

# **Examining Interview Ground Rules in Formal Interviews with Children**

by

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## THESIS EXAMINATION INFORMATION

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An oral defense of this thesis took place on August 9, 2022 in front of the following examining committee:

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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

## **ABSTRACT**

Within the context of formal interviews with children, accuracy and clarity are paramount. Thus, protocols for interviewing children establish ground rules to encourage children to, for example, say “I don’t know,” “I don’t understand,” or correct interviewer mistakes as necessary. Interview ground rules are intended to facilitate children’s success during formal questioning. Despite widespread recommendation and use of such instructions, relatively little is known regarding children’s understanding and implementation of these rules; and adults’ perceptions of children’s application of the ground rules have yet to be investigated. The current thesis fills crucial gaps in the literature regarding the ground rules for interviews with children, particularly the “I don’t understand” rule. Three studies are presented. Study 1 tested a novel intervention aimed at increasing children’s appropriate use of the “I don’t understand” rule. Results indicate that child age and “I don’t understand” rule reminders impacted children’s clarification requests to tricky questions in that older children and children who received such reminders requested clarification more frequently than younger children and children who did not receive reminders. Study 2 investigated individual differences (age, ADHD diagnosis, and executive functioning) in how children understand the ground rules and whether, how, and under what circumstances children apply the ground rules. Results demonstrate that children did not differ based on individual differences in ADHD diagnosis or executive functioning with respect to ground rule understanding or application but older children did exhibit a significantly higher degree of ground rule understanding than younger children. Study 3 examined adult perceptions of children’s use of the “I don’t understand” rule compared to the “I don’t know” rule, including how

many times they applied either rule in an investigative interview about sexual abuse. Results indicate that the child who applied either ground rule only once during their interview was viewed more positively than the child who applied either ground rule multiple times, though the type of rule applied by the child had little impact on mock jurors' perceptions. Together, the proposed studies yield valuable insights into the widely used but under-researched ground rules for conducting interviews with children.

**Keywords:** investigative interviews; ground rules; child witnesses; mock jurors' perceptions

## **AUTHOR'S DECLARATION**

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## **STATEMENT OF CONTRIBUTIONS**

The work in Chapter 4 has been submitted in its entirety for review as:

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As first author, I performed data coding and analysis, and wrote the manuscript along with support from my co-authors. Beyond this, I hereby certify that I am the sole author of this thesis and that no other part of this thesis has been published or submitted for publication yet. Members of the Development, Context, and Communication (DCC) Lab assisted in data collection and/or coding for all three studies presented and my supervisor provided invaluable feedback and ideas for improvement. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to myself and others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this thesis.

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## **LIST OF ABBREVIATIONS AND SYMBOLS**

ADHD	Attention Deficit Hyperactivity Disorder
BRIEF2	Behavior Rating Inventory of Executive Function 2
CI	Correct the Interviewer
CSA	Child Sexual Abuse
DBD	Disruptive Behavior Disorder
IDK	I Don't Know
IDU	I Don't Understand
NICHD	National Institute of Child Health and Human Development
NIMH	National Institute of Mental Health
TD	Typically-Developing
WASI-II	Wechsler Abbreviated Scale of Intelligence-II

# Chapter 1. General Introduction

## 1.1 Background and Significance

Children are questioned formally across a myriad of contexts (e.g., research, clinical, medical, legal) in which their statements can carry a tremendous amount of weight. For example, in the research context, Fritzley and Lee (2003) found that 75% of the studies conducted with children and published in *Developmental Psychology* and *Child Development* relied on questioning children for data collection. Similarly, Malloy and Stolzenberg (under review) examined the top 20 developmental psychology journals over a 1-year period and found that researchers overwhelmingly relied on questioning children to gather data. In the current work alone, two of the studies presented involved conducting interviews with children as the primary source of data collection. Decades of research concerning interviews of children in legal contexts has outlined the reasons why children require different supports than adults within an interview setting (e.g., Ceci & Bruck, 1993; Evans, Lee & Lyon, 2009; Waterman & Blades, 2011). Thus, a large body of research supports that it is crucial for formal interviews across multiple contexts to be conducted with children's capabilities and limitations in mind in order to obtain an accurate and detailed report from them.

A comprehensive report becomes especially crucial when children are brought in for questioning regarding potential victimization. In North America alone, millions of children are formally questioned about potential maltreatment each year (Fallon et al., 2015; Gelles & Brigham, 2011). Within the context of investigative interviews with child witnesses, clarity and accuracy are paramount as the child's testimony often represents essential evidence regarding the alleged abuse (Malloy et al., 2010; Quas et al., 2005;

Tabak & Klettke, 2014). Thus, it is imperative that children feel that they can and know how to say “I don’t know” if they do not know the answer to a question, correct the interviewer if they make a mistake, and request clarification if they do not understand a question. Given the importance of clarity and accuracy during formal interviews with children, many best-practice interview guidelines typically include a portion of the interview devoted to establishing the interview “ground rules”. Despite the prevalent recommendation and introduction of such rules, little is known about children’s ground rule understanding and application within interview settings (see Brubacher, Poole, & Dickinson, 2015, for a review). Furthermore, to our knowledge, no published studies have focused on adult fact finders’ perceptions of children’s application of the ground rules during an interview. The current research addresses critical gaps in the literature concerning the ground rule portion of investigative interviews with children.

Investigative interviews represent novel, potentially stressful experiences for children in which they may not have the vocabulary necessary to describe the events that occurred, their timing, or the emotions that they experienced (Ahern & Lyon, 2013; Walker, 1999; Wandrey et al., 2012). In such interviews, children will also undoubtedly be asked questions involving complex legal terminology they are likely unfamiliar with (Evans et al., 2009; Katz & Hershkowitz, 2012; Saywitz, Jaenicke, & Camparo, 1990; Saywitz & Snyder, 1993). In addition, children will also be the “expert” in these conversations, and they are likely to be unfamiliar with this role when talking to adults (Hershkowitz et al., 2012; Saywitz & Camparo, 2013). Children will be asked to discuss, in detail, the nature of their maltreatment or other experiences about which they are being questioned. These can be embarrassing events to divulge to an unfamiliar adult and likely

augments the stressfulness of the situation (Back et al., 2011; Hershkowitz et al., 2007). Finally, children may not fully understand the reason for the interview or what they are being questioned about, which means that they may need to ask the interviewer to clarify these issues (Rodriguez Steen & Malloy, 2021). Taken together, these factors create an environment in which miscommunications or misunderstandings can easily occur, and which may negatively impact a child's report of what occurred and/or an adult's perception of a child's report.

In order to counter any potential misunderstandings and to facilitate children's success, by the 1990s, many best-practice guidelines for conducting interviews with children established interview "ground rules" (e.g., Memorandum of Good Practice; Home Office, 1992; NICHD Investigative Interview Protocol; Orbach et al., 2000; Ten Step Investigative Interview; Lyon, 2005). Largely, these ground rules are intended to promote accuracy and comfort within an interview setting. By informing children of the ground rules at the outset of an interview and encouraging their use as appropriate, the idea is that children will better understand the interview context and be able to advocate for themselves throughout the interview by applying the rules when needed.

Although there is extensive agreement that ground rules and other pre-interview instructions should be included in interview guidelines, there is variability in their format, position within the interview, opportunity for practice, and degree of explanation for each rule or instruction (Brubacher et al., 2015). Guidelines tend to include the following ground rules: (1) establish interviewer naiveté (e.g., "I wasn't there"), (2) instruct the child to correct potential mistakes the interviewer makes, (3) instruct the child to tell the interviewer if the child does not understand something, and (4) instruct the child to tell

the interviewer if the child does not know the answer to a question. Additionally, children may be asked to determine the difference between a truth and a lie, and are commonly instructed to only tell about things that have really happened to them (Brubacher et al., 2015).

Often, children are given an opportunity to practice the ground rules as they are introduced. For example, when practicing the “I don’t know rule” in the NICHD protocol (Orbach et al., 2000), the interviewer says “If I ask you a question and you don’t know the answer, just tell me ‘I don’t know.’ So, if I asked you “what’s my dogs name?” what would you say?” To pass this rule, children should say “I don’t know” or some other response that admits ignorance. Such questions provide children with an example of a question they may need help with during the substantive phase of the interview (i.e., the portion of the interview designed to gather facts from the child) and allows them to practice applying the ground rules in response. A small body of research demonstrates that ground rule practice has been found to assist children with applying the ground rules later on during the substantive interview phase (Danby et al., 2015; Henderson & Lyon, 2021). Yet, despite the widespread recommendation and often assumed utility of interview ground rules, research examining the ground rules is relatively limited. This is especially the case for the “I don’t understand” rule, which is designed to encourage children’s appropriate requests for clarification.

The studies that compose this thesis add to the limited body of research regarding ground rules in interviews with children. Three studies are presented. Study 1 tested whether reminders of the “I don’t understand” rule at designated interview points increased children’s appropriate clarification requests to objectively “unanswerable”

questions (i.e., “tricky” questions). Study 2 examined individual differences in ground rule performance and application among children with Attention Deficit Hyperactivity Disorder (ADHD) and typically-developing (TD) children with a focus on children’s executive functioning. Study 3 examined adults’ perceptions of children’s application of the “I don’t understand” and “I don’t know” rules within an investigative interview.

Taken together, these three studies fill critical gaps in the ground rule and child witness literatures. Results of the current work have implications for Forensic and Developmental Psychology including for all who question children (e.g., forensic interviewers, medical doctors, developmental researchers), provide expert testimony in cases involving child witnesses, and design policy related to conducting interviews with children, including interventions designed to improve such interviews.

## **1.2 Thesis Objectives**

1. To examine whether reminding children of the “I don’t understand” rule increases children’s appropriate clarification requests
2. To determine whether individual differences in ADHD diagnosis and executive functioning (i.e., working memory and inhibitory control) affect children’s ground rule performance and application
3. To advance understanding of how adult fact-finders’ perceive a child’s “I don’t understand” and “I don’t know” ground rule applications

## **Chapter 2. Study 1: Bolstering Children’s Requests for Clarification with “I Don’t Understand” Rule Reminders**

### **2.1 Introduction**

When children are questioned, especially in formal settings (e.g., medical, legal, research, clinical), it is crucial that they feel comfortable and know how to ask for clarification as necessary. This requires them to understand and apply the “I don’t understand” interview ground rule. Extant research indicates that children often fail to request clarification within interviews (Carter, Bottoms, & Levine, 1996; Malloy et al., 2015). There are several reasons children may fail to request clarification. For example, they may fail to monitor their comprehension accurately such that they do not realize that they need clarification to answer the question. Or, they may recognize their lack of understanding but not feel comfortable socially to request clarification from an adult. One relatively simple explanation is that they have simply forgotten the ground rules and that they were told to request clarification if needed. Interviewers introduce the ground rules once at the outset of the interview and this introduction is information heavy, often covering four or five rules (Brubacher et al., 2015; Saywitz & Comparo, 2013). Children are then questioned at length about potentially embarrassing, upsetting, and emotional topics (Back et al., 2011; Hershkowitz et al., 2007). It is possible that children simply forget that saying “I don’t understand” is an option for them by the time they are well into the substantive interview phase. The current study addresses this potential explanation by testing how reminders of the “I don’t understand” ground rule affect children’s clarification requests, alongside the impact of child age, question characteristics, and executive functioning skills.

### ***2.1.1 The “I Don’t Understand” Rule and Children’s Clarification Requests***

Both laboratory and field studies have found that children seldom request clarification in interviews. Early laboratory work examining children’s clarification requests demonstrates that children will answer bizarre questions that are objectively incomprehensible or “unanswerable” (Hughes & Grieve, 1980; Pratt, 1990). Indeed, research from several laboratory studies indicates that children will answer objectively unanswerable questions (e.g., “Where do circles live?”), rather than saying “I don’t know” or requesting clarification (Waterman, Blades, & Spencer, 2000, 2001, 2004). For example, Waterman et al. (2000) reported that an overwhelming majority of children (95%) answered at least one unanswerable question instead of requesting clarification to the question or saying “I don’t know.” Interestingly, the children in these samples were able to identify that the unanswerable questions were “silly” when asked (Waterman et al., 2000, 2001, 2004). In a field study, Malloy and colleagues (2015) examined 91 investigative interview transcripts with suspected child sexual abuse victims (ages 4- to 13-years). Results demonstrated that, despite all of the children being introduced to the ground rules at the beginning of their interviews, 32% of children never requested clarification during questioning. We note that children’s “I don’t know” responses were not reported by Malloy et al. (2015) and it is possible that some of the children in this sample may have said “I don’t know” as a method for requesting clarification. This is partially supported by recent work by Henderson and Lyon (2021) who examined 446 investigative interview transcripts with suspected child maltreatment victims (4- to 13-years-old) and reported that children were more likely to say “I don’t know” than they

were to request clarification or express incomprehension to any of the interview questions.

Research demonstrates that the “I don’t understand” rule may or may not be more challenging to understand than other common ground rules, and this understanding may be related to the type of practice questions asked to assess understanding. For example, Dickinson and colleagues (2015) found the “I don’t understand” rule practice question to be more difficult for children to answer accurately than other ground rule practice questions. The “I don’t understand” practice question asked in this study was “Is my shirt gridelin?” (Dickinson et al., 2015). Some research suggests that children are less likely to request clarification in response to a yes/no, option-posing question (Waterman et al., 2000, 2001, 2004). Thus, the practice question implemented by Dickinson and colleagues (2015) may have impacted the likelihood of children responding with a clarification request. Conversely, Ali et al. (2020) found the “I don’t understand” rule to be less challenging than other ground rules for an adult sample. This may have been due to the words used to test adults’ ground rule understanding as Ali et al. (2020) used archaic words that were likely unrecognizable and thus easily flagged as incomprehensible. It may also have been due to developmental differences between children (Dickinson et al., 2015) and adults (Ali et al., 2020) as these two studies found diverging results when examining these different populations. Yet, it should also be noted that some research has found no age-related differences among children with respect to responses to “I don’t understand” rule practice questions (Fessinger et al., 2021). In sum, extant “I don’t understand” rule research indicates that children often struggle to request clarification (Carter et al., 1996; Hughes & Grieve, 1980; Malloy et al., 2015; Pratt, 1990) but that age

and question type likely play a role in whether and how the rule is understood (Ali et al., 2020; Dickinson et al., 2015; Fessinger et al., 2021).

