. A., Hyman, I. E., & Scott, K. L. (2001). Comparisons of memories for traumatic events and other experiences. *Applied Cognitive Psychology, 15*, 119-133.

Cassel, W. S., & Bjorklund, D. F. (1995). Developmental patterns of eyewitness memory and suggestibility: An ecologically based short-term longitudinal study. *Law and Human Behavior, 19,* 507-532.

Ceci, S. J., & Bruck, M. (1993). Suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin, 113*, 403-439.

Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony*. Washington, D.C.: American Psychological Association.

Ceci, S. J., Crotteau-Huffman, M., Smith, E., & Loftus, E. F. (1994). Repeatedly thinking about non-events. *Conscious Cognition, 3*, 388-407.

Chae, Y., & Ceci, S.J. (2005). Individual differences in children's recall and suggestibility: The effect of intelligence, temperament, and self-perceptions. *Applied Cognitive Psychology, 19*, 383-407.

Connolly, D. A., & Lindsay, D. S. (2001). The influence of suggestions on children's reports of a unique experience versus an instance of a repeated experience. *Applied Cognitive Psychology, 15,* 205-223.

Connolly, D. A., & Price, H. L. (2006). Children's suggestibility for an instance of a repeated event versus a unique event: The effect of degree of association between variable options. *Journal of Experimental Child Psychology, 93,* 207-223.

Connolly, D. A., & Read, J. D. (2006). Delayed prosecutions of Historic Child Sexual Abuse: Analyses of 2064 Canadian criminal complaints. *Law and Human Behaviour, 30*, 409-434.

Eisen, M. L., Qin, J. J., Goodman, J. J., & Davis, S. L. (2002). Memory and suggestibility in maltreated children: Age, stress, arousal, dissociation, and psychopathology. *Journal of Experimental Child Psychology, 83,* 167-212.

Farrar, M. J., & Boyer-Pennington, M. E. (1999). Remembering specific episodes of a scripted event. *Journal of Experimental Child Psychology, 73,* 266-288.

Fivush, R. (1984). Learning about school: The development of kindergartner's school script. *Child Development, 55,* 1697-1709.

Fivush, R., & Hudson, J. A. (1990). *Knowing and remembering in young children.* New York: Cambridge University Press.

Foley, M. A., Durso, F. T., Wilder, A., & Friedman, R. (1991). Developmental comparisons of explicit versus implicit imagery and reality monitoring. *Journal of Experimental Child Psychology, 51*, 1-13.

Garven, S., Wood, J. M., Malpass, R. S., & Shaw, J. S. (1998). More than suggestion: The effect of interviewing techniques from the McMartin Preschool Case. *Journal of Applied Psychology, 83*, 347-359.

Goodman, G. S., Hirschman, J. E., Hepps, D., & Rudy, L. (1991). Children's memory for stressful events. *Merrill-Palmer Quarterly, 37*, 109-158.

Greene, E. (2006). Children, adolescents, and the law. In E. Greene (6th Ed.). *Wrightman's psychology and the legal system* (pp. 404-405). USA: Wadsworth Publishing Company.

Guadagno, B. L., Powell, M. B., & Wright, R. (2006). Police officers' and legal professionals' perceptions regarding how children are, and should be, questioned about repeated abuse. *Psychiatry, Psychology and Law, 13*, 251-260.

Hudson, J. A. (1990). Constructive processes in children's event memory. *Developmental Psychology, 26*, 180-187.

Hudson, J. A. (1993). Reminiscing with mother and others: Autobiographical memory in young two-year-olds. *Journal of Narrative and Life History, 3,* 1-32.

Hudson, J. A., Fivush, R., & Kuebli, J. (1992). Scripts and episodes: The development of event memory. *Applied Cognitive Psychology, 6*, 483-505.

Johnson, M. K., Hashtroudi, S., & Lindsay, S. D. (1993). Source monitoring. *Psychological Bulletin, 114*, 3-28.

Johnson, M. K., Raye, C. L., Foley, H. J., & Foley, M. A. (1981). Cognitive operations and decision bias in reality monitoring. *American Journal of Psychology*, *94*, 37-64.

Lamb, M. E., Orbach, Y., Hershkowitz, I., Horowitz, D., & Abbott, C. B. (2007). Does the type of prompt affect the accuracy of information provided by alleged victims of abuse in forensic interviews? *Applied Cognitive Psychology, 21*, 1117-1130.

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

Lindsay, D. S. (1990). Misleading suggestions can impair eyewitnesses' ability to remember event details. *Journal of Experimental Child Psychology: Learning, Memory, and Cognition*, *16*, 1077-1083.

Nelson, K. (1986). *Event knowledge: Structure and function in development*. Hillsdale, N. J.: Lawrence Erlbaum Associates.

Nelson, K., Fivush, R., Hudson, J., & Lucariello, J. (1983). Scripts and the development of memory. In M. T. H. Chi (ed.), *What is memory development the development of?* (pp. 53-70). In J. A. Meacham (Series ed.), *Contributions to human development*, 9, Basel: Karger.

Nelson, K., & Gruendel, J. (1986). Children's scripts. In K. Nelson (ed.), *Event* *knowledge, structure and function in development* (pp. 231-247). Hillsdale, N. J.: Erlbaum.

Poole, D. A., & Lindsay, D. S. (1995). Interviewing preschoolers: Effects of nonsuggestive techniques, parental coaching, and leading questions on reports of nonexperienced events. *Journal of Experimental Child Psychology,* 60, 129-154.

Poole, D. A., & Lindsay, D. S. (2001). Children's eyewitness reports after exposure to misinformation from parents. *Journal of Experimental Psychology: Applied, 7,* 27-50.