**2.1.1.1 Interventions for encouraging children’s clarification requests.** A few studies have examined methods for encouraging children’s clarification requests such as having children practice applying the rules as they are introduced. Recently, Henderson and Lyon (2021) examined the clarification requests made by suspected victims of child maltreatment and reported that children (4- to 13-years-old) who answered the “I don’t understand” rule practice questions accurately (i.e., said “I don’t understand” or something similar) were more likely to request clarification in the substantive phase of their interview. Following a different procedure, Danby and colleagues (2015) gave half of their sample of children (5- to 13-years-old) the opportunity to practice three ground rules (i.e., “I don’t know,” “I don’t understand,” and “correct the interviewer”) before interviewing them about a staged event. In this sample, practicing the three rules only increased children’s “I don’t know” responses, but not their applications of the other two rules. Ground rule practice question accuracy was not assessed.

Beyond examining the impact of practicing the “I don’t understand” rule, three published studies have aimed to encourage children’s appropriate clarification requests in interviews through targeted interventions (Peters & Nunez, 1999; Rodriguez Steen & Malloy, 2021; Saywitz et al., 1999). In two studies from the 1990s, children first participated in a staged event, and were then introduced to multi-training session interventions designed to increase their clarification requests. Following these training sessions, children were asked scripted questions, some of which were designed to require children to ask for clarification (i.e., “complex language” questions). Both interventions

focused on addressing issues of poor comprehension monitoring and found that children who received comprehension monitoring training requested clarification more often than the children who did not receive comprehension monitoring training (Peters & Nunez, 1999; Saywitz et al., 1999). The results of Peters and Nunez (1999) were especially robust as they found that children in the comprehension monitoring group requested clarification to at least one complex question significantly more often (91%) than children who did not receive comprehension monitoring training (52%). Results of both studies indicated that children requested clarification more frequently to complex questions than to simple questions, regardless of their training condition and age.

Although effective at increasing children's clarification requests, the interventions tested in these two studies were limited in that they took place over multiple 10- to 30-minute-long training sessions. Extensive, multi-session interventions such as these are simply unrealistic in legal settings where interventions must be quick and easy to integrate into existing interview structures. Both studies also contained several confounding variables and lacked clear control groups. For instance, Saywitz and colleagues (1999) included a method for requesting clarification (i.e., "the stop method" where children were told to hold out their hand and say 'Stop, I don't understand') along with comprehension monitoring training and giving children feedback as they practiced in one condition, while the other condition involved practice but no feedback, and no "stop method" described to request clarification. Peters and Nunez (1999) designed their comprehension monitoring condition to include task demand training (i.e., told children what to expect during the interview), the "stop method", and comprehension monitoring training whereas children in their other condition received the task demand training only.

Thus, it cannot be definitively determined which intervention increased clarification requests in these two studies. Both studies also examined children's responses to scripted questions that varied in difficulty (i.e. "complex language" questions v. "easy" questions). However, they focused on the difficulty of language or syntax of the questions and did not examine other question characteristics.

To address these limitations, we recently tested brief interventions aimed at encouraging children to request clarification when appropriate (Rodriguez Steen & Malloy, 2021). Our brief interventions were introduced to children in one interview session and we included clear control groups, both in contrast to the two studies from the 1990s. In our study, 122 children engaged in a brief, scripted health and safety activity and were randomly assigned to both an ***Instruction*** condition: (1) *control* (standard instructions informing children that they can say "I don't understand"), (2) *Comprehension Monitoring* vignette, or (3) *Reassurance* vignette, and a ***Stop*** condition: (1) the "stop method" implemented by Peters and Nunez (1999), or (2) control (i.e., no "stop method"). Children were then asked 22 scripted questions, 8 of which were "tricky" and designed to require a request for clarification. These "tricky" questions fell into one of four categories: (1) vague (e.g., "How long?"), (2) inaudible (e.g., "How many [cough loudly] were there?"), (3) fictitious words (e.g., "How did you use the glorp to clean the cut?"), and (4) complex vocabulary/syntax (e.g., "Is it not true that the bandages did in fact have droll depictions on them?"). Tricky questions were embedded among simple questions such as "Which band-aid did you choose?" Our interview questions varied in their difficulty level (tricky v. simple), question format (open-ended v. yes/no), and question type (vague, inaudible, fictitious words, and complex vocabulary/syntax).

Results revealed that the majority of children (84.2%,  $n = 104$ ) requested clarification to at least one of the tricky questions, while 14.8% ( $n = 18$ ) failed to request clarification to any of the tricky questions. Consistent with previous research, older children (6- to 9-year-olds) requested clarification more than younger children (4- to 5-year-olds). Across all age groups, children requested clarification more frequently to our tricky questions than our simple questions and were especially likely to request clarification to the inaudible or complex vocabulary/syntax questions. The brief interventions we tested did not increase children's clarification requests overall. However, the "stop method" was somewhat effective for evoking clarification requests – at least for the inaudible and vague tricky questions.

Taken together, the three studies examining encouraging children's clarification requests suggest that further investigations in this area are warranted. One unexplored rationale for children's relative lack of clarification requests made in interview settings is that they simply forget that applying the "I don't understand" rule is an option. Thus, Study 1 builds naturally off of our 2021 study and tests another brief intervention for bolstering children's clarification requests - reminding children of the "I don't understand" rule during their interview.

### ***2.1.2 Additional Factors Affecting Children's Clarification Requests***

In addition to interview interventions that may affect children's clarification requests, there are several other factors worth considering (e.g., age, executive functioning skills). In the following sections, we discuss these factors including how the current study addresses them.

**2.1.2.1 Child age.** Research demonstrates that age is associated with children’s clarification requests. In both field and laboratory studies, older children have been more likely to request clarification than younger children (Henderson & Lyon, 2021; Malloy et al., 2015; Rodriguez Steen & Malloy, 2021; Waterman et al. 2000, 2001, 2004). A recent field study found that in investigative interviews with suspected child maltreatment victims (4- to 13-years-old), children’s requests for specification (i.e., requesting information to address ambiguity) increased with age (Henderson & Lyon, 2021). Likewise, in their field study examining investigative interviews with suspected child sexual abuse victims, Malloy et al. (2015) found that children’s clarification requests also increased with age. Of note, as age increased, children in this sample made more inference requests (i.e., attempting to deduce the question’s meaning or purpose).

Rodriguez Steen and Malloy (2021) reported that younger children (4- to 5-year-olds) requested clarification most often to inaudible questions compared to the other question types (i.e., fictitious words, vague, complex vocabulary/syntax). In this laboratory study, older children (6- to 9-year-olds) requested clarification more often than the younger children (4- to 5-year-olds) and had high levels of clarification requests made to all question types, while showing a significantly lower rate of clarification requests made in response to the vague questions. The vague questions in our 2021 work seemed most likely to generate inference clarification requests given their ambiguous nature (i.e., “Did you do that?”, “How long?”). Thus, that our older children struggled with clarification requests in response to such questions is interesting given that previous research revealed that older children were especially good at making inference clarification requests to indicate miscomprehension and clear up ambiguity (Henderson & Lyon, 2021; Malloy et

al., 2015). Child age ranged from 4- to 13-years-old in these two field studies and we tested 4- to 9-year-olds in our 2021 work. Perhaps the children in our sample were not old enough to regularly apply the “I don’t understand” rule in this manner. These results indicate that more research examining age as a factor affecting children’s clarification requests is needed.

The age range of children tested in studies examining interventions designed for promoting children’s clarification requests has been limited: 4- to 8-year-olds in Peters and Nunez (1999), 4- to 9-year-olds in Rodriguez Steen and Malloy (2021), and 6 and 8-year-olds in Saywitz et al. (1999). In the current study, we tested two age groups: (1) 6- to 8-year-olds, and (2) 9- to 11-year-olds. Including 9- to 11-year-olds expands the age range tested with respect to increasing clarification requests and answers the recent call for empirical research addressing this age range with respect to the “I don’t understand” rule (Brubacher et al., 2015). Thus, the current study will yield valuable information regarding how older children request clarification, including whether they are assisted by interventions aimed at helping them say “I don’t understand” when appropriate.

**2.1.2.2 Question characteristics.** In their experimental work, children interviewed by Waterman and colleagues were more likely to answer unanswerable questions when they were formatted as option posing questions (e.g., “Is a cup sadder than an orange?”) and were more likely to indicate confusion when the questions were formatted as “Wh-” style recall questions (e.g., “What do feet have for breakfast?”; Waterman et al., 2000). In a field study of actual investigative interviews, the large majority (68%) of children’s clarification requests were made in response to open-ended “invitation” prompts (e.g., “Tell me more about that”, “And then what happened?”;

Malloy et al., 2015). These results indicate that question type might also influence whether children request clarification in an interview setting. Answering an open-ended recall question requires a higher level of metacognitive skill (Waterman et al., 2001, 2004). Option posing questions require children to respond with one of the options provided such as saying “Yes” or “No”, and can be answered without further processing or generating new information, whereas invitation-type questions are typically answered only when the child has the requested information in mind and can easily produce a response (Waterman et al., 2001, 2004). This might help to explain why Waterman and colleagues found that children would answer “yes/no” unanswerable questions rather than requesting clarification even when they could later identify the questions as “silly” (Waterman et al. 2000, 2001, 2004).

Prior to our 2021 work, question type examined in relation to children’s clarification requests focused on the format of the questions (e.g., open vs. closed-ended) rather than subtler differences in question type (e.g., vague vs. complex syntax). We addressed this limitation and, interestingly, we found that the children in our sample made more clarification requests in response to our yes/no formatted tricky questions than in response to our open-ended formatted tricky questions (Rodriguez Steen & Malloy, 2021). We speculated that this was because our open-ended tricky questions may have been narrower in nature than that used in previous research as they were more directive recall (i.e., focused, WH- style) questions than traditionally open-ended (i.e., invitation, free recall prompts). Thus, it might have been easier for children to guess or produce responses to the WH-questions we classified as open-ended (e.g., “How many [cough loudly] were there?”) than the vague invitation prompts (e.g., “What happened

next?;" Malloy et al., 2015) or obviously unanswerable questions (e.g., "Where do circles live?;" Waterman et al., 2000) examined in past research (Rodriguez Steen & Malloy, 2021). We investigate question type and format further in Study 1 by comparing children's clarification responses to questions varying in difficulty, type, and format.

**2.1.2.3 Executive functioning.** Even if a child recognizes their miscomprehension and feels comfortable requesting clarification, they still may fail to ask for clarification. Again, a relatively simple explanation is that they may have forgotten the ground rules and that they were encouraged, at the start of the interview, to request clarification when appropriate. Interviewers introduce the ground rules once during an information-laden introduction (Brubacher et al., 2015). Children, especially younger children and children with lower working memory capacities, may simply forget that saying "I don't understand" is an option for them during the interview.

Executive functioning is composed of the systems that control, direct, or coordinate cognitive processes (Lee et al., 2013), and working memory (i.e., the ability to hold various information in mind at the same time) is a key facet of executive functioning. Executive functioning skills, especially working memory, may play a role in children's ability to hold all the ground rule information in mind as they are questioned as well as their ability to apply such rules as necessary. As with many cognitive processes, executive functioning skills emerge in infancy and develop rapidly as children age, with continued development into adolescence (Best & Miller, 2010). Thus, it makes sense to explore the impact of executive functioning in conjunction with various age groups as it relates to applying the "I don't understand" rule. Indeed, a recent review of the ground rules literature discussed the importance of examining individual differences in children's

ground rule applications including aspects of executive functioning (Brubacher et al., 2015). In the current research, we reason that executive functioning skills may influence whether children remember that saying “I don’t understand” is an option for them and whether they are able to link applying this ground rule to their miscomprehension so that they can request clarification throughout interviews. In Study 1, executive functioning was assessed via the Behavior Rating Inventory of Executive Function 2 (BRIEF2) (Gioia, Isquith, Guy, & Kenworthy, 2015).

## **2.2 The Present Study**

Study 1 aimed to increase children’s appropriate “I don’t understand” responses through a novel, brief intervention. We addressed the following primary research questions: (1) Do reminders of the “I don’t understand” rule at designated points during the interview increase children’s clarification requests?; and (2) Which factors (e.g., child age, question characteristics, executive functioning) influence children’s clarification requests? In order to examine these question, 81 children (6- to 11-years-old) watched a short online video individually and then responded to “tricky” and “simple” questions about the video. Questions ( $n = 22$ ) were formatted as WH- style recall questions or as yes/no recognition questions, with the tricky questions classified as vague, inaudible, fictitious words, or complex syntax, allowing us to examine multiple question characteristics in conjunction with child age as in our past research (Rodriguez Steen & Malloy, 2021). In order to test whether “I don’t understand” rule reminders increase children’s clarification requests, children were randomly assigned to a Reminder condition: (1) No Reminder, and (2) Two Reminders.

We hypothesized that children who received “I don’t understand” reminders during their interview would be more likely to request clarification and would do so more frequently than children who did not receive such reminders. We also hypothesized that older children (i.e., 9- to 11-year-olds) would be more likely to request clarification and would make more requests for clarification, regardless of condition, than their younger counterparts (i.e., 6- to 8-year-olds). We further hypothesized an interaction between age and Reminder condition in that the “I don’t understand” reminders were expected to be more effective with younger children than older children.

We made several predictions concerning question characteristics, regardless of children’s age and reminder condition. For one, we hypothesized that children would request clarification more often in response to tricky versus simple questions (Peters & Nunez, 1999; Rodriguez Steen & Malloy, 2021; Saywitz et al., 1999). Drawing from the relatively small body of research that has focused on clarification requests (Rodriguez Steen & Malloy, 2021; Waterman et al., 2001, 2004), we further hypothesized that children would request clarification more often in response to vague and inaudible questions than to complex syntax and fictitious word questions. We also predicted that children would request clarification more often in response to WH- style recall questions than to Yes/No recognition questions (Waterman et al., 2001, 2004).

Regarding executive functioning, we hypothesized that children with greater executive functioning difficulty would be less likely to request clarification and make fewer clarification requests, controlling for child age. Finally, children’s recognition of interview questions as “Silly” was explored, though we made no a priori predictions regarding children’s responses to the “Were any of my questions silly?” question.

## 2.3 Method

### 2.3.1 Participants

Children ( $n = 81$ ) between the ages of 6 and 11-years-old ( $M_{age} = 8.48$ ,  $SD = 1.60$ ) were recruited online via targeted social media posts, snowball sampling, and contacting parents from a database of parents interested in helping conduct our lab's research. There were no restrictions on how many children could participate from a single family. Additionally, no restrictions were made based on race, ethnicity, or socioeconomic status. Children were recruited from the U.S. (67.9%,  $n = 55$ ) and Canada (32.1%,  $n = 26$ ) and our sample was 60.5% female ( $n = 49$ ), 38.3% male ( $n = 31$ ), and 1.2% nonbinary ( $n = 1$ ).