Poole, D. A., & White, L. (1991). Effects of question repetition on the eyewitness testimony of children and adults. *Developmental Psychology, 27,* 975-986.

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

Powell, M. B., & Roberts, K. P. (2002). The effect of repeated experience on children's suggestibility across two question types. *Applied Cognitive Psychology, 16,* 367-386.

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

Powell, M. B., Roberts, K. P., Thomson, D. M., & Ceci, S. J. (2007). The impact of experienced versus non-experienced suggestions on children's recall of repeated events. *Applied Cognitive Psychology, 21,* 649-667.

Powell, M. B., & Thomson, D. M. (1996). Children's memory of an occurrence of a repeated event: Effects of age, repetition, and retention interval across three question types. *Child Development, 67,* 1988-2004.

Price, H. L., & Connolly, D. A. (2004). Event frequency and children's suggestibility: A study of cued recall responses. *Applied Cognitive Psychology, 18,* 809-821.

Price, H. L., & Connolly, D. A. (2007). Anxious and nonanxious children's recall of a repeated or unique event. *Journal of Experimental Child Psychology, 98,* 94-112.

Price, H. L., Connolly, D. A., & Gordon, H. M. (2006). Children's memory for complex autobiographical events: Does spacing of repeated instances matter? *Memory, 14,* 977-989.

Public Health Agency of Canada (2003). *Canadian Incidence Study of Reported Child Abuse and Neglect*. Retrieved on November 5, 2008 on the World Wide Web: http://www.canadiancrc.com/PDFs/Canadian_Incidence_Study_Child_Abuse_2003e.pdf

Quas, J. A., & Schaaf, J. M. (2002). Children's memories of experienced and nonexperienced events following repeated interviews. *Journal of Experimental Child Psychology, 83,* 304-338.

R. v. B.(G.), [1990] 2 S.C.R. 3.

Roberts, K. P. (2000). Conclusions: Children's source monitoring. In K. P. Roberts & M. Blades (Eds.), *Children's Source Monitoring* (pp. 317-336). New Jersey: Lawrence Erlbaum Associates.

Roberts, K. P. (2002). Children's ability to distinguish between memories from multiple sources: Implications for the quality and accuracy of eyewitness statements. *Developmental Review, 22,* 403-435.

Roberts, K. P., & Blades, M. (2000). Discriminating between memories of television and real life. In K. P. Roberts & M. Blades (Eds.), *Children's Source Monitoring* (pp. 147-169). New Jersey: Lawrence Erlbaum Associates.

Roberts, K. P., & Powell, M. B. (2006). The consistency of false suggestions moderates children's reports of a single instance of a repeated event: Predicting increases and decreases in suggestibility. *Journal of Experimental Child Psychology*, *94*, 68-89.

Roediger, H. L., III, & McDermott, K. B. (1995). Creating false memories: Remembering words not presented on lists. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 21*, 803-814.

Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, gorals and understanding: An inquiry into human knowledge structures*. Oxford: Lawrence Erlbaum.

Thierry, K. L., Spence, M. J., & Memon, A. (2000). A comparison between fuzzy-trace theory and source-monitoring theory: Evidence from an eyewitness suggestibility study. In K. P. Roberts & M. Blades (Eds.), *Children's Source Monitoring* (pp. 171-196). New Jersey: Lawrence Erlbaum Associates.

Figure 1. Mean Number (and Standard Error Bars) of Correct Cued Recall Responses in each Question Type Condition for Kindergarten and Grade 3 Children