Children in the current study were primarily white (71.6%,  $n = 58$ ), followed by bi-racial/mixed race (8.6%,  $n = 7$ ), Latin American/Hispanic (3.7%,  $n = 3$ ), Black (3.7%,  $n = 3$ ), and Asian (2.5%,  $n = 2$ ). Most families had a combined household income (yearly) of over \$100,000 (61.7%,  $n = 50$ ), with several families falling between \$75,000 to \$100,000 (9.9%,  $n = 8$ ), \$55,000 to \$75,000 (6.2%,  $n = 5$ ), \$55,000 to \$45,000 (2.5%,  $n = 2$ ), or under \$45,000 (6.2%,  $n = 5$ ). Demographic information was reported by the child's parent or legal guardian. In most cases, the child's mother or female guardian completed the demographic survey (76.5%,  $n = 62$ ) but the child's father or male guardian completed the survey for 13.6% of the children ( $n = 11$ ). Parents/guardians were most commonly between 41- to 45-years-old (37.0%,  $n = 30$ ) and 36- to 40-years-old (35.8%,  $n = 29$ ), with 9.9% of parents under 35-years-old ( $n = 8$ ) and 7.4% of parents 46-years-old or older ( $n = 6$ ). Demographic data were missing for 9.9% of the children ( $n = 8$ ) except for family income data which were missing for 13.6% of the sample ( $n = 10$ ).

### **2.3.2 Procedure**

During recruitment, parents were given a brief, general overview of the study, and the investigator's contact information to use if they were interested in participating. Interested families scheduled an individual Zoom meeting with members of the Development, Context, and Communication (DCC) research team. After parental consent (see Appendix A1) and child assent (see Appendix A2) were obtained, parents completed a brief demographics questionnaire (see Appendix A3) and responded to questions about their child's behavior via the BRIEF2 (see Appendix A4; Gioia et al., 2015) online via Qualtrics. Child participants watched a 7-minute scripted health and safety video during which they learned various skills like taking care of a pretend cut (Rodriguez Steen & Malloy, 2021; see Appendix A5) and were then interviewed about the video. Multiple children from the same family were tested either on the same day, provided the children were separated during their testing sessions, or on different days, depending on scheduling and availability. Interview sessions were transcribed verbatim and coded by the lead investigator and her team of trained research assistants.

### **2.3.3 Materials**

**2.3.3.1 Interview.** Children were randomly assigned to a *Reminder* condition (1) no reminder, or (2) two reminders at designated interview points. Children were interviewed by an unfamiliar, trained research assistant (see Appendix A6 for a complete interview script). Portions of the interview were modeled after the National Institute of Child Health and Human Development (NICHD) best-practice guidelines for investigative interviews with child witnesses which begin with the interviewer introducing herself to the child and then explaining the ground rules (Orbach et al., 2000).

Dissimilar from the NICHD protocol, during the ground rule portion of the interviews, all children not only received instructions to say “I don’t understand” if they did not understand a question, but also an opportunity to practice saying “I don’t understand.” (i.e., “So, if I ask you ‘What is your gender embodiment?’ what would you say?”). This “I don’t understand” rule practice question was derived from the Ten Step Investigative Interview protocol (i.e., “So, if I ask you ‘What is your gender?’ what do you say?;” Lyon, 2005), though we included the word “embodiment” as our sample included older children who may already have an understanding of the word “gender.” During the ground rule portion of the interview, children received standard instructions regarding the ground rules outlined in the NICHD protocol as well (e.g., to say “I don’t know” if they did not know the answer to a question). Next, children were prompted to answer three scripted, free recall prompts requesting them to tell the interviewer everything that they remembered from the health and safety activity (e.g., “Tell me everything that happened during the health and safety video.”).

Following the free recall portion of the interview, children were asked a set of 22 scripted questions, some of which were designed to require clarification (Rodriguez Steen & Malloy, 2021). These “tricky” questions, taken largely from our previous study, fell into one of four categories: (1) vague, (2) inaudible, (3) fictitious words, and (4) complex syntax. In our previous work, our fourth category contained “complex syntax and vocabulary.” After receiving reviewer feedback on our 2021 work, we decided to simplify this category in Study 1 so that it contained only complex syntax. We made this small adjustment in order to correct for the potentially confounding element of questions containing both complex syntax and vocabulary. Another adjustment to our interview

paradigm was to correct for our previous work having an uneven number of recall questions ( $n = 3$ ) to recognition questions ( $n = 5$ .) Thus, in Study 1, half of our tricky questions were formatted as WH- style recall questions ( $n = 4$ ; e.g., “Where was it?”) and half were formatted as yes/no recognition questions ( $n = 4$ ; “Did the girl in the video use the wipe to clean the foothies?”). The tricky questions were embedded among simple questions such as “Which band-aid did the girl in the video choose?” If a request for clarification was made in response to one of the tricky questions, a scripted “simple” version of this question was asked in response.

All questions were slightly adjusted from our previous work to reflect the move from in-person testing to online testing over Zoom (e.g., “How many health and safety stations did you go to?” became “How many health and safety stations did the girl in the video go to?”). The 22 scripted questions were counterbalanced by creating four versions of the interview. That is, children were randomly assigned to an interview version (i.e., A, B, C, D) as well. The final question was always the same, however: “Were any of my questions silly?” This question was asked so that we could examine whether children could identify our questions as tricky or silly, similar to the Waterman et al. (2000, 2001, 2004) research. The interview lasted approximately 20 minutes and took place entirely over Zoom (see Appendix A6). Lastly, children were debriefed (see Appendix A7) and sent a small prize to thank them for their participation in the form of a pdf “Junior Scientist Certificate” with their name on it. Parents received a \$5 e-gift card to compensate them for their time and scheduling efforts. All interviews were recorded via Zoom, and the videos for these interviews were transcribed verbatim by trained research assistants.

**2.3.3.2 Reminders.** After the free recall portion of the interview, children in the Reminder condition were reminded of the “I don’t understand” rule (i.e., “Remember, if I ask a question that you don’t understand, just say, ‘I don’t understand.’ Okay?”). Children in the No Reminder condition did not receive this reminder. The second reminder for children in the Reminder condition occurred after the 11<sup>th</sup> scripted question, halfway through the scripted questions. The 11<sup>th</sup> question was always “simple”; that is, the reminder did not immediately follow a “tricky” question. The question that immediately followed the second reminder was also always “simple.”

**2.3.3.3 Executive functioning.** Parents completed the BRIEF2 (Gioia et al., 2015) in order to assess aspects of executive functioning such as working memory (see Appendix A4). The BRIEF2 assesses impairment of executive functioning in children and adolescents ages 5- to 18-years and has been used in more than 800 peer-reviewed studies globally. The BRIEF2 is highly correlated with other measures of behavior and IQ, including the CBCL, BASC-2, Connors-3, ADHD-RSIV, RIAS, WISC-IV, and WAIS-IV (Gioia et al., 2015). To complete the BRIEF2, parents responded to 63 items representing the nine facets of executive functioning: (1) Inhibit, (2) Self-Monitoring, (3) Shift, (4) Emotional Control, (5) Initiate, (6) Working Memory, (7) Plan/Organize, (8) Task-Monitoring, and (9) Organization of Materials. Parents responded to items such as “My child is fidgety” on a scale where 1 = “Never,” 2 = “Sometimes,” and 3 = “Often.”

Raw scores across these nine facets were summed and combined to create three index scores in accordance with the scoring manual: (1) Behavior Regulation Index (Inhibit, Self-Monitoring), (2) Emotion Regulation Index (Shift, Emotional Control), and (3) Cognitive Regulation Index (Initiate, Working Memory, Plan/Organize, Task-

Monitoring, Organization of Materials). Raw sum scores for each index score were then converted into *T*-Scores following the BRIEF2 scoring guide (Gioia et al., 2015). Total raw scores across all three index scores were also summed and combined into a composite summary score which was converted into a *T*-Score following the BRIEF2 scoring guide (Gioia et al., 2015) to create each child's Global Executive Composite (GEC). Children's GEC scores were used in Study 1 as the main outcome variable concerning children's executive functioning. Children's GEC scores ranged from 37 to 77 ( $M = 54.24$ ,  $SD = 8.94$ ) with higher scores representing greater executive functioning difficulty. GEC scores were not obtained for nine children in the current study due to the parent or guardian not completing the BRIEF2. Thus, in all analyses concerning children's executive functioning, only 72 of the 81 children (88.9% of the sample) were considered.

#### ***2.3.4 Coding and Data Reduction***

Before coding the verbatim interview transcripts, the lead investigator and her team of research assistants obtained reliability by coding a subset of the transcripts independently ( $n = 17$ , 21%). For the scripted questions, Kappas ranged from .636 to 1.0 ( $M = .914$ ) across two coders and discrepancies were resolved verbally before the remaining transcripts were divided and coded (see Appendix A8, Table 1S for coding manual). Each of the 22 scripted questions were first coded dichotomously for whether the child requested clarification (0 = no, 1 = yes), said "I don't know" (0 = no, 1 = yes), or simply answered the question (0 = no, 1 = yes). If clarification was requested, the type of clarification method implemented was coded into one of four mutually exclusive categories (Rodriguez Steen & Malloy, 2021): (1) explicit (e.g., "I don't understand,"

“What?”), (2) nonverbal (e.g., a confused look), (3) repeats the question, or (4) makes an inference (e.g., makes a guess as to what the interview meant). Consistent with our previous work (Rodriguez Steen & Malloy, 2021), nonverbal requests were only coded when no other request was present; verbal requests for clarification superseded nonverbal requests.

Key outcome variables regarding the scripted questions included calculating dichotomous variables for whether the child ever requested clarification to the “tricky” and “simple” questions. We also tallied the sum totals of each child’s clarification requests to the “tricky” and “simple” questions, and the sum totals of each child’s clarification requests to each type (e.g., vague) and format (e.g., yes/no recognition) of the tricky questions so that we could create proportion scores to use in the analyses. We calculated proportion scores for children’s clarification requests due to unequal numbers of questions in the various categories (e.g., 8 tricky and 14 simple questions) (Rodriguez Steen & Malloy, 2021). These consisted of children’s proportion of clarification requests to tricky questions and simple questions (out of the total tricky questions and total simple questions, respectively), the proportion of children’s responses to WH- style recall and yes/no recognition tricky questions that were clarification requests out of the total WH- style and yes/no tricky questions, respectively, and the proportion of clarification requests out of the total vague, inaudible, fictitious words, and complex syntax tricky questions. Mean proportion scores were key dependent variables of interest in our main analyses (see Table 2.1).

Children’s responses to the open-ended questions asked during the free recall portion of the interview were also coded. The investigator and her team obtained

reliability by coding a subset of the transcripts independently ( $n = 17, 21\%$ ). Kappas ranged from .767 to 1.0 ( $M = .932$ ) across four coders and discrepancies were resolved verbally before the remaining transcripts were divided and coded. First, the sum total of each child’s clarification requests to the open-ended questions was calculated. Each clarification request in free recall was coded into one of the four categories outlined above: (1) explicit, (2) nonverbal, (3) repeats the question, or (4) makes an inference. The total number of free-recall prompts (e.g., “Tell me everything that happened during the health and safety video,” “Tell me more about what happened during the health and safety video”) were also coded so that we could calculate our main dependent variable for this section – the proportion of children’s responses to open-ended questions in free recall that were clarification requests (see Appendix A8, Table 2S for coding manual).

Finally, children’s responses to our “Were any of my questions silly” question were coded. These responses were coded into the one of the following five categories: (1) No, (2) Yes, (3) I don’t understand or any other clarification request (e.g., “What do you mean?” “Huh?”), (4) I don’t know or any other admission of ignorance (e.g., “I don’t think so,” “I’m not sure”), or (5) Other (e.g., “Maybe”). For this question, the lead investigator and her team obtained reliability by coding a subset of the transcripts independently ( $n = 17, 21\%$ ) and Kappas ranged from .746 to .826 ( $M = .786$ ) across three coders. Discrepancies were resolved verbally before the remaining transcripts were divided and coded (see Appendix A8, Table 3S for coding manual).

**Table 2.1**  
*Study 1: Main Dependent Variables*

Variable Name	Variable Type
Did child ever request clarification to a free recall question?	Dichotomous

Did child ever request clarification to a tricky question?	Dichotomous
Did child ever request clarification to a simple question?	Dichotomous
Proportion of responses to tricky questions that were clarification requests	Proportion Score
Proportion of responses to simple questions that were clarification requests	Proportion Score
Proportion of responses to Yes/No recognition questions that were clarification requests	Proportion Score
Proportion of responses to WH- style recall questions that were clarification requests	Proportion Score
Proportion of responses to vague questions that were clarification requests	Proportion Score
Proportion of responses to inaudible questions that were clarification requests	Proportion Score
Proportion of responses to fictitious words questions that were clarification requests	Proportion Score
Proportion of responses to complex syntax questions that were clarification requests	Proportion Score

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### ***2.3.5 Analysis Plan***

First, we present preliminary analyses examining the equivalency of our experimental conditions and potential gender differences concerning our main dependent variables. Next, we present descriptive statistics concerning whether and how children requested clarification, including during both the free-recall portion of the interview and in response to the 22 scripted interview questions. Third, we present results of two logistic regressions examining the effects of Age (6-8 v. 9-11), Reminder Condition (Reminder v. No Reminder), and Executive Functioning on whether children ever requested clarification to (1) a tricky question or (2) a simple question. Fourth, we present results from three mixed model ANOVAs concerning Question Difficulty, Question Type, and Question Format. That is, we conducted a 2 (Age: 6-8 v. 9-11) X 2 (Reminder Condition: Reminders v. No Reminder) X 2 (Question Difficulty: Simple v. Tricky) mixed model ANOVA on children’s clarification request proportion scores with Age and Reminder Condition varied between subjects and Question Difficulty varied within

subjects. We also conducted a 2 (Age: 6-8 v. 9-11) X 2 (Reminder Condition: Reminders v. No Reminder) X 4 (Question Type: Vague v. Inaudible v. Fictitious Words v. Complex Syntax) mixed model ANOVA on children's clarification request proportion scores with Age and Reminder Condition varied between subjects and Question Type varied within subjects. A 2 (Age: 6-8 v. 9-11) X 2 (Reminder Condition: Reminders v. No Reminder) X 2 (Question Format: Yes/No Recognition v. WH- style Recall) mixed model ANOVA examined the effects of Age and Reminder Condition (between subject factors) and Question Format (within subject factor) on children's clarification request proportion scores. Finally, descriptive statistics concerning children's responses to our "Silly" question are presented and an exploratory logistic regression assessed children's yes/no responses.

## **2.4 Results**

### ***2.4.1 Preliminary Analyses***

Preliminary analyses examined the equivalency of our experimental conditions, and potential gender differences concerning our main dependent variables (see Table 2.1). For all preliminary analyses, chi-square analyses assessed dichotomous variables (e.g., whether children ever requested clarification to tricky questions) and one-way ANOVAs examined continuous variables (e.g., proportion of clarification requests to tricky questions).