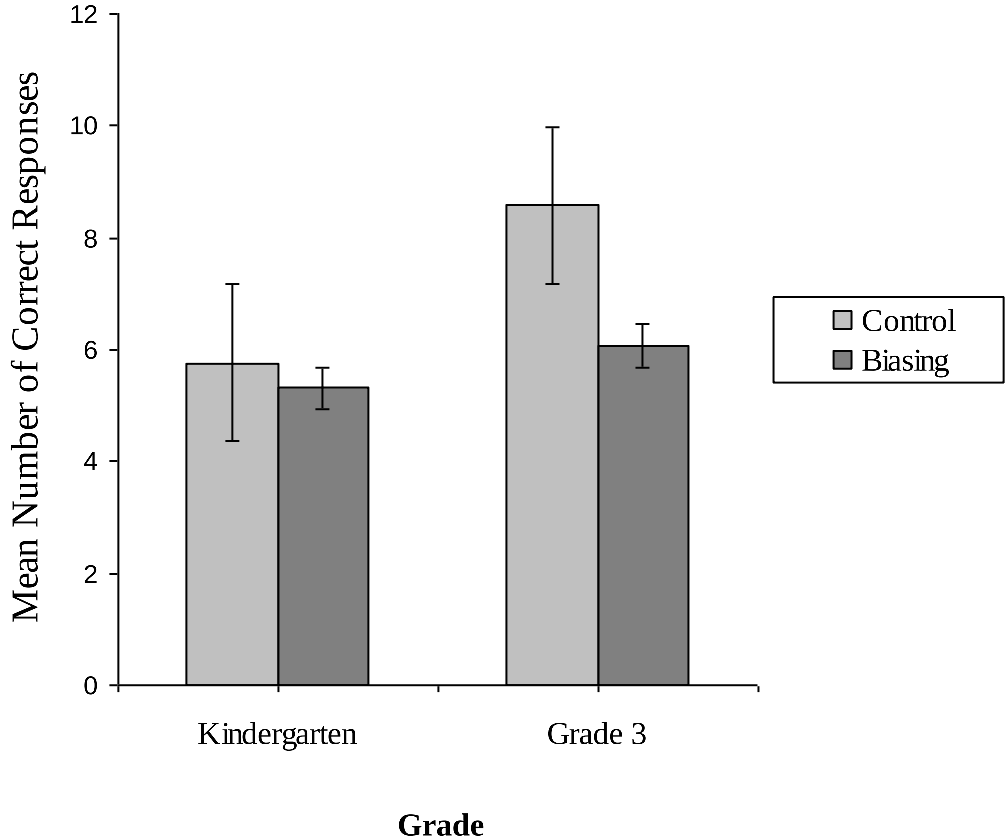
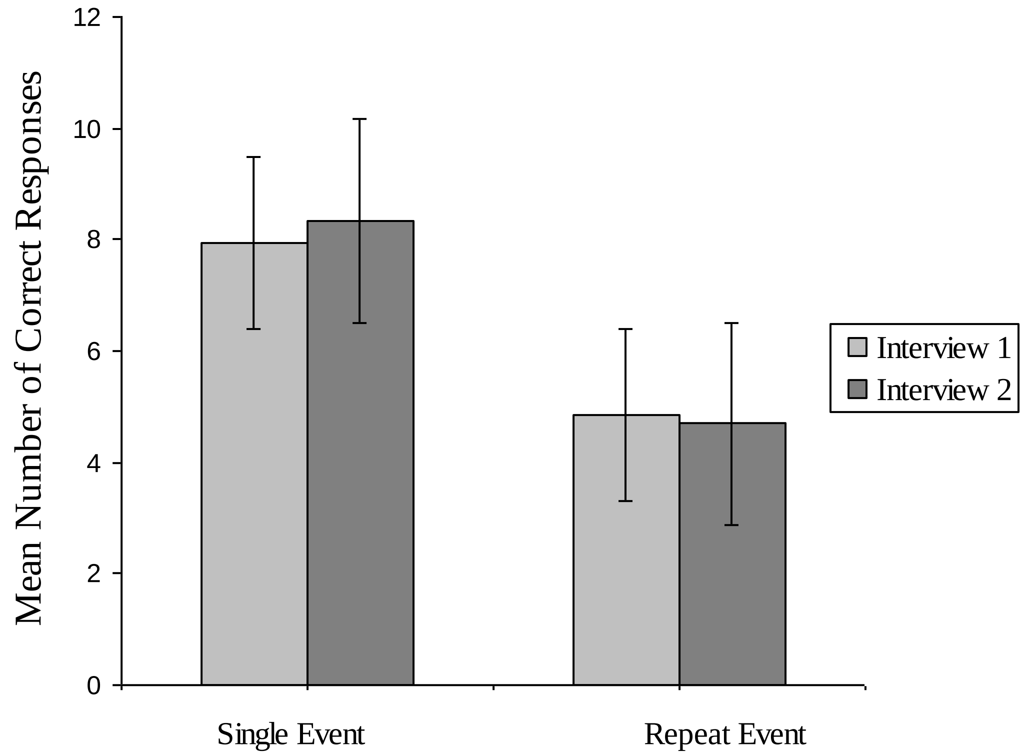


Figure 2. Mean Number (and Standard Error Bars) of Correct Cued Recall Responses in each Interview Condition for Single- and Repeat-Event Children



Event Frequency

Figure 3. Means (and Standard Error Bars) of AH vs. TS responses for Experienced Details in each Question Type Condition for Kindergarten and Grade 3 Children

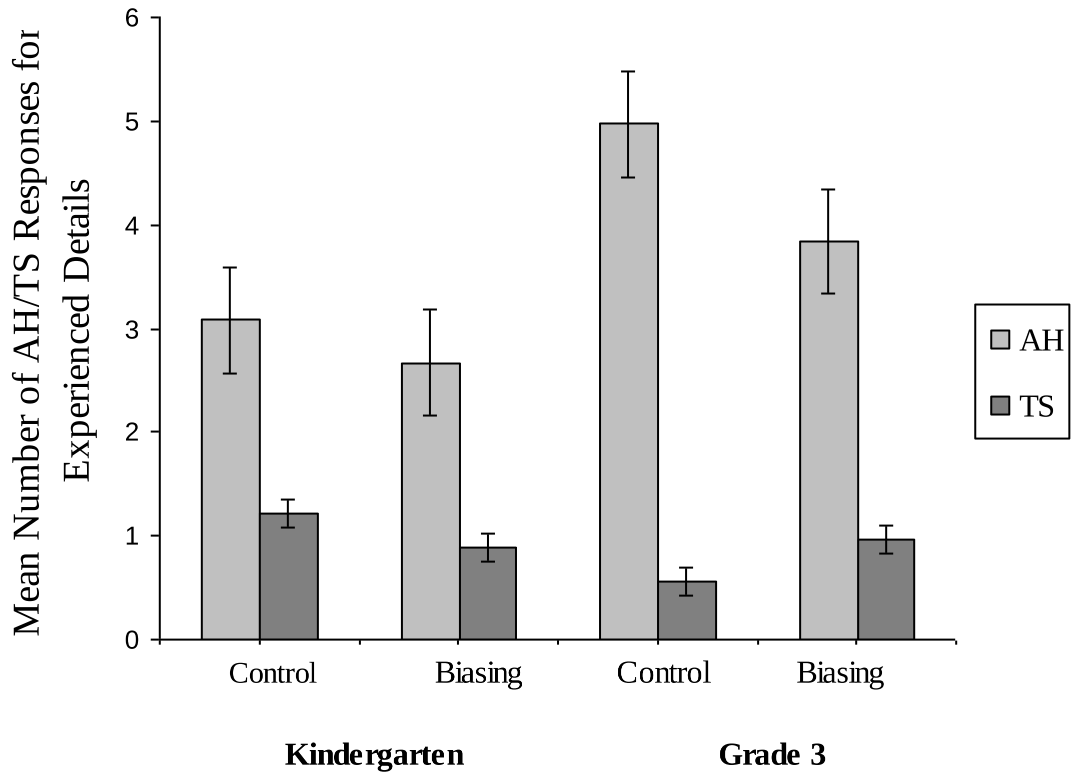


Figure 4. Means (and Standard Error Bars) of AH vs. TS responses for False Suggestions in each Question Type Condition for Kindergarten and Grade 3 Children

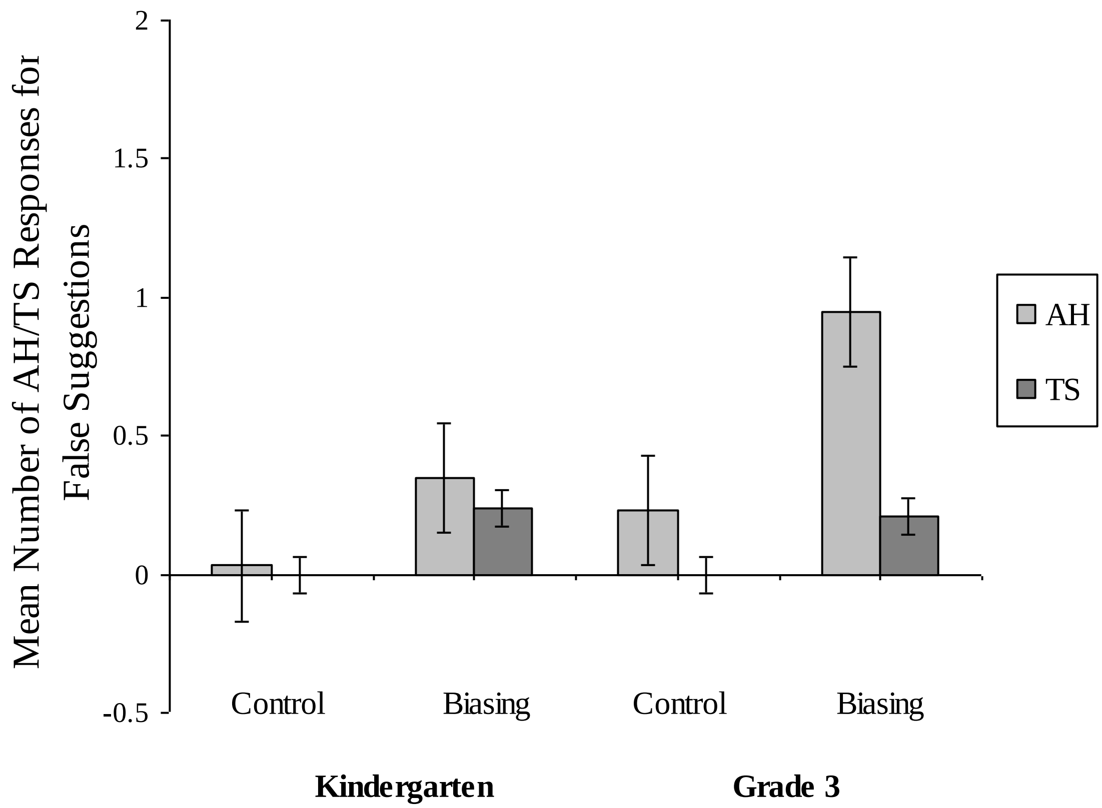


Table 1. Presentation Order of Details and their Options

Details	1	2	3	4	5
1. Outside	Sun	Leaves	Snow	Tree	Flowers
2. Warm-up	Turning	Shake legs	Wiggle fingers	Touch toes	Stretch arms
3. Artist name	Bugs Bunny	Mickey Mouse	Daffy Duck	Scooby-Doo	Sponge Bob
4. Costume	Ring	Cape	Apron	Goggles	Scarf
5. Location	Home	Art Studio	Library	Friend's house	Cave
6. Songs	Itsy Bitsy Spider	Hot Cross Buns	RRRYB	Wheels on the Bus	Mary had a Little Lamb
7. Art tool	Scissors	Pencil	Paintbrush	Marker	Eraser
8. Helper	Giraffe	Leprechaun	Tiger	Dog	Troll
9. Mat shape	Moon	Towel	Garbage Bag	Star	Heart
10. Container	Plastic Container	Basket	Box	Backpack	Suitcase
11. Art activity	Colouring	Portrait	Paper bag puppet	Paper plate flower	Origami
12. Sticker	Bicycle	Boat	Bus	Wagon	Train
13. Give to	Mom	Teacher	Doctor	Sister	Neighbour
14. Snack	Orange	Candy	Apple	Cookies	Chips
15. Going to	Movies	Park	Bank	Birthday party	Grocery store
16. Goodbye	Curtsey	High five	Bow	Wave	Shake hands

Table 2. Rates of Correct Responding on SM Test

	Number of children that responded correctly to the SM questions		
	One Question	Two Questions	Three Questions
Kindergarten	2 (5.1)	16 (41.0)	21 (53.8)
Grade 3	1 (1.9)	10 (19.6)	40 (78.4)

Note: Percentages are shown in parentheses.