**2.4.1.1 Equivalency of conditions.** Chi square analyses revealed that there were no significant differences in condition (Reminder v. No Reminder) in terms of children's gender, age group, interview version (i.e., A, B, C, D), or their country of residence (US v. Canada) ( $ps > .481$ ). Thus, our randomly assigned conditions were approximately

equal in distribution across our conditions (see Table 2.2). Specifically, we had 41 children in our No Reminder condition and 40 children in our Reminder condition. Our sample also included 41 children in the 6 to 8 age group ( $M = 7.15$ ,  $SD = .79$ ) and 40 children in the 9 to 11 age group ( $M = 9.90$ ,  $SD = .78$ ). Children did not differ significantly based on age group (see Table 2.2) with respect to gender ( $p = .610$ ), interview version ( $p = .629$ ), or country of origin ( $p = .581$ ).

**Table 2.2**  
*Descriptive Statistics for Preliminary Analyses Concerning Equivalency of Conditions*

Condition	Group	<i>n</i>	Sig.
Condition X Gender	Reminder X Male	14	.481
	Reminder X Female	26	
	No Reminder X Male	17	
	No Reminder X Female	23	
Condition X Child Age	Reminder X 6- to 8-year-olds	21	.913
	Reminder X 9- to 11-year-olds	20	
	No Reminder X 6- to 8-year-olds	20	
	No Reminder X 9- to 11-year-olds	20	
Condition X Interview Version	Reminder X Version A	11	.816
	Reminder X Version B	8	
	Reminder X Version C	12	
	Reminder X Version D	10	
	No Reminder X Version A	10	
	No Reminder X Version B	11	
	No Reminder X Version C	9	
	No Reminder X Version D	10	
Condition X Country	Reminder X CA	12	.581
	Reminder X US	29	
	No Reminder X CA	14	
	No Reminder X US	26	
Child Age X Gender	6- to 8-year-olds X Male	17	.610
	6- to 8-year-olds X Female	24	
	9- to 11-year-olds X Male	14	
	9- to 11-year-olds X Female	25	
Child Age X Interview Version	6- to 8-year-olds X Version A	10	.629
	6- to 8-year-olds X Version B	11	
	6- to 8-year-olds X Version C	12	
	6- to 8-year-olds X Version D	8	
	9- to 11-year-olds X Version A	11	
	9- to 11-year-olds X Version B	8	
	9- to 11-year-olds X Version C	9	

	9- to 11-year-olds X Version D	12	
Child Age X Country	6- to 8-year-olds X CA	29	.581
	6- to 8-year-olds X US	12	
	9- to 11-year-olds X CA	26	
	9- to 11-year-olds X US	14	

**2.4.1.2 Gender.** We tested for potential gender differences in our outcome variables, excluding the one child who identified as non-binary. Chi square analyses revealed no significant gender differences in whether children ever requested clarification to a tricky question ( $p = .807$ ) or a simple question ( $p = .741$ ). One-way ANOVAs concerning our continuous dependent outcome variables (i.e., proportion clarification requests to tricky questions, proportion clarification requests to simple questions, proportion of clarification requests made to each question type and format) also indicated no significant gender differences ( $ps > .203$ ). That is, gender did not appear to influence clarification requests in the current sample and is not considered further (see Table 2.3).

**Table 2.3**  
*Descriptive Statistics for Preliminary Analyses Concerning Gender Differences in Dependent Variables*

Dependent Variable	Independent Variable	Group	<i>M</i>	<i>SD</i>	Sig.
Ever Request Clarification to Tricky Question	Gender	Male	96.8%	17.9%	.745
		Female	98.0%	14.3%	
Ever Request Clarification to Simple Question		Male	29.0%	46.1%	.810
		Female	26.5%	44.9%	
Proportion Clarification Requests to Tricky Questions		Male	59.7%	22.3%	.964
		Female	59.4%	22.9%	
Proportion Clarification Requests to Simple Questions		Male	3.7%	8.4%	.634
		Female	2.9%	6.0%	
Proportion Clarification Requests to Yes/No Recognition Questions		Male	66.1%	21.9%	.475
		Female	62.2%	24.5%	
Proportion Clarification Requests to WH-Recall Questions		Male	53.2%	28.7%	.600
		Female	56.6%	27.8%	
Proportion Clarification Requests to Vague Questions		Male	59.7%	32.7%	.421
		Female	53.1%	37.4%	
Proportion Clarification Requests to Inaudible Questions		Male	80.75%	30.8%	.470
		Female	75.5%	30.8%	
Proportion Clarification Requests to Fictitious Word Questions		Male	71.0%	42.4%	.872
		Female	72.5%	38.3%	

Proportion Clarification Requests to	Male	27.4%	33.8%	.203
Complex Syntax Questions	Female	36.7%	30.2%	

### 2.4.2 Children's Requests for Clarification to Interview Questions

Only 8.6% of children ( $n = 7$ ) ever requested clarification to an open-ended question during the free recall portion of the interview and all of these requests were made explicitly. On average, children requested clarification to 59.6% of tricky questions ( $SD = 22.4\%$ ), 3.1% of simple questions ( $SD = 7.0\%$ ), and 23.7% of all 22 scripted questions ( $SD = 10.0\%$ ).

**2.4.2.1 Tricky questions.** In the current sample, 97.5% of children ( $n = 79$ ) requested clarification to at least one tricky question, with 2.5% of children never requesting clarification to any of the tricky questions ( $n = 2$ ) and 2.5% of children requesting clarification to all of the tricky questions ( $n = 2$ ). Children's sum clarification requests to tricky questions ranged from 0 to 8 ( $M = 4.77$ ,  $SD = 1.79$ ). We also found that 28.4% of children ( $n = 23$ ) responded to at least one tricky question by saying "I don't know" ( $M = .28$ ,  $SD = .45$ ) and that 97.5% of children ( $n = 79$ ) attempted to answer at least one tricky question ( $M = .98$ ,  $SD = .16$ ). When children requested clarification to a tricky question, they did so most frequently with an explicit request for clarification ( $M = 4.44$ ,  $SD = 1.75$ ). Children also requested clarification by making an inference ( $M = .32$ ,  $SD = .63$ ), repeating the question ( $M = .15$ ,  $SD = .39$ ), or in the case of one child, making a nonverbal request for clarification ( $M = .01$ ,  $SD = .11$ ).

**2.4.2.2 Simple questions.** Overall, 27.2% of children ( $n = 22$ ) requested clarification to at least one simple question, with 72.8% ( $n = 59$ ) never requesting clarification to a simple question and no children requesting clarification to all the simple

questions. Indeed, children's sum clarification requests to simple questions were low, ranging from 0 to 6 ( $M = .44$ ,  $SD = .97$ ). Of the 27.2% of children who requested clarification to a simple question, most did so explicitly ( $M = .40$ ,  $SD = .89$ ) or by making an inference ( $M = .06$ ,  $SD = .29$ ). No children requested clarification to a simple question nonverbally or by repeating the question. Further, 45.7% of children ( $n = 37$ ) responded to at least one simple question by saying "I don't know" ( $M = .68$ ,  $SD = .88$ ) and all of the children ( $n = 81$ ) attempted to answer at least one simple question ( $M = 13.32$ ,  $SD = .93$ ).

#### ***2.4.3 Effects of Age, Reminder Condition, and Executive Functioning on Children's Clarification Requests to Tricky and Simple Questions***

A logistic regression examined the effects of Age (6-8 v. 9-11), Reminder Condition (Reminders v. No Reminder), and Executive Functioning (i.e., GEC scores) on whether children ever requested clarification to a tricky question, and a linear regression examined the effects of Age (6-8 v. 9-11), Reminder Condition (Reminder v. No Reminder), and Executive Functioning scores (i.e., GEC scores) on the proportion of responses to tricky questions that were clarification requests. Then, similar logistic and linear regression analyses examined whether children ever requested clarification to a simple question and the proportion of responses to simple questions that were clarification requests, respectively. For all of these analyses, Age (6-8 v. 9-11) and Reminder Condition (Reminders v. No Reminder) were entered in the first step, and Executive Functioning scores were entered in the second step. Executive functioning was assessed via children's GEC scores on the BRIEF2. Valid GEC scores were obtained for

72 children in the current sample. Children ( $n = 9$ ) without a valid GEC score were excluded from the following analyses.

**2.4.3.1 Tricky questions.** Regarding whether children ever requested clarification to a tricky question, the overall model was not significant,  $X^2(3) = 2.618, p = .454$ , Nagelkerke  $R^2 = .159$ . Age, Reminder Condition, and Executive Functioning scores did not appear to affect whether children ever requested clarification to a tricky question (see Table 2.4). However, the linear regression examining the proportion of clarification requests made to tricky questions revealed a significant model,  $F(3, 68) = 4.148, p = .009$ , with an  $R^2$  of .155. Reminder Condition was the only significant predictor, Beta = .348 ( $p = .003$ ): Children in the Reminder Condition responded to a greater proportion of the tricky questions with clarification requests ( $M = 67.5\%, SD = 20.6\%$ ) than those in the No Reminder Condition ( $M = 52.0\%, SD = 22.5\%$ ). Age and Executive Functioning scores were not significant predictors of children's proportion of clarification requests made to tricky questions, although Age was trending toward significance (see Table 2.5).

**Table 2.4**

*Results of Logistic Regressions for Whether Children Ever Requested Clarification to Simple and Tricky Questions*

Dependent Variable	Block	Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp (B)	
									Lower	Upper
Tricky Questions	1	Child Age	18.313	6893.037	.000	1	.998	89748602.38	.000	
		Condition	.000	1.453	.000	1	1.000	1.000	.058	17.249
		Constant	2.890	1.027	7.915	1	.005	18.000		
	2	Child Age	18.319	6889.790	.000	1	.998	90337828.24	.000	
		Condition	.005	1.454	.000	1	.997	1.005	.058	17.390
		GEC	-.009	.091	.010	1	.920	.991	.828	1.185
Constant	3.388	5.056	.449	1	.503	29.611				

Simple Questions	1	Child Age	-.572	.550	1.081	1	.298	.564	.192	1.658
		Condition	.205	.540	.145	1	.704	1.228	.426	3.537
		Constant	-.878	.448	3.843	1	.050	.416		
	2	Child Age	-.580	.551	1.106	1	.293	.560	.190	1.649
		Condition	.198	.541	.134	1	.715	1.219	.422	3.516
		GEC	.010	.031	.098	1	.754	1.010	.950	1.073
Constant		-1.396	1.718	.660	1	.416	.248			

**2.4.3.2 Simple questions.** Regarding whether children ever requested clarification to a simple question, the overall model was not significant,  $X^2(3) = 1.371, p = .712$ , Nagelkerke  $R^2 = .028$ . Again, Age, Reminder Condition, and Executive Functioning scores did not significantly affect whether children ever requested clarification to a simple question (see Table 2.4). The linear regression testing the effects of Age (6-8 v. 9-11), Reminder Condition (Reminders v. No Reminder), and Executive Functioning scores on the proportion of responses to simple questions that were clarification requests was also not significant,  $F(3, 68) = .713, p = .547$ , with an  $R^2$  of .031. Thus, Age, Reminder Condition, and Executive Functioning scores were not significant predictors of children's proportion of clarification requests made to simple questions (see Table 2.5).

**Table 2.5**

*Results of Linear Regressions for Proportion of Clarification Requests Made to Simple and Tricky Questions*

Dependent Variable	Model	Variables in the Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Tricky Questions	1	Constant	.477	.043		11.169	.001	.392	.563
		Child Age	.088	.050	.196	1.757	.083	-.012	.189
		Condition	.157	.050	.347	3.130	.003*	.057	.258
	2	Constant	.510	.159		3.211	.002	.193	.826

		Child Age	.089	.051	.195	1.751	.084	-.012	.190
		Condition	.158	.051	.348	3.115	.003*	.057	.259
		GEC	-.001	.003	-.024	-.212	.833	-.006	.005
Simple Questions	1	Constant	.027	.014		1.873	.065	-.002	.056
		Child Age	-.012	.017	-.082	-.694	.490	-.046	.022
		Condition	.021	.017	.149	1.257	.213	-.012	.055
	2	Constant	.015	.053		.278	.782	-.092	.122
		Child Age	-.012	.017	-.083	-.697	.488	-.046	.022
		Condition	.021	.017	.148	1.236	.221	-.013	.055
		GEC	.000	.001	.028	.235	.815	-.002	.002

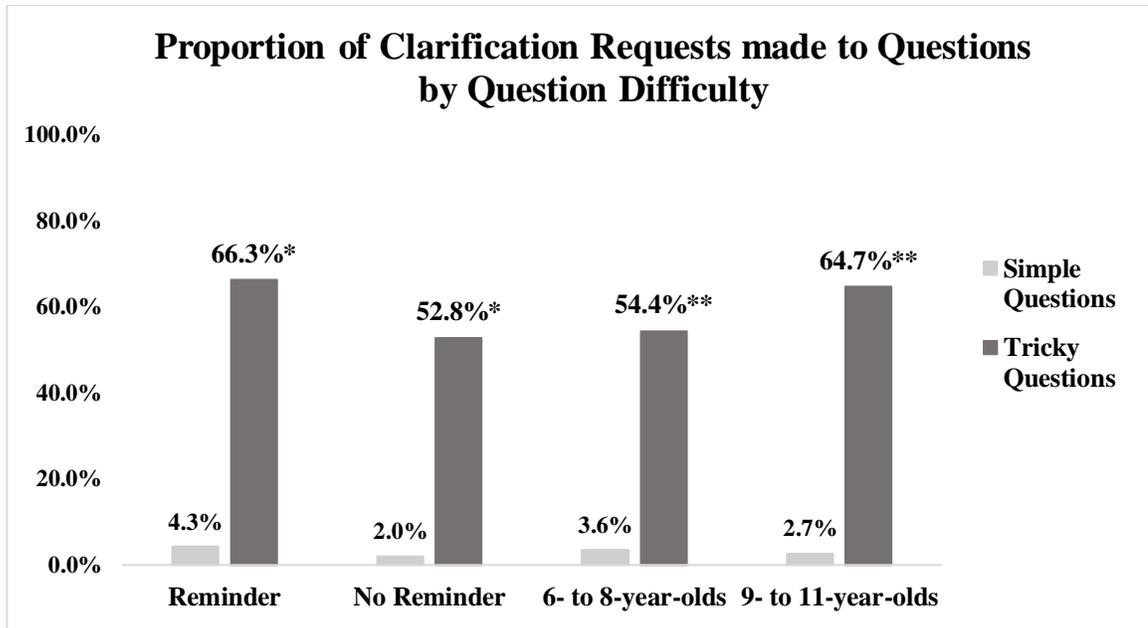
*Note.* \*significant at  $p < .05$

#### ***2.4.4 Effects of Child Age, Reminder Condition, and Question Characteristics on Clarification Requests***

In the following section, we present three mixed model ANOVAs examining the effects of Age and Reminder Condition (between subject factors) and question characteristics (within subject factors) on the proportion of children's clarification requests to each question difficulty, type, and format.

**2.4.4.1 Question difficulty.** A 2 (Age: 6-8 v. 9-11) X 2 (Reminder: Reminders v. No Reminder) X 2 (Question Difficulty: Simple v. Tricky) mixed model ANOVA examined the effects of Age and Reminder Condition (between subject factors) and Question Difficulty (within subject factor) on the proportion of children's responses to each level of Question Difficulty that were clarification requests. A main effect of Question Difficulty emerged,  $F(1, 77) = 582.571, p < .001, \mu^2 = .883$ . Children requested clarification proportionally more in response to tricky questions ( $M = 59.6\%$ ,  $SD = 22.4\%$ ) than to simple questions ( $M = 3.2\%$ ,  $SD = 6.1\%$ ) (see Table 2.6). The main effect

of Question Difficulty was subsumed by significant Question Difficulty X Reminder Condition,  $F(1, 77) = 5.615, p < .020, \mu^2 = .068$ , and Question Difficulty X Age,  $F(1, 77) = 5.798, p < .018, \mu^2 = .070$  interactions (see Figure 2.1), which we explore below. With respect to the significant Question Difficulty X Reminder Condition interaction, children in the Reminder Condition made a significantly greater proportion of clarification requests to tricky questions ( $M = 66.3\%, SD = 3.3\%$ ) than children in the No Reminder Condition ( $M = 52.8\%, SD = 3.3\%$ ),  $F(1, 77) = 8.225, p = .005, \mu^2 = .097$ , but no difference emerged in response to simple questions based on whether children were in the Reminder Condition ( $M = 4.3\%, SD = 1.1\%$ ) or the No Reminder Condition ( $M = 2.0\%, SD = 1.1\%$ ),  $F(1, 77) = 2.360, p = .129, \mu^2 = .030$ . With respect to the significant Question Difficulty X Age interaction, older children made a significantly greater proportion of clarification requests to tricky questions ( $M = 64.7\%, SD = 3.3\%$ ) than younger children ( $M = 54.4\%, SD = 3.3\%$ ),  $F(1, 77) = 4.820, p = .031, \mu^2 = .059$ , but this age difference did not emerge in response to simple questions ( $M = 2.7\%, SD = 1.1\%$  for the younger children and  $M = 3.6\%, SD = 1.1\%$  for the older children),  $F(1, 77) = .378, p = .541, \mu^2 = .005$ . No other significant main effects or interactions emerged (see Table 2.6).



*Figure 2.1.* Mean proportion of clarification requests made to tricky and simple questions, by child age and reminder condition. This figure illustrates the proportion of clarification requests made by each age group and reminder condition in response to the total tricky and simple interview questions.

*Note.* \* $F(1, 77) = 5.615, p < .020, \mu^2 = .068$ ; \*\* $F(1, 77) = 5.798, p < .018, \mu^2 = .070$

#### 2.4.4.2 Question type. A 2 (Age: 6-8 v. 9-11) X 2 (Reminder Condition:

Reminders v. No Reminder) X 4 (Question Type: Vague v. Inaudible v. Fictitious Words

v. Complex Syntax) mixed model ANOVA examined the effects of Age and Reminder

Condition (between subject factors) and Question Type (within subject factor) on the

proportion of children's responses to each question type that were clarification requests.

A main effect of Question Type emerged,  $F(3, 77) = 35.189, p < .001, \mu^2 = .314$  (see

Table 2.6), and simple effects analyses were conducted to further examine this effect.

Children made a greater proportion of clarification requests in response to Vague ( $M =$

55.7%,  $SD = 35.4\%$ ), Inaudible ( $M = 77.8\%$ ,  $SD = 30.6\%$ ), and Fictitious Word ( $M =$

71.6%,  $SD = 39.5\%$ ) tricky questions than to Complex Syntax ( $M = 33.3\%$ ,  $SD = 31.6\%$ )

tricky questions ( $ps < .001$ ). Children also made a greater proportion of clarification requests in response to Inaudible ( $M = 77.8\%$ ,  $SD = 30.6\%$ ) and Fictitious Word ( $M = 71.6\%$ ,  $SD = 39.5\%$ ) tricky questions than to Vague ( $M = 55.7\%$ ,  $SD = 35.4\%$ ) tricky questions ( $ps < .003$ ). Children did not differ significantly in terms of the proportions of clarification requests made in response to Inaudible ( $M = 77.8\%$ ,  $SD = 30.6\%$ ) and Fictitious Word ( $M = 71.6\%$ ,  $SD = 39.5\%$ ) tricky questions ( $p = .159$ ). See Figure 2.2 for children’s proportion of clarification requests by Question Type. There were no other significant main effects and no significant interactions (see Table 2.6).

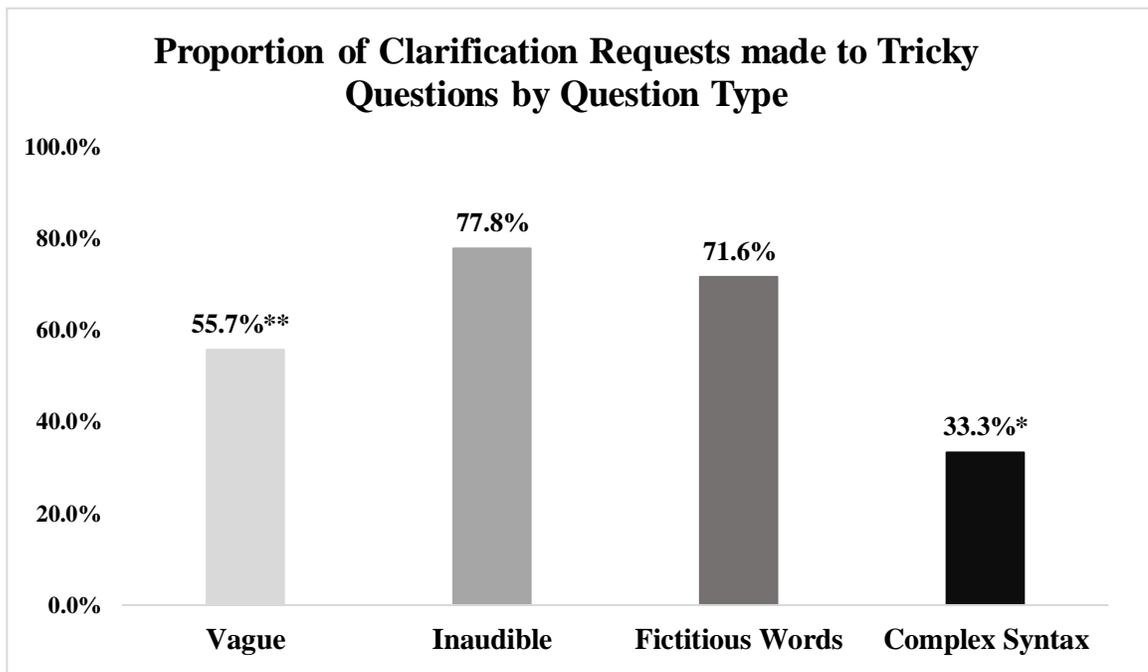


Figure 2.2. Mean proportion of clarification requests made to each question type. This figure illustrates the proportion of clarification requests made by children, regardless of age group or reminder condition, in response to Vague, Inaudible, Fictitious Words, and Complex Syntax tricky questions.

Note. \* $ps < .001$ ; \*\* $ps < .003$

**2.4.4.3 Question format.** A 2 (Age: 6-8 v. 9-11) X 2 (Reminder Condition: Reminders v. No Reminder) X 2 (Question Format: Yes/No Recognition v. WH- Style

Recall) mixed model ANOVA examined the effects of Age and Reminder Condition (between subject factors) and Question Format (within subject factor) on the proportion of children's responses to Yes/No and WH- Style questions that were clarification requests. A significant main effect of Question Format emerged,  $F(3, 77) = 9.282, p = .003, \mu^2 = .108$ . Children made a significantly greater proportion of clarification requests in response to Yes/No Recognition questions ( $M = 63.9\%, SD = 23.4\%$ ) than to WH-Style Recall questions ( $M = 55.3\%, SD = 27.9\%$ ). No other significant main effects emerged, and there were no significant interactions (see Table 2.6).

**Table 2.6**

*Effects of Child Age, Reminder Condition, and Question Characteristics on Proportion of Clarification Requests Made to Scripted Questions*

Dependent Variable	Variables Examined	Effects	<i>F</i>	<i>df</i>	<i>p</i>	$\mu^2$
Simple and Tricky Questions	Child Age, Reminder Condition, Question Difficulty	Question Difficulty	582.571	(1, 77)	.001*	.883
		Question Difficulty X Reminder Condition	5.615	(1, 77)	.020*	.068
		Question Difficulty X Child Age	5.798	(1, 77)	.018*	.070
		Question Difficulty X Reminder Condition X Child Age	.132	(1, 77)	.178	.002
Tricky Questions	Child Age, Reminder Condition, Question Type	Question Type	35.189	(3, 77)	.001*	.314
		Question Type X Reminder Condition	1.509	(3, 77)	.213	.019
		Question Type X Child Age	1.211	(3, 77)	.307	.015
		Question Type X Reminder Condition X Child Age	.768	(3, 77)	.513	.010

Tricky Questions	Child Age, Reminder Condition, Question Format	Question Format	9.282	(1, 77)	.003*	.108
		Question Format X Reminder Condition	.495	(1, 77)	.484	.006
		Question Format X Child Age	.069	(1, 77)	.794	.001
		Question Format X Reminder Condition X Child Age	1.643	(1, 77)	.204	.021

Note. \*significant at  $p < .05$

#### 2.4.5 Children’s Recognition of Interview Questions as “Silly”

Regarding our final question asking children if any of our interview questions were silly, a majority of children (51.9%,  $n = 42$ ) said “no” to this question. The remaining children either said “yes” (32.1%,  $n = 26$ ), “I don’t understand” or something similar (3.7%,  $n = 3$ ), “I don’t know” or something similar (6.2%,  $n = 5$ ), or a response coded as Other (e.g., “Maybe;” 6.2%,  $n = 5$ ). An exploratory logistic regression analysis examining children’s “yes” (1) and “no” (0) responses tested the effects of Age and Reminder Condition on whether children ( $n = 68$ ) recognized any of the interview questions as “silly.” Results revealed a significant model,  $X^2(2) = 8.344$ ,  $p = .015$ , Nagelkerke  $R^2 = .157$ . As child age increased, so did children’s likelihood of recognizing interview questions as “silly” (i.e., saying “yes” to this final question). Specifically, older children (9- to 11-year-olds; 88.1% yes) were 3.79 times more likely to recognize interview questions as “silly” than younger children (6- to 8-year-olds; 25.0% yes) (95% CI = 1.31, 10.97).

### 2.5 Discussion

The “I don’t understand” rule, a commonly introduced “ground rule” in investigative interviews with children, is designed to encourage children to request

clarification or say “I don’t understand” when they do not understand an interviewer’s question. In Study 1, we tested a novel intervention designed to increase children’s appropriate requests for clarification to tricky questions – providing children with reminders of this ground rule at designated points in the substantive phase of the interview. We also examined the effects of child age, question characteristics, and their executive functioning skills in relation to their requests for clarification. Consistent with our hypotheses, children’s age, reminder condition, and question characteristics appeared to influence children’s clarification requests. Contrary to our hypotheses, children’s scores on a standardized measure of executive functioning had no significant effects on their clarification requests.

To date, only three published studies have investigated the utility of interventions to increase children’s appropriate clarification requests. Most of these interventions were unrealistic for legal contexts or were ineffective at increasing clarification requests, emphasizing the need to test additional brief interventions. In the current research, and as hypothesized, children who were introduced to brief “I don’t understand” reminders during their interviews requested clarification in response to more tricky questions than children who did not receive any reminders. However, children in our reminder condition were not more likely to request clarification overall to the tricky questions than children in the no reminder condition. This is likely due to the fact that the overwhelming majority of children in the current study (97.5%) requested clarification to at least one tricky question, thus resulting in a near ceiling effect for this outcome variable. There was considerably more variability in children’s proportion scores examining their clarification

requests to all 8 of the tricky questions, and this is likely why the significant effect of reminder condition emerged here.

The reminder intervention was integrated seamlessly into an existing interview protocol and took very little time (i.e., mere seconds) to deliver. It increased the overall proportion of children's clarification requests to tricky questions by approximately 13%. Yet, it did not simply increase children's clarification requests across the board – an undesirable effect. That is, children who received the reminder intervention did not make more clarification requests to simple questions than children in our no reminder condition. It appears as if the reminder intervention successfully bolstered children's clarification requests discriminately, consistent with past research examining clarification requests to “easy/simple” vs. “complex/tricky” questions (Peters & Nunez, 1999; Rodriguez Steen & Malloy, 2021; Saywitz et al., 1999). While replication of these findings is needed, results of the current study indicate that this brief intervention, as opposed to the lengthy, multi-training session interventions tested in past research (Peters & Nunez, 1999; Saywitz et al., 1999) or the largely ineffective interventions we examined previously (Rodriguez Steen & Malloy, 2021), can be a useful tool for interviewing children in situations in which they encounter tricky questions like in legal contexts (Evans et al., 2009; Katz & Hershkowitz, 2012).

Consistent with our hypotheses and previous research (Henderson & Lyon, 2021; Malloy et al., 2015; Rodriguez Steen & Malloy, 2021), age was associated with an increase in children's clarification requests. We found that older children (9- to 11-year-olds) requested clarification to approximately 10% more of the tricky questions than younger children (6- to 8-year-olds). This was interesting as the youngest children (4- to

5-year-olds) in our previous work struggled to request clarification to tricky questions but by 6-years-old showed little differences in clarification requests when compared to the 8- to 9-year-olds (Rodriguez Steen & Malloy, 2021). We also anticipated an interaction between child age and reminder condition on children's clarification requests to tricky questions but this was not borne out by the data. Indeed, the reminder intervention was just as effective with the 9- to 11-year-olds as with 6- to 8-year-olds. That is, 6- to 8-year-olds who received reminders requested clarification approximately 16% more to tricky questions than 6- to 8-year-olds who received no such reminders, while 9- to 11-year-olds in the reminder condition requested clarification approximately 15% more than 9- to 11-year-olds in the no reminder condition. These results open the door for future directions exploring how adolescents request clarification as well. Future research should increase the age range tested to continue exploring the impact of age on whether and how often even older youth request clarification in interviews.