Table 3. Means and Standard Deviations of Children's Reports in Free Recall

	Type of Detail Reported in Free Recall			
	Correct	Biased	Incorrect Experienced	Incorrect Non-Experienced
Kindergarten				
Interview 1				
Single				
Control	1.63 (1.16)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Biased	0.89 (0.88)	0.16 (0.37)	0.00 (0.00)	0.00 (0.00)
Repeated				
Control	1.06 (0.68)	0.06 (0.25)	0.31 (0.48)	0.00 (0.00)
Biased	0.31 (0.48)	0.06 (0.25)	0.06 (0.25)	0.00 (0.00)
Interview 2				
Single				
Control	1.26 (1.15)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Biased	0.95 (1.02)	0.09 (0.29)	0.00 (0.00)	0.00 (0.00)
Repeated				
Control	0.69 (0.79)	0.00 (0.00)	0.50 (0.73)	0.00 (0.00)
Biased	0.20 (0.42)	0.00 (0.00)	0.31 (0.60)	0.00 (0.00)
Grade 3				
Interview 1				
Single				
Control	2.36 (1.13)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Biased	1.72 (1.42)	0.09 (0.29)	0.00 (0.00)	0.00 (0.00)
Repeated				
Control	1.95 (1.32)	0.00 (0.00)	0.19 (0.40)	0.00 (0.00)
Biased	1.00 (1.00)	0.09 (0.44)	0.38 (0.74)	0.00 (0.00)
Interview 2				
Single				
Control	2.18 (1.18)	0.00 (0.00)	0.04 (0.21)	0.00 (0.00)
Biased	1.54 (1.44)	0.18 (0.39)	0.00 (0.00)	0.05 (0.21)
Repeated				
Control	1.86 (1.46)	0.00 (0.00)	0.38 (0.67)	0.00 (0.00)
Biased	0.67 (0.97)	0.14 (0.48)	0.57 (0.75)	0.00 (0.00)

Note: Standard deviations are shown in parentheses.

Table 4. Means and Standard Deviations of Children's Reports in Cued Recall

	Type of Detail Reported in Cued Recall			
	Correct	Biased	Incorrect Experienced	Incorrect Non-Experienced
Kindergarten				
Interview 1				
Single				
Control	3.74 (1.63)	0.05 (0.23)	0.37 (0.60)	6.95 (3.61)
Biased	3.37 (1.46)	0.58 (0.90)	0.42 (0.61)	6.37 (3.20)
Repeated				
Control	1.83 (1.65)	0.06 (0.23)	2.83 (1.92)	6.72 (4.33)
Biased	1.94 (1.21)	0.50 (0.71)	2.22 (1.26)	5.17 (3.62)
Interview 2				
Single				
Control	4.00 (1.56)	0.06 (0.24)	0.47 (0.61)	5.95 (3.57)
Biased	3.58 (1.57)	0.63 (0.89)	0.26 (0.56)	6.05 (3.26)
Repeated				
Control	1.83 (1.42)	0.06 (0.23)	2.61 (1.42)	6.44 (3.35)
Biased	1.67 (1.19)	0.55 (0.70)	2.33 (1.19)	5.50 (2.91)
Grade 3				
Interview 1				
Single				
Control	5.04 (1.65)	0.04 (0.21)	0.68 (0.57)	4.41 (3.11)
Biased	3.64 (1.40)	1.18 (1.01)	0.32 (0.48)	4.04 (2.42)
Repeated				
Control	3.47 (1.17)	0.09 (0.30)	2.28 (1.62)	5.05 (3.72)
Biased	2.28 (1.31)	1.19 (1.36)	2.28 (1.23)	2.81 (2.87)
Interview 2				
Single				
Control	5.14 (1.52)	0.04 (0.21)	0.54 (0.59)	4.45 (3.03)
Biased	3.86 (1.21)	1.14 (1.04)	0.27 (0.45)	3.73 (2.29)
Repeated				
Control	3.43 (1.63)	0.05 (0.22)	2.24 (1.41)	5.05 (4.26)
Biased	2.28 (1.9)	1.33 (1.39)	2.43 (1.53)	2.24 (2.51)

Note: Standard deviations are shown in parentheses.

Table 5. Means and Standard Deviations of Already Happened (AH) and Told Someone (TS) Reports

	Reports of AH and TS			
	Experienced Details		False Suggestions	
	AH	TS	AH	TS
Kindergarten				
Single				
Control	3.21 (1.78)	1.10 (1.20)	0.00 (0.00)	0.00 (0.00)
Biasing	2.58 (1.54)	0.79 (0.92)	0.42 (0.61)	0.21 (0.42)
Repeated				
Control	2.94 (1.73)	1.44 (1.15)	0.05 (0.23)	0.00 (0.00)
Biasing	2.78 (1.70)	1.00 (0.91)	0.28 (0.57)	0.28 (0.46)
Grade 3				
Single				
Control	4.77 (1.92)	0.54 (0.67)	0.00 (0.00)	0.00 (0.00)
Biasing	3.59 (1.44)	0.36 (0.73)	0.82 (1.05)	0.23 (0.43)
Repeated				
Control	5.19 (1.91)	0.57 (0.75)	0.48 (0.22)	0.00 (0.00)
Biasing	4.09 (1.64)	1.62 (4.74)	1.09 (1.37)	0.19 (0.40)

Note: Standard deviations are shown in parentheses.

Table 6. Rates of Responding for New Event Questions

	Did the new event occur?					
	Interview 1			Interview 2		
	Yes	No	DK	Yes	No	DK
Kindergarten						
Control	6 (30.0)	11 (55.0)	3 (15.0)	5 (25.0)	9 (45.0)	5 (25.0)
Biased	9 (52.9)	6 (35.3)	2 (11.8)	10 (58.8)	3 (17.6)	4 (23.5)
Grade 3						
Control	2 (11.1)	14 (77.8)	2 (11.1)	2 (11.1)	15 (83.3)	0 (00.0)
Biased	4 (16.0)	16 (64.0)	5 (20.0)	4 (16.0)	14 (56.0)	5 (20.0)

Note: Percentages are shown in parentheses.

APPENDICES

Appendix A. Information Package for Parents

Dear Parent/Guardian,

This letter requests permission to invite your child to participate in a fun research project approved by the Superintendent of CISVA. The goal of this project is to understand the development of children's autobiographical memory.