Children made more clarification requests to tricky questions that were inaudible, vague, or contained fictitious words than to questions with complex syntax. This is largely consistent with our hypothesis that children would request clarification more often in response to vague and inaudible questions than to other question types. Previously, we found that children requested clarification most often to inaudible, fictitious words, or complex vocabulary/syntax tricky questions and least often to vague tricky questions (Rodriguez Steen & Malloy, 2021). Clearly, across both studies, our inaudible questions were quite blatant in their need for clarification and our fictitious words questions contained made up words that many children flagged as incomprehensible. In the current study, we altered our complex syntax questions in order to decouple our previous

findings from the effect of complex vocabulary. Perhaps children were able to understand the words in our complex syntax questions enough to draw conclusions regarding an answer despite the complex syntax contained in the question. That is, children may be more likely to request clarification to a question containing complex syntax and vocabulary (Rodriguez Steen & Malloy, 2021), but when faced with easier to understand words, they attempt to answer regardless of the question syntax. When a child answered a tricky question, we recorded those responses (e.g., “Yes, they were colorful”). Future work examining these responses may yield valuable insights into why children were more likely to answer the complex syntax questions than request clarification as they did in past research (Rodriguez Steen & Malloy, 2021).

We also hypothesized that children would make more clarification requests in response to WH- style recall questions than to Yes/No recognition questions (Waterman et al., 2001, 2004). This hypothesis was not supported. Inconsistent with past research on which we based our hypothesis (Waterman et al., 2001, 2004), children made a significantly greater proportion of clarification requests to Yes/No tricky questions (63.9%) than to WH- style tricky questions (55.3%). In our past research, children were more likely to request clarification to Yes/No tricky questions than to the tricky questions we classified as open ended. This was a surprising finding and one that we were not expecting to replicate. We speculated then, as we do now, that perhaps our tricky Yes/No questions were quite obvious in their need for clarification, were more cognitively demanding, or perhaps some feature of these questions other than format affected children’s responses (Rodriguez Steen & Malloy, 2021). Additionally, it might have been easier for children to generate reasonable answers to our WH- style recall questions (e.g.,

“Where was it?”) than the invitation prompts (e.g., “And then what happened?;” Malloy et al., 2015) or unanswerable questions (e.g., “When is a cup nastier than a table?;” Waterman et al., 2000) examined previously. In sum, some research tells us that children are *less* likely to request clarification to Yes/No questions (Malloy et al., 2015; Waterman et al., 2000) and some, including the current work, tells us that children are *more* likely to do so (Rodriguez Steen & Malloy, 2021). Future research should examine question format further to help clarify its impact on children’s clarification requests.

With respect to our final hypothesis regarding executive functioning, results revealed that executive functioning was not a significant predictor of clarification requests. There were no significant differences between children with higher or lower levels of executive functioning difficulty in terms of their likelihood of requesting clarification or proportion of clarification requests made. Executive functioning skills emerge early in life and continue to develop as children age (Best & Miller, 2010). We theorized that children, especially children with lower working memory capacities, might simply forget that saying “I don’t understand” is an option. Thus, they might request clarification less often than children with higher levels of working memory. Working memory is a key facet of executive functioning and in a recent review of the ground rules literature, Brubacher et al. (2015) noted the importance of examining aspects of executive functioning that may contribute to individual differences in children’s ground rule applications. However, results of the current research indicate that executive functioning skills do not appear to influence children’s clarification requests. Perhaps future research can include examining working memory measures specifically rather than a measure of

executive functioning more broadly in order to determine the role that individual facets of executive functioning might play in children's propensity to request clarification.

Finally, although we made no a priori predictions regarding how children would respond to our final question asking if our interview questions were silly, we explored these responses. Despite the overwhelming majority of children requesting clarification at least once to a tricky question, approximately half (51%) also said "no," indicating our questions were not "silly." In past research, 6- to 8-year-olds were exceedingly good at recognizing that nonsensical questions were silly, with children accurately labeling nonsensical questions as silly 96% of the time (Waterman et al., 2000). In contrast, children in our sample appeared to get better at identifying questions as silly with age but still exhibited lower levels of saying "yes" than past research as our 6- to 8-year-olds only said "yes" 25% of the time while our 9- to 11-year-olds said "yes" 53% of the time. One possible explanation for these differences may be that Waterman et al., (2000) asked children if each question was silly whereas we only asked children once at the end of their interview. Perhaps asking children multiple times primed them to pay more attention to the questions being asked. Or, perhaps the type of questions (i.e., Open ["Where are daffodils friendlier than desks?"] vs. Closed ["Do oranges walk sleepily up trees?"]) asked in past research were more obvious in their silliness and influenced children's ability to identify them as such when compared to the questions we asked (e.g., WH-Style ["Where was it?"] vs. Yes/No ["Did the girl in the video use the glorp on her cut?"]). Although not a main focus of Study 1, we also recorded children's responses to this question. Often, children would qualify their responses with a follow-up statement

explaining which questions they thought were silly. Future research may want to hone in on how children decide whether a question is silly.

### ***2.5.1 Limitations and Future Directions***

Extant ground rule research has focused largely on the “I don’t know” rule and on increasing appropriate “I don’t know” responses, with much success (e.g., Waterman & Blades, 2011). The current work focused on the under-researched “I don’t understand” rule and represents one of only a handful of works examining children’s clarification requests, with encouraging results. Yet, the current work only investigated one ground rule so we are unable to draw conclusions regarding how reminders of all the ground rules would affect children’s interview responses, including whether administering multiple ground rule reminders is feasible, and not distracting, within a formal interview context. Future research should investigate interventions aimed at increasing children’s appropriate application of other less-researched rules (e.g., the correct the interviewer rule) as well as continuing to focus on the “I don’t understand” rule.

The current study examined 6- to 11-year-old children. Including the 9- to 11-year-olds in the current research expanded the age range of children tested compared to previous research (e.g., Peters & Nunez, 1999; Rodriguez Steen & Malloy, 2021; Saywitz et al., 1999). The current study thus represents a step forward, and yielded valuable insights into older children’s clarification requests as we indeed found age-related differences among our younger and older children. However, children’s comprehension monitoring and metacognitive skills continue to develop into adolescence and adolescents are more likely to experience and be questioned about sexual abuse than younger children (Finkelhor et al., 2013). Thus, it is imperative to expand further the age range

investigated to explore how adolescents ask for clarification and whether they may benefit from interview interventions to help them do so when appropriate.

Two of the study's limitations concern the fact that it took place entirely online via Zoom. Given that children were tested online and many executive functioning measures require in-person testing, we opted to use the BREIF2 to assess executive functioning instead. However, the BRIEF2 is a parent report measure and thus it should be noted that our measure of executive functioning relied on parent's willingness to answer questions on the BRIEF2 honestly and accurately. Parent's responses may not fully capture their child's executive functioning abilities. Furthermore, in our previous research, and indeed all published research on children's clarification requests, children were tested in-person, face-to-face with interviewers. It is possible that children may behave and answer questions differently over Zoom than they would in person. However, in the wake of the COVID-19 pandemic, many children became accustomed to online learning and thus understood how Zoom would work prior to participating. Of note, some parents stayed in the room with their child, on or off camera, during our interviews. Thus, it is also possible that children responded differently with their parents present than they would have if they were alone.

### ***2.5.2 Conclusions***

During question and answer exchanges with children, it is all too possible for misunderstandings to occur. Such misunderstandings may have significant consequences in a formal interview setting. Thus, saying "I don't understand" or requesting clarification in some other way is a crucial component of formal interviews with children. The current study tested a novel intervention designed to encourage children to request clarification

when appropriate - reminding children of the “I don’t understand” rule during their interview. Results indicate that children who received reminders about the “I don’t understand” rule and older children made more clarification requests to the tricky questions than children in the no reminder condition and younger children. Nearly all children requested clarification to at least one tricky question but, at the same time, nearly all children also attempted to answer at least one tricky question. Given the heavy reliance on questioning children to gather data (Fritzley & Lee, 2003; Malloy & Stolzenberg, under review), from a developmental research standpoint alone it is imperative that children have the language necessary to express their miscomprehension in interviews. Results of the current research indicate that children are often able to recognize when they need clarification but that they may also forget that asking for clarification to express miscomprehension is an option for them without reminders during the interview. Children’s understanding and application of the ground rules provide insight into children’s metacognitive abilities and have implications for those who question children across contexts (e.g., forensic, research, clinical). Thus, a better understanding of the ground rules has implications for both Developmental and Forensic Psychology.

## **Chapter 3. Study 2: Individual Differences in Ground Rule Performance and Application**

### **3.1 Introduction**

Ground rules are a heavily relied upon, but considerably under-researched, portion of formal interviews with children (Brubacher et al., 2015). These rules typically include informing children they can: (1) Say “I don’t know” if you don’t know the answer, (2) Say “I don’t understand” if you don’t understand the question, (3) Correct me if I make a mistake, and (4) Demonstrate the difference between a truth and a lie (Brubacher et al., 2015). The goal is to set the child up for “success” as much as possible by providing key introductory instructions that will minimize miscomprehension and inaccuracies. Very little research, however, has focused on how children understand and apply the ground rules during their interviews. The current research investigated individual differences in children’s ground rule practice performance and application in an interview setting.

A critical part of establishing the ground rules for an interview with a child is providing children with the opportunity to practice applying the ground rules. Ground rule practice questions are intended to give children a chance to apply the rules as they are introduced, thus solidifying these types of responses as legitimate responses a child can use and providing children with the appropriate language to use them when needed. As with the larger body of literature concerning investigative interview ground rules, little is known regarding whether or how individual differences might influence the relationship between ground rule practice performance and later ground application. In a comprehensive review of the ground rules literature, Brubacher et al. (2015) noted the

importance of examining individual differences in children's ground rule practice question performance including aspects of executive functioning like working memory and inhibitory control. These executive functioning skills may influence whether children apply the ground rules throughout an interview and their performance on the ground rules (i.e., whether they "pass" the practice questions). For example, a child with difficulties in executive functioning may struggle to hold the ground rule information in mind when answering the interviewer's questions, affecting both their application of the rules and their ability to answer the practice questions accurately.

Ground rule practice questions are commonly included at the outset of various interview protocols for use with youth (e.g., Lyon, 2005; Orbach et al., 2000; Saywitz & Comparo, 2013). For example, in the Ten Step Investigative Interview protocol, each ground rule is followed by an opportunity to practice the rule such as, "If I ask you a question and you don't know what I mean or what I'm saying, you can say, 'I don't know what you mean.' I will ask it a different way. So, if I ask you 'What is your gender?' what do you say?" (Lyon, 2005). "Passing" a ground rule requires the child to answer the practice question accurately. Thus, in the above example, a "passing" response would be "I don't know what you mean" or something similar (e.g., "I don't understand," "I don't get it"). Another example, taken from the NICHD protocol, is when the interviewer asks, "If I said that you were standing up, would that be true or not true?"; the child should say "not true" since they are typically sitting down during the interview (Orbach et al., 2000). Thus, successful performance on the ground rule practice questions requires children to "pass" each practice question. "Failing" a practice question usually consists of an inaccurate guess. For example, when an interviewer asks "What's my dog's name?" as a

means of practicing the “I don’t know” rule (Lyon, 2005; Orbach et al., 2000), the child might say “Charlie” or any other guess when the correct “passing” response is “I don’t know” or some other form of admitting ignorance (e.g., “I’m not sure,” “You never told me what your dog’s name is”).

### ***3.1.1 Ground Rule Performance and Application***

Studies examining the relationship between ground rule practice and application have found mixed results. For example, Henderson and Lyon (2021) investigated clarification requests among 4- to 13-year-old suspected victims of child maltreatment found that children who passed the “I don’t understand” practice question were more likely to apply the “I don’t understand” rule in the substantive interview phase (i.e., the portion of the interview designed to focus on fact finding). In a laboratory study, Danby et al. (2015) introduced children (5- to 13-years-old) to three ground rules (i.e., “I don’t know,” “I don’t understand,” and “correct the interviewer”), and gave half of the children an opportunity to practice the rules before an interview about a staged event. Results demonstrated that practicing all three rules only increased children’s “I don’t know” responses. That is, in this sample, hearing or practicing the “I don’t understand” or “correct me if I am wrong” rules failed to significantly increase children’s “I don’t understand” responses or the likelihood of them correcting the interviewer.

To date, a very small body of research has aimed to identify potential individual differences in children’s ground rule performance and application. Largely, this work has focused on age-related differences. For instance, Dickinson, Brubacher, and Poole (2015) examined the interview transcripts of 283 4- to 9-year-olds who participated in a laboratory study. Results revealed that very few children “passed” the ground rule section

in its entirety. As expected, younger children performed significantly worse than their older counterparts. Only 7.1% of the 4-year-olds in their sample “passed” all of the practice questions. Overall performance increased to 29.4% for 5-year-olds, 50.9% for 6-year-olds, 54.2% for 7-year-olds, and 61.0% for the combined 8- to 9-year-old age group. However, this study did not examine children’s application of the ground rules within the substantive phase of the interview, focusing instead solely on their performance in the ground rule section of the interview.

Fessinger et al., (2021) coded 241 forensic interview transcripts with 4- to 12-year-old children for the average number of practice questions delivered to children and their ground rule practice performance. They found that children were asked an average of 2.23 practice questions and that performance across all age groups was high (93%) but increased with age. In this sample, 4- to 6-year-olds were less accurate in responding to the practice questions (87%) than 7- to 9-year-olds (95%) and 10- to 12-year-olds (97%). Performance among this sample appears to be significantly higher than reported by Dickinson and colleagues (2015). Again, ground rule application in the substantive interview phase was not assessed and child age was the only individual difference examined.

Moving beyond age as an individual difference variable, Brown et al., (2019) examined ground rule practice performance and later ground rule application among children with an intellectual disability (ID) and typically-developing (TD) children. They found that 44% of the 4- to 12-year-olds in their sample failed at least one of the three practice questions asked. Intellectual ability, as measured by mental age, was the strongest predictor of ground rule practice performance. Children with the lowest mental

age performed worst on practice questions with 86% failing at least one practice question. In this sample, children applied the ground rules infrequently, and practice performance did not significantly impact appropriate ground rule responses in the substantive interview phase. Building off this limited body of research, in Study 2, we examined individual differences in executive functioning in relation to both children's performance in the ground rules practice section and their application of these rules during an interview.

### ***3.1.2 Attention Deficit Hyperactivity Disorder in the Interview Context***

To increase variability in our sample's executive functioning skills, in Study 2 we compared children who were diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) with typically-developing (TD) children. Research demonstrates that children with ADHD have reliable deficits in executive functioning, including working memory and inhibitory control (see Willcutt et al., 2005, for a review). By examining a population of children at an "extreme" with respect to executive functioning skills, we intended to gain valuable insights into individual differences in children's ground rule performance and application.