In class, a guest from Simon Fraser University will teach your child how to make a fun and easy craft, e.g., a paper bag puppet. With permission from you and your child, your child will be asked to participate in two interviews about the craft session. The first interview will take place four days after the craft session. Your child will meet with a trained interviewer who will ask questions that contain minor suggestions. For example, the interviewer might suggest to your child that he or she listened to guitar music while making the craft, when they actually listened to piano music. The following day, a second interviewer will ask your child to remember everything he or she can about the day they made the craft. The interviewer will also give your child instructions to help him or her distinguish between the minor suggestions and the actual event.

A related and important area of study involves how adults evaluate children's believability. I request permission to use a videotape of your child in a separate study that would not require additional participation from your child. With permission, adults will view videotapes of children describing the stories. Anonymity will be guaranteed by first showing adults a still picture of a child and ensuring adults do not know the child. Adults will be given *no* information about the child's identity.

If you decide not to allow your child to join us, your decision will not have any impact on his or her status at school, camp, or in the community. We will maintain strict standards of confidentiality permitted by the law. Your child will be identified with a number and all personal information will be stored in a secure location at Simon Fraser University. Only group results will be reported. You may direct your concerns to the Director of Research Ethics, Hal Weinberg (hweinber@sfu.ca; 778-782-6593).

Thank you for your interest in this project. I hope you agree the issues being studied in this research are important and worthy of the participation I am requesting.

Sincerely,
Jennifer Lucyk, BA, MA Candidate
Deborah Connolly, PhD, LLB

PERMISSION FORM

PART 1

Having read the enclosed materials (check one):
(a)_____ **Allow** my child to participate and be videotaped and audiotaped
(b)_____ **Allow** my child to participate and be audiotaped only
(c) _____ **Do not** allow my child to participate

Child Name: _______________________________ Date of birth: __________
Parent/Guardian Name: ____
Signature: __________________________________ Date: ________________

PART 2

If you would like to receive a summary of results please provide your name and address

____
____
____
____

PART 3

Would you be willing to have us contact you at a later time for related research?

___ Yes
___ No

If yes, please provide us with your name, phone number, or email (if not supplied above)

____
____

Appendix B. Get to Know You Interview

Before we start with the real interview, I wanted to ask you a couple of questions to learn a little bit more about you! Is that okay? Great!

1. How old are you? ______________
2. Do you have any brothers and sisters? ____________________
3. What is your favourite favourite subject? ____________________________
4. What country were you born in? _________________________
    - How long have you lived in Canada? ________________________________ **(if born outside of Canada)**
5. How many languages can you speak? _____________
    - What languages can you speak? ____

(if only English, stop here; if more than one, continue with questions)

7. What language do you speak in at home? ____
8. What language do you usually watch television shows in? _________________________
9. What language do you like to speak to your friends in? __________________________
10. Which language do you prefer to speak in? _________________________________

Great job! I learned lots about you! Now we're going to move on to my next set of questions.

For interviewer:

After these questions, how strong a grasp does the participant seem to have of the English language?

1	2	3	4	5
Very Weak	Weak	Medium	Strong	Very Strong
Difficulty understanding and answering questions		Some difficulty but can generally understand/answer		No difficulty understanding

After completing the entire interview, how strong a grasp does the participant seem to have of the English language?

1	2	3	4	5
Very Weak	Weak	Medium	Strong	Very Strong

Appendix C. Example of Biasing Interview

Version 1(1)

Participant # _______Name: ___________ Interviewer: ___________ Date: __________

I heard that you had a lot of fun last week making a craft with Jen. Do you remember making crafts with Jen? I want to make a craft with some of my friends, so I wanted to find out more about what you guys did on the "Last Craft Day." Do you remember the "Last Craft Day?" On that day, Jen brought in a sign that day that said "Last Craft Day." Do you remember this sign? Can you describe it?

Awesome! Now, is it okay if I ask you some questions about the Last Craft Day with Jen? Great! Now, I already talked to some kids in another classroom who also made a craft with Jen on the "Last Craft Day" and they told me about the things that they did. It sounded like a lot of fun! So, now I want to ask you about what you did on the Last Craft Day! Ready? Okay.

1. I heard from the other kids that on the Last Craft Day, the artist started off by looking outside and she saw some leaves. I really like leaves. Have you ever jumped in a pile of leaves?

---

2. On the Last Craft Day, the artist asked you to warm-up with her before making the craft. Did the warm-up help you to get ready?

---

3. I heard from some of the other kids that the artist wore a cape as a costume on the Last Craft Day. Capes are pretty neat. Do you ever wear a cape when you dress-up?

---

4. The artist wore a special nametag while making the craft on the Last Craft Day. Do you ever like to pretend to be someone else?

---

5. On the Last Craft Day, the artist asked you to pretend that you were doing your art in a different place. Do you ever like to pretend you are somewhere else when you are playing?

____

6. Now, I heard from some other kids that you sang the Hot Cross Buns song before making the craft on the Last Craft Day. The Hot Cross Buns song is a great song! Do you like the Hot Cross Buns song?

____

7. On the Last Craft Day, I heard from the other kids that the artist's best friend came to visit with you guys while you made your crafts. She tried to make her own craft, but ended up making too many mistakes! Do you like it when your friends come over to play with you?

____

8. I heard from some of the other kids that the artist brought in a lucky charm – a pencil – to bring you luck on the Last Craft Day. I really like using pencils when I draw. Do you like to use pencils?

____

9. I heard that the artist also brought in a special helper on the Last Craft Day – a leprechaun! A leprechaun is a pretty strange special helper. Instead of a leprechaun, are there any people who help you when you do things?

____

We are half way done my questions.
You're doing a great job so far! The Last Craft Day sounds like it was a lot of fun!

10. I also heard from the other kids that on the Last Craft Day the artist stood on a towel to keep the floor clean while making the craft. I often bring a towel when I go swimming. Do you like to bring a towel when you swim?