Research examining children with an ADHD diagnosis within the context of formal interviews is vital. Although prevalence rates of ADHD are approximately 5.30% for youth in the general population (Polanczyk et al., 2007), prevalence rates of ADHD are significantly higher among justice-involved youth (30.1%) (Polanczyk et al., 2015; Young et al., 2015). Indeed, research demonstrates that ADHD is exceedingly common among youth in forensic settings (Lindsay et al., 2010). A review of 447 justice-involved youth found that ADHD was the most frequently cited diagnosis (Lindsay et al., 2010).

Children with an ADHD diagnosis are at an elevated risk of coming into contact with the justice system not only as defendants, but also as witnesses and victims too (Buck et al., 2009; Lindsay et al., 2013). Research demonstrates that youth who have been diagnosed with ADHD are also at a greater risk for child maltreatment than their TD peers and are more adversely affected by maltreatment (Briscoe-Smith & Hinshaw, 2006; Famularo et al., 1992; Ford et al., 2000; Ouyang et al., 2008; Sullivan, & Knutson, 1998; Sullivan, & Knutson, 2000). As children with ADHD experience maltreatment and come in contact with the justice system disproportionately when compared to TD children, it is crucial to understand how they perform on ground rule practice questions and apply the ground rules as this may in turn affect their reports. Further, research has demonstrated that children diagnosed with ADHD often exhibit a positive illusory bias (e.g., a belief that they are better at things than they actually might be; Owens et al., 2007). Such a bias may also influence how children understand and apply interview ground rules and provides additional rationale for examining ADHD diagnosis as an individual difference in the current research. Results from the present study may help inform those who design interview interventions with this population in mind.

### **3.2 The Present Study**

In order to examine potential individual differences associated with children's ground rule practice question performance, including later ground rule application within the substantive interview phase, we examined the transcripts of interviews conducted with 61 children, 36 (59%) of whom had been diagnosed with ADHD using "gold standard" measures. Responding to the call (Brubacher et al., 2015) to examine individual differences in children's ground rule practice question performance in relation to

executive functioning, Study 2 included standardized measures of working memory and inhibitory control along with measuring children's performance on four commonly introduced ground rules and all instances of their ground rule application during an interview.

Given the reliable deficits in working memory and inhibitory control experienced by children who have been diagnosed with ADHD, we hypothesized that children with ADHD would perform worse on the ground rule practice questions than TD children. Further, we hypothesized that children with ADHD would apply the ground rules (e.g., say "I don't know," say "I don't understand," correct the interviewer) less frequently than TD children. Finally, we predicted that working memory and inhibitory control scores would mediate potential differences in ground rule performance and usage between ADHD and TD children. Although we made no predictions regarding question type, the question type prompting each ground rule application was also assessed for descriptive purposes.

### **3.3 Method**

#### **3.3.1 Participants**

Participants were 61 7- to 8-year-olds ( $M_{age} = 7.52$ ,  $SD = .50$ ) recruited from a southeastern state in the U.S., 36 of whom were diagnosed with ADHD by a team of clinicians as part of intake proceedings at a summer camp for children with attention, behavior, and learning problems. ADHD diagnosis was assessed via the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children (Shaffer et al., 2000) conducted by trained clinicians, and parent and teacher ratings on the Disruptive Behavior Disorder (DBD) rating scale (Pelham et al., 1992). The TD sample ( $n = 27$ ) was

recruited from area schools and summer camps in the same region. To help ensure that the TD sample was composed of only TD children, children recruited for this sample were assessed via parent and teacher ratings on the DBD Rating Scale (Pelham et al., 1992), IQ as measured by the Wechsler Abbreviated Scale of Intelligence (WASI-II) (Wechsler, 1999), and by parents indicating that their child had never been referred for any attention, learning, or behavioral problems. All children were recruited as part of a larger study assessing children's memory, suggestibility, and deception at a southeastern university in the U.S. The sample consisted of 29 7-year-olds (47.5%), 32 8-year-olds (52.5%), 44 boys (72.1%), and 17 girls (27.9%). A majority of children in the current sample were Hispanic (68.9%,  $n = 42$ ), with fewer children identifying as either Black (9.8%,  $n = 6$ ), multiracial (9.8%,  $n = 6$ ), or White (9.8%,  $n = 6$ ). Many parents reported that the primary language spoken at home was both Spanish and English (41.0%,  $n = 25$ ), followed by just English (27.9%,  $n = 17$ ) or Spanish (4.9%,  $n = 3$ ), with 16 parents (26.2%) not providing this information. Combined family income (yearly) was less than \$15,000 for two families (3.3%), between \$15,000 and \$25,000 for nine families (14.8%), \$25,000 to \$35,000 for five families (8.2%), \$35,000 to \$45,000 for 12 families (19.7%), \$45,000 to \$55,000 for five families (8.2%), \$55,000 to \$75,000 for five families (8.2%), \$75,000 to \$100,000 for eight families (13.1%), and over \$100,000 for 11 families (18.0%). This information was missing for a few families (6.6%,  $n = 4$ ). Largely, demographic information was reported by the child's mother/female guardian (49.2%,  $n = 30$ ) or father/male guardian (26.2%,  $n = 16$ ) with several parents choosing not to report this information (24.6%,  $n = 15$ ).

### **3.3.2 Procedure**

To examine the potential differences in ground rule performance and application among children with ADHD and TD children, 61 transcripts of interviews with children who participated in a study on children's event memory and suggestibility were assessed. All children experienced a staged event and returned to the lab one week later. At this point, they were interviewed by an unfamiliar adult interviewer. The videos for these interviews were transcribed verbatim by trained research assistants. Additionally, children completed standardized measures of working memory and inhibitory control during their testing sessions, and parents completed brief demographic questionnaires while their children participated in the study or at home after testing had taken place.

### **3.3.3 Materials**

**3.3.3.1 Interviews.** All children were interviewed using an interview script modeled after the National Institute of Child Health and Human Development (NICHD) best-practice interview guidelines (Orbach et al., 2000). During the ground rule portion of these interviews, children were asked four questions designed to test their understanding of the ground rules. These questions established children's understanding of the "Truth v. Lie" rule ( $n = 1$ ; "If I said that you took your shoes off when you came into this room, would that be true or not true?"), the "I don't know" rule ( $n = 1$ ; "If I asked you 'What's in my pocket' what would you say?"), and the "Correct the Interviewer" rule ( $n = 2$ ; "If I said you were a 3-year-old boy/girl, what would you say?" and "If I said that you were standing up, what would you say?"). Children were then asked open-ended invitation ( $M = 11.56$ ,  $SD = 3.74$ ; e.g., "And then what happened?"), directive ( $n = 6$ ; e.g., "How many stations were there?"), option-posing ( $n = 6$ ; e.g., "Did someone take a picture of you

with a cell phone?”), and suggestive ( $n = 12$ ; e.g., “What color was the hat [no hat was used] you put on?”) questions about the event. The number of open-ended invitations varied based on how many were needed to obtain complete event reports from each child. However, children were asked the same number ( $n = 24$ ) of scripted questions (e.g., directive, option-posing, suggestive) outlined above (see Appendix B1 for interview script). It should be noted that although the ground rule instruction and open-ended invitation sections of the interview were closely modeled after the NICHD protocol, children were then asked the scripted questions outlined above, some of which would not be recommended during interviews with children. The NICHD protocol strongly encourages interviewers to avoid all suggestive questions and only limited option posing questions are recommended. However, by including such questions in the current research, we increased variability in the question types asked during the interview and were thus able to examine children’s ground rule applications across these four types of questions.

**3.3.3.2 Working memory.** Working memory was assessed via the WISC-IV Spatial Span subtest of the standardized WISC-IV (Kaplan et al., 2004), which has been used to reliably measure working memory in children with ADHD (Shiels et al., 2008; Strand et al., 2012). Using the WISC-IV Spatial Span subtest, two facets of working memory were assessed: (1) Forward span, and (2) Backward span. For the WISC-IV Spatial Span subtest, forward span assesses the ability to store and/or maintain visual-spatial information, which requires children to hold and remember information, and backward span measures the ability to manipulate or update visual-spatial information, which requires children to reorder information as it is presented (Kaplan et al. 1999). For

the WISC-IV Spatial Span subtest (Kaplan et al., 2004), a smiley face is shown to children in two to nine squares on a computer screen at a rate of one square per second with ascending difficulty. For the forward span portion of the task, children were told to click on the squares in the order in which the smiley faces appeared on their computer screen. For backward span, children were instead told to click on the squares in the reverse order in which the smiley faces appeared. Following the standardized protocol for this measure, the forward span portion of the task was completed before the backward span task was administered (Kaplan et al. 2004). For both forward and backward span, children were presented with two trials at each level of difficulty, starting with two-location sequences (i.e., two smiley faces to remember) with a maximum of nine-location sequences (i.e., nine smiley faces to remember). The task was complete when children failed to correctly order the smiley faces on both of the trials for a given sequence. That is, if a child could not correctly order five smiley faces twice in a row, the task ended and that child would receive a raw score for their performance on the trials.

For each portion of the task, the total number of trials completed correctly was calculated resulting in two outcome variables: (1) Forward Trials Correct (Ftrialcor), and (2) Backward Trials Correct (Btrialcor). These measures were reliably scored using standardized procedures. For both Ftrialcor and Btrialcor children ranged from 0 to 9 correct trials ( $M = 5.08$ ,  $SD = 2.34$  for Ftrialcor,  $M = 4.49$ ,  $SD = 2.08$  for Btrialcor). Ftrialcor and Btrialcor were used as working memory outcome variables in the current study and were obtained for 53 and 54 children in the current sample, respectively. Data were missing from eight and seven children, respectively, who did not complete this task or had invalid scores due to experimenter or child error.

**3.3.3.3. Inhibitory control.** Inhibitory control was assessed via the stop-signal paradigm (Logan, 1994; Logan & Cowan, 1984). The stop-signal paradigm is a robust and frequently used measure of inhibitory control, reliably discriminating between children with ADHD and TD children (Oosterlaan & Sergeant, 1998; Schachar et al., 1995; Schachar et al., 2000; Sergeant, Geurts, & Oosterlaan, 2002; Willcutt et al., 2001). The stop-signal paradigm measures children's ability to inhibit their prepotent responses to a stimulus (Logan, 1994; Logan & Cowan, 1984). The task was presented to children on a computer and the task stimuli consisted of arrows pointing left or right on the screen. Children were instructed to press the left button of the response box for arrows pointing left and the right button of the response box for arrows pointing right. Children were told to inhibit responding (i.e., not press a button) whenever an arrow was followed by an auditory stop-signal. Children received two rounds of practice, one for the "go" task (i.e., no stop signal-presented) and one for the "stop" task (i.e., stop signal-presented), followed by three blocks of 64 trials. The stop-signal was presented on 25% of the trials in each block and was a 100ms 1000Hz tone. The delay between the presentation of each arrow and the stop signal began at 350ms and adjusted as needed in 50ms increments. When a child inhibited accurately, the delay between when the arrow was presented and stop-signal increased by 50ms (i.e., difficulty increased), and when a child did not inhibit, the delay decreased by 50ms (i.e., difficulty decreased). The outcome variable obtained from this task was the Stop Signal Reaction Time (SSRT) (SSRT = mean "go" reaction time - mean "stop" delay). This measure was reliably scored using standardized procedures. Valid SSRT scores were obtained for 51 children in the current sample and scores ranged from 200.31 to 750.50 seconds ( $M = 395.25$ ,  $SD = 121.29$ ). Data were

missing from 10 children who did not complete this task or were excluded due to equipment failure.

Of the 61 children in the final sample, scores for working memory were obtained for 53 children for forward trials correct and 54 children for backward trials correct, and inhibitory control scores were obtained for 51 children. For all between-group comparisons conducted that included scores for working memory and inhibitory control, a final sample of 51 children ( $n = 32$  with ADHD,  $n = 19$  TD children) was examined. For all between-group comparisons that did not involve examining working memory and inhibitory control, our final sample was 61 children ( $n = 36$  with ADHD,  $n = 25$  TD children).

**3.3.3.4 Demographic questionnaire.** Parents/legal guardians were asked to provide demographic information about their child and family (e.g., the race/ethnicity of their child, combined family income, the primary language spoken in the home) in a questionnaire that was completed on site while their child participated in the study or at home.

### ***3.3.4 Coding and Data Reduction***

**3.3.4.1 Ground rule practice questions.** Children's responses to each of the four ground rule questions were coded dichotomously where 0 = "failed" and 1 = "passed." Failing responses for the Truth vs. Lie rule practice question included any guess (e.g., "maybe"), saying "True/that's right," or saying something like "Yes, I did take my shoes off," and passing responses included saying "Not true/that's wrong," or saying something like "I did not take my shoes off." Failing responses for the I Don't Know rule practice question included any guess (e.g., "A pen!"), or any other response (e.g., "I have a sticker

in my pocket”) and passing responses included saying “I don’t know,” or another phrase admitting ignorance (e.g., “I’m not sure,” “You never told me what’s in your pocket”). Failing responses for both Correct the Interviewer rule practice questions included failing to correct the interviewer (e.g., “I am,” “Yes,” “Maybe”) and passing responses included correcting the interviewer by disagreeing with them or stating the correct information (e.g., “I’m not a 3-year-old boy/girl,” “I’m not standing up,” “That’s wrong!”). The number of ground rules passed was summed with possible scores ranging from 0 to 4. The main dependent variable of interest regarding ground rule practice question performance was the sum total of ground rules passed (range from 0 to 4).

**3.3.4.2 Ground rule applications.** In the substantive phase of the interview, coders noted each time children applied a ground rule (i.e., by requesting clarification, correcting an interviewer’s mistake, admitting ignorance), and these scores were summed to create the total number of times children applied each ground rule (see Appendix B2, Table 1S for coding rules and example responses). When children requested clarification, the type of clarification request was coded as well (e.g., explicit, nonverbal, repeats the question, makes an inference) as described above in Study 1 and used in previous work (Rodriguez Steen & Malloy, 2021). As in our previous work (Rodriguez Steen & Malloy, 2021), nonverbal requests were only coded when no other request was present. That is, verbal requests for clarification superseded nonverbal requests. Children’s specific method for admitting ignorance was also coded as saying “I don’t know,” “I don’t remember,” “I forgot,” or some other way of expressing uncertainty (e.g., “I’m not sure”). Similar to other ground rule research (e.g., Danby et al 2015; Dickinson et al., 2015; Fessinger et al., 2021), “Truth v. Lie” applications were not coded due to the nature

of this rule and its associated practice question being about determining whether children know the difference between a truth and a lie. Finally, if a child applied any ground rule, the type of question (i.e., open-ended [invitation prompts such as “And then what happened?”], directive [focused questions such as “How many stations were there?”], option-posing [Yes/No questions such as “In the cartoon, did Arthur cut his finger?”], suggestive [leading questions about the event that did not happen such as “You chose a (incorrect) Band-Aid, didn’t you?”]) that elicited the application was coded.