____

11. The artist kept all her supplies in a container. Do you think this helped her stay organized?

____

12. The artist showed you how to make a craft on the Last Craft Day. Did you have fun making the craft?

____

13. I heard from the other kids that when the artist's best friend came to visit on the Last Craft Day she walked around and looked at all of your crafts. She said that you were all doing a really good job! What are some other things that you are really good at doing?

____

14. The artist gave you a sticker for making such a great craft. Do you collect stickers?

____

15. The other kids told me that the artist was going to give her craft to her teacher on the Last Craft Day. I really like my teacher. Do you like your teacher?

____

16. The artist wanted to eat her snack after making the craft because she was hungry. Does playing and making crafts make you hungry?

____

17. The artist said she had to go somewhere after making the craft on the Last Craft Day. Do have any after school activities that you go to after school?

____

18. Before the artist left on the Last Craft Day, I heard that she asked you to high five your neighbour. High-fiving is a nice way to say goodbye to your neighbour. Do you ever high five your friends?

____

Those are all my questions! You did a great job answering them all!

Appendix D. Example of Memory Interview 1

Participant # _______Name: ___________ Interviewer: ___________ Date: __________

Free Recall

I wanted to ask you a couple of questions about the crafts you made with Jen. Do you remember making crafts with Jen? Great! I wasn't here when you made crafts with Jen, so I don't know what happened. But, I heard that you had a lot of fun and I'd like to learn a little more about what sorts of things you did. Is it alright if I ask you some questions about the crafts you made with Jen? Great! Now, I want to specifically find out about the things you did on the Last Craft Day with Jen. Do you remember the Last Craft Day? On that day, Jen brought in a sign that said the "Last Craft Day." Can you describe the sign? ____

Great! So, all of the questions I'm going to ask you are only going to be about this Last Craft Day with Jen, okay? Now, can you tell me everything you can remember about the Last Craft Day with Jen?

Non-specific prompt if child has been silent for 10 seconds, e.g., "What else can you tell me about?"; "Can you remember anything else?" [Max. 3 prompts]

____

____

____

____

____

____

____

____

____

____

____

____

____

Cued Recall

Great job! Now, I have some more specific questions for you about the Last Craft Day. It is OK to say "I don't know" if I ask you a question and you can't remember what happened. Also, I might ask you some questions about the things you just told me about. If I do that, it does not mean that your earlier answer was wrong. It is just that I have to ask all of the questions on my list. Ready? Great!

1. On the Last Craft Day, the artist looked outside. Can you remember what she saw?

____

2. On the Last Craft day, the artist asked you to warm-up with her before making the craft. Can you remember what warm-up activity you did?

____

3. On the Last Craft Day, the artist put on a costume before doing the craft. Can you remember what her costume was?

____

4. The artist used a special nametag on the Last Craft Day. Can you remember what the nametag said?

____

5. Before making the craft, the artist asked you to pretend that you were doing the craft in a different place. Can you remember where this was?

____

6. On the Last Craft Day, the artist asked you to sing a song. Can you remember what song you sang?

____

7. On the Last Craft Day, the artist brought a lucky charm to bring her luck when making the craft. Can you remember what the lucky charm was?

____

8. On the Last Craft Day, the artist also brought in a special assistant to help with the art project. Can you remember what the special helper was?

____

9. The artist stood on a mat while she made the craft with you guys. Can you remember what kind of mat it was?

---

10. The artist kept all her tools in a container. Can you remember what sort of container she kept them in?

---

11. The artist helped you make a craft on the Last Craft Day. Can you remember the craft that you made?

---

12. On the Last Craft Day, the artist gave you a sticker after you made the craft. Can you remember what the sticker was?

---

13. On the Last Craft Day, the artist said she was going to give her craft to someone. Can you remember who she said she was going to give it to?

---

14. After making the craft, the artist said she was hungry. Can you remember what kind of snack she wanted to eat?

---

15. The artist said she was going somewhere after she made the craft. Can you remember where she said she was going?

---

16. The artist said goodbye to you in a special way. Can you remember how she said goodbye to you on the Last Craft Day?

---

17. Did the artist's best friend visit you guys while you were making your craft on the Last Craft Day?

Yes No

If yes: Can you remember what she did on her visit?

Appendix E. Example of Source-Monitoring Training Session

You have done a great job answering all of my questions so far! I have a few more questions to ask you, but before I do that I want to play a game with you. Now, while I set up my game, I am going to ask you some questions about what I am doing. If you answer them correctly, I will give you a sticker. But, if you answer them incorrectly, I can't give you a sticker. So, you have to make sure to pay really close attention, okay? Great!

a) *Now, I am going to start setting up the game. First, I am going to take all the things I need for our game out of this bag.* [Take out three cups and red ball] *Sometimes I like to zip the bag up when I have taken out everything I need. When I do zip up the bag it makes a zzzzzzz sound. What did I just do to get the game ready?*

If the child answers correctly, reinforce, e.g., "*You got it! I did open my bag and take the toys out. You know this because you saw it happen. I told you about zipping my bag, but I didn't really do it. So it is good that you didn't tell me that I did. You got it right, so you get a prize! Let's see if you can get another!"*

If child answers with the event that was described (zipping up the bag), correct, e.g., *"Remember, I only told you that I sometimes zip up the bag, but I didn't actually do it. Do you remember seeing me zip up the bag? No. The correct answer is that I took out a ball and three cups and put them on the table. Unfortunately, I cannot give you a prize this time, but you will have two more chances to get one."*

If the child states something that did not happen and was not described, ask directly about the event, e.g., "*Did I zip up my bag?",* and then reinforce appropriately.

b) [Put all three cups in a row on the table and take out cloth] *Now I am going to line up my cups and clean them off with a cloth. Sometimes, I dust them with a feather. The feather I use is very soft and cleans the cups really well.* [Put away the cloth] *What did I do to get the cups ready?*

If the child answers correctly, reinforce, e.g., "*You got it! I wiped the cups off with a cloth. You know this because you saw it happen. I told you about dusting with a feather, but I didn't actually do it. So, it is good that you didn't tell me that I did. You got it right, so you get a prize! Let's see if you can get another!"*

If child answers with the event that was described (dusting with a feather), correct, e.g., *"Remember, I only told you that I sometimes dust the cups off with a feather, but I didn't actually do it. Do you remember seeing me dusting the cups with a feather? No. The correct answer is that I wiped them off with a cloth. Unfortunately, I cannot give you a prize this time, but you will have one more chance to get one."*

If the child states something that did not happen and was not described, ask directly about the event, e.g., "*Did I dust the cups off with a feather?",* and then reinforce appropriately.

c) [Put a red ball under one of the cups] *Today, I am going to place a red ball under this cup. Sometimes I like to put a yellow star under the cups, instead. The star I like to use is bright yellow and is really big. What did I just put under the cup?*

If the child answers correctly, reinforce, e.g., "*You got it! I put red ball under the cup. You know this because you saw it happen. I only told you about putting a yellow star under the cup, but I didn't actually do it. So, it is good that you did not tell me that I did. You got it right, so you get a prize! Let's play the game now!"*

If child answers with the event that was described (putting a star under cup), correct, e.g., *"Remember, I only told you that I sometimes put a yellow star under the cup, but I didn't actually do it. Do you remember seeing put the star under the cup? No. The correct answer is that I put a ball under the cup. Unfortunately, I cannot give you a prize this time, but you might be able to get one if you win the game! So, let's play!*

If the child states something that did not happen and was not described, ask directly about the event, e.g., "*Did I put a red ball under the cups?",* and then reinforce appropriately.

To play this game, I am going to shuffle up all the cups and I want you to guess which cup the ball is under! Pay close attention; here I go! [Play game three times. Give child a prize at the end regardless of whether they guessed correctly]

Appendix F. Example of Memory Interview 2

You did a great job playing my game! So, now we are on to the final part of this interview! I know it is a little long, but you are doing a great job and we're almost done!

So, yesterday a lady came to talk to you about the Last Craft Day with Jen. Do you remember talking about the Last Craft Day? Well, this person visits lots of schools and talks to lots of kids and when I talked to her yesterday, she told me that she accidentally brought the wrong set of questions! So, some of the things she told you about may not have actually happened on the Last Craft Day. So, I'm worried that she told you some wrong things about the Last Craft Day! So, I want to ask you some more questions about that day. I'm going to ask you the same questions I asked you before. This doesn't mean that your first answer was wrong; it's just that I have to ask you all the questions on my list. Is that okay? Great!

When you answer these questions I want you to remember back to the Last Craft Day with Jen and tell me only the things that you remember happening to you, things you remember seeing and doing yourself. If you only heard about something happening but you didn't actually see it or do it yourself, I don't want you to tell me about it. This is just like what you did when we played the cups game. You told me only about the things that you actually saw, like when you saw me put a red ball under the cups, and you did a great job! So, when I ask you these questions, I only want you to tell me about the things you can remember seeing or doing yourself.. Does that make sense? Great.

Free Recall

Great! Now, can you tell me everything you can remember about The Last Craft Day with Jen? **Non-specific prompt if child has been silent for 10 seconds [Max. 3 prompts]**

____

____

____

____

____

____

____

Cued Recall

Great job! Now, I have some specific questions for you about the Last Craft Day. It is OK to say "I don't know" if I ask you a question and you can't remember what happened. Also, I might ask you some questions about the things you just told me about. If I do that, it does not mean that your earlier answer was wrong. It is just that I have to ask all of the questions on my list. Ready? Great!

1. On the Last Craft Day, the artist looked outside. Can you remember what she saw?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

2. The artist asked you to warm-up with her before making the art craft on the Last Craft Day. Can you remember what warm-up activity you did?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

3. The artist put on a costume before doing the craft. Can you remember what her costume was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

4. The artist used a special nametag on the Last Craft Day. Can you remember what that nametag said?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

5. Before making the craft on the Last Craft Day, the artist asked you to pretend that you were doing the craft in a different place. Can you remember where this was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

6. The artist asked you to sing a song on the Last Craft Day. Can you remember what song it was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

7. The artist brought a lucky charm to bring her luck when making the craft. Can you remember what the lucky charm she brought was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

8. The artist also brought in a special helper to help with the art project. Can you remember what the special helper was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

9. The artist stood on a mat while she made the craft with you guys on the Last Craft Day. Can you remember what the kind of mat it was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

10. On the Last Craft Day, the artist kept all her tools in a container. Can you remember what sort of container she kept them in?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

11. The artist helped you make a craft on the Last Craft Day. Can you remember the craft that you made?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

12. The artist gave you a sticker after you made the craft. Can you remember what the sticker was?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

13. The artist said she was going to give her craft to someone on the Last Craft Day. Can you remember who she said she was going to give it to?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

14. After making the craft, the artist said she was hungry. Can you remember what kind of snack she wanted to eat?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

15. The artist said she was going somewhere after she made the craft. Can you remember where she said she was going?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

16. The artist said goodbye to you in a special way. Can you remember how she said goodbye to you on the Last Craft Day?

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

17. Did the artist's best friend visit you guys while you were making your craft on the Last Craft Day?

Yes No

If yes: Can you remember what she did on her visit?

____

____

____

Do you remember this ACTUALLY HAPPENING or did someone TELL you about it?

DK

Those are all my questions! You did a great job!