Reliability was met between two coders who independently scored 20% of the transcripts ( $n = 13$ ). The mean Kappa across all coding categories was .913 and ranged from .719 to 1.0. All discrepancies were resolved verbally, and the remaining transcripts were divided and coded. The main dependent variables resulting from coding ground rule applications include: (1) Sum of “I don’t understand” rule applications including sum of each method used for requesting clarification, (2) Sum of “I don’t know” rule applications including sum of each method for admitting ignorance, (3) Sum of “Correct the Interviewer” rule applications, and (4) Sum of ground rule applications to each question type.

### ***2.3.5 Planned Analyses***

First, we present preliminary analyses examining potential age and gender differences among our main dependent variables (e.g., sum of ground rules passed) to determine if these variables will be added as covariates in the primary analyses. Second, we present our primary analyses concerning children’s ground rule practice performance beginning with descriptive statistics concerning the percentage of children who passed each ground rule practice question and the average number of ground rules passed before

examining the effects of ADHD status, working memory, and inhibitory control on children's ground rule practice question performance. Third, we present our primary analyses concerning children's ground rule application in the substantive phase of the interview, beginning with descriptive statistics concerning children's application of each ground rule and what question type triggered ground rule usage before examining the effects of ADHD status, working memory, and inhibitory control on children's ground rule application in the interviews. In this section, we also plan to explore whether ADHD status, working memory, and inhibitory control mediate children's ground rule application.

## **3.4 Results**

### ***3.4.1 Preliminary Analyses***

Preliminary analyses examined child age (7-year-olds v. 8-year-olds) and gender with respect to our main independent and dependent variables to determine if age and gender should be considered as covariates in the primary analyses. For all preliminary analyses, chi-square analyses assessed relations between dichotomous variables (e.g., ADHD diagnosis and child age), and one-way ANOVAs examined child age and gender in relation to continuous variables of interest (i.e., sum ground rules passed, sum ground rule applications for each ground rule, working memory scores, and inhibitory control scores).

**3.4.1.1 Child age.** Preliminary analyses examined potential associations between child age and our various independent and dependent variables (i.e., ADHD diagnosis, sum ground rules passed, sum clarification requests, sum of admitting ignorance, sum of correcting the interviewer, sum of all ground rule applications combined, working

memory [e.g., Ftrialcor, Btrialcor] and inhibitory control [e.g., SSRT] scores). Chi-square tests revealed that children differed significantly on ADHD diagnosis based on age,  $X^2(1, N = 61) = 4.102, p = .043$ : 7-year-olds were significantly more likely to have an ADHD diagnosis than to be TD. A one-way ANOVA concerning the association between age and sum ground rules passed showed a significant main effect of child age,  $F(1, 60) = 3.259, p = .028, \mu^2 = .146$ . Here, 7-year-olds had lower sum scores ( $M = 3.10, SD = 1.01$ ) on ground rule practice questions than 8-year-olds ( $M = 3.72, SD = .68$ ). One-way ANOVAs examining the associations between age and the sum of each ground rule applied (e.g., sum of “I don’t understand” rule applications, sum of “Correct the Interviewer” applications) as well as the sum of all ground rule applications combined demonstrated no significant effects of child age ( $ps > .187$ ). However, one-way ANOVAs examining the association between age and working memory showed significant age differences: Ftrialcor,  $F(1, 47) = 7.507, p = .009, \mu^2 = .140$ , and Btrialcor,  $F(1, 47) = 7.585, p = .008, \mu^2 = .142$ . Similarly, a one-way ANOVA examining the association between age inhibitory control (i.e., SSRT) scores was also significant,  $F(1, 49) = 7.661, p = .008, \mu^2 = .138$ . For all three measures of executive functioning, 8-year-olds performed significantly better than the 7-year-olds (see Table 3.1). Given the significant differences revealed based on child age in several of our preliminary analyses, child age was included as a covariate in the primary analyses.

**3.4.1.2 Child gender.** Preliminary analyses also examined potential associations between child gender and our various independent and dependent variables. Chi-square tests revealed that children did not differ significantly with respect to ADHD diagnosis based on gender ( $p = .985$ ). Similarly, a one-way ANOVA examining the association

between gender and sum ground rules passed was not significant ( $p = .641$ ). One-way ANOVAs examining the associations between gender and the sum of each ground rule applied and the sum of all ground rule applications combined were not significant ( $ps > .310$ ). Finally, one-way ANOVAs examining the associations between gender and measures of working memory (i.e.,  $F_{trialcor}$ ,  $B_{trialcor}$ ) and inhibitory control (i.e., SSRT) were also not significant ( $ps > .321$ ). Thus, child gender was not considered in the primary analyses (see Table 3.1).

**Table 3.1**  
*Descriptive Statistics for Preliminary Analyses*

Dependent Variable	Independent Variable	Group	<i>M</i>	<i>SD</i>
Sum Ground Rules Passed	Gender	Male	3.36	.92
		Female	3.59	.87
	Age	7-year-olds	3.10*	.68
		8-year-olds	3.72*	.90
Sum Clarification Requests	Gender	Male	4.23	3.28
		Female	5.06	4.01
	Age	7-year-olds	4.52	3.67
		8-year-olds	4.41	3.36
Sum of Admitting Ignorance	Gender	Male	7.00	4.290
		Female	7.12	3.14
	Age	7-year-olds	7.69	4.57
		8-year-olds	6.44	3.32
Sum Correcting the Interviewer	Gender	Male	4.50	1.87
		Female	5.18	1.51
	Age	7-year-olds	4.97	1.92
		8-year-olds	4.44	1.66
Sum of All Ground Rule Applications	Gender	Male	15.73	5.57
		Female	17.35	5.51
	Age	7-year-olds	17.20	6.54
		8-year-olds	15.28	4.40
Working Memory ( $F_{trialcor}$ )	Gender	Male	5.10	2.40
		Female	5.00	2.22
	Age	7-year-olds	4.12*	2.52
		8-year-olds	5.93*	1.80
Working Memory ( $B_{trialcor}$ )	Gender	Male	4.50	2.06
		Female	4.43	2.21
	Age	7-year-olds	3.73*	1.87
		8-year-olds	5.18*	2.06

Inhibitory Control (SSRT)	Gender	Male	406.51	120.98
		Female	365.50	121.40
	Age	7-year-olds	442.03*	119.69
		8-year-olds	350.27*	106.66

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*Note.* \*Mean differences significant at  $p < .05$

### **3.4.2 Ground Rule Practice Question Performance**

**3.4.2.1 Descriptive statistics.** Overall, 63.9% ( $n = 39$ ) of children in the current sample passed all four ground rule practice questions ( $M = 3.43$ ,  $SD = .90$ ). Children in the 7-year-old age group demonstrated greater difficulty passing all four practice questions (44.8%,  $n = 13$ ) while 81.3% of 8-year-olds passed all of the practice questions ( $n = 26$ ). See Appendix B2, Table 2S for descriptive statistics concerning performance across all practice questions by age. Across both age groups, children performed worst on the “I don’t know” rule practice question with 70.5% of children ( $n = 43$ ) passing this question, and best on the “Truth v. Lie” practice question (91.8%,  $n = 56$ ), and the two “Correct the Interviewer” questions (91.7%,  $n = 55$  for the first question; 90.2%,  $n = 55$  for the second question). A large majority of children passed both “Correct the Interviewer” practice questions (90.2%,  $n = 55$ ). Two children (1.6%) responded to a practice question with an “I don’t understand” response; these responses were not considered as a “pass” or “fail” and were not considered in the main analyses.

**3.4.2.2 Group differences in ground rule practice performance.** An ANCOVA was conducted to examine potential differences among children diagnosed with ADHD and TD children with the total number of ground rules passed as the continuous dependent variable and Child Age as a covariate. No significant main effect of ADHD diagnosis emerged,  $F(1, 58) = .634$ ,  $p = .356$ . However, a significant main effect of the Child Age covariate emerged,  $F(1, 58) = 6.080$ ,  $p = .017$ ,  $\mu^2 = .095$ . Regardless of

ADHD diagnosis, 7-year-olds passed significantly fewer ground rule practice questions ( $M = 3.10$ ,  $SD = 1.01$ ) than 8-year-olds ( $M = 3.72$ ,  $SD = .68$ ). Given that differences did not emerge based on ADHD status, we were unable to test for mediation as we originally planned, but executive functioning was examined in linear regressions instead.

ADHD status, working memory scores [i.e., forward trials correct (Ftrialcor), backward trials correct (Btrialcor)], and inhibitory control scores [i.e., stop signal reaction time (SSRT)] were examined as predictors of ground rule practice performance. For this analysis, 51 children ( $n = 32$  with ADHD,  $n = 19$  TD children) were included, representing the children with valid scores on working memory and inhibitory control measures. The linear regression examined the dependent variable of sum ground rule performance with Child Age entered in the first step, and working memory scores (i.e., Ftrialcor, Btrialcor) and inhibitory control scores (i.e., SSRT) entered in the second step. Child Age was a significant predictor of ground rule performance in the first model  $F(1, 46) = 5.901$ ,  $p = .019$ , with an  $R^2$  of .094 explaining 9.4% of variance (see Table 3.2). However, the second model containing all variables examined was not significant,  $F(5, 42) = 1.604$ ,  $p = .180$ .

**Table 3.2**

*Results of Linear Regressions Examining the Effects of ADHD Diagnosis, Working Memory (i.e., Ftrialcor, Btrialcor), Inhibitory Control (i.e., SSRT), and Child Age on Ground Rule Practice Performance*

Dependent Variable	Model	Variables in the Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Sum Ground Rules Passed	1	Constant	-.917	1.805		-.508	.614	-4.550	2.717

	Child Age	.583	.240	.337	2.429	.019*	.100	1.067
2	Constant	-.889	2.291		-.388	.700	-5.512	3.734
	Child Age	.488	.929	.282	1.673	.102	-.101	1.077
	ADHD	-.069	.274	-.038	-.253	.802	-.623	.484
	Ftrialcor	-.003	.061	-.009	-.052	.959	-.126	.119
	Btrialcor	.103	.072	.237	1.440	.157	-.041	.248
	SSRT	.001.	.001	.098	.609	.546	-.002	.003

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*Note.* \*significant predictor at  $p < .05$

### ***3.4.3 Children’s Ground Rule Applications in Interviews***

First, we share descriptive statistics concerning whether and how children applied each ground rule during the substantive phase of the interview, followed by information concerning what question types triggered children’s ground rule application. Then, we examine the effects of ADHD status, working memory, and inhibitory control on children’s ground rule application in the interviews.

**3.4.3.1 Requests for clarification.** Overall, 86.9% ( $n = 53$ ) of children requested clarification at least once during their interview ( $M = 4.56$ ,  $SD = 3.48$ ). The total number of clarification responses ranged from 0 ( $n = 8$ ) to 13 ( $n = 8$ ). The most common method that children used was an explicit request for clarification such as saying “I don’t understand” or something similar (83.6%,  $n = 51$ ), followed by making an inference (45.9%,  $n = 28$ ) and repeating the question (4.9%,  $n = 3$ ). No children implemented a nonverbal request for clarification, though in keeping with previous work (Rodriguez Steen & Malloy, 2021), nonverbal requests were only coded when no verbal request was present.

**3.4.3.2 Admitting ignorance.** All 61 (100%) children admitted ignorance (e.g., said “I don’t know,” “I don’t remember,” or “I forgot”) to at least one question ( $M = 7.03$ ,  $SD = 3.98$ ). The total number of admitting ignorance responses ranged from 1 ( $n = 1$ ) to 23 ( $n = 1$ ). Children most commonly said “I don’t know” (80.3%,  $n = 49$ ) or “I don’t remember” (78.7%,  $n = 48$ ) with a smaller number saying “I forgot” (36.1%,  $n = 22$ ) or some other way of expressing uncertainty such as saying “I’m not sure” (18.0%,  $n = 11$ ).

**3.4.3.3 Correcting the interviewer.** Nearly all children (98.4%,  $n = 60$ ) corrected the interviewer at least once during their interview ( $M = 4.69$ ,  $SD = 1.79$ ). The total number of responses coded as “correcting the interviewer” ranged from 0 ( $n = 1$ ) to 9 ( $n = 1$ ).

**3.4.3.4 Trigger question prompting ground rule application.** Children were asked open-ended invitation ( $M = 11.56$ ,  $SD = 3.74$ ), directive ( $n = 6$ ), option-posing ( $n = 6$ ), and suggestive questions ( $n = 12$ ) about the event during their interview. The number of open-ended invitation prompts varied depending on the amount of details children provided to interviewer prompts, but all children were asked the same number of scripted (i.e., directive, option-posing, suggestive) questions ( $n = 24$ ). The following section includes descriptive statistics regarding the trigger question prompting ground rule applications (see Appendix B2, Table 3S for descriptive statistics). Overall, the most ground rule applications were made in response to suggestive questions (43.9%) while a smaller percentage of ground rule responses were prompted by open-ended invitations (29.4%) and directive questions (20.2%). Very few ground rule responses were prompted by an option-posing question (6.4%). When children corrected the interviewer, they were most frequently triggered to do so by a suggestive question ( $M = 4.48$ ,  $SD = 1.78$ ). When

children admitted ignorance by saying “I don’t know,” “I forgot,” or something similar, they did so most frequently to an open-ended invitation ( $M = 3.59, SD = 2.51$ ).

Clarification requests were made least frequently overall and were most commonly applied following a suggestive question ( $M = 1.62, SD = 1.74$ ).

**3.4.3.5 Group differences in ground rule application.** First, four ANCOVAs examined potential differences among children diagnosed with ADHD and TD children with the total number of ground rule applications for each ground rule and total number of all ground rule applications as the continuous dependent variables and Child Age as a covariate. Then, three linear regression analyses examined the effects of ADHD status, working memory scores, and inhibitory control scores on the number of ground rule applications for each ground rule. A fourth linear regression analysis examined the effects of these variables on the total number of ground rule applications across all three ground rules. For all linear regressions, Child Age was entered in the first step and ADHD status, working memory scores, and inhibitory control scores were entered in the second step. Given that differences did not emerge based on ADHD status, we were unable to test for mediation as we originally planned, but working memory and inhibitory control were examined in linear regressions instead.

**3.4.3.5.1 Requests for clarification.** With respect to the ANCOVA examining the effects of ADHD diagnosis and Child Age on the sum clarification requests made by children in the current sample, no significant main effect of ADHD diagnosis emerged,  $F(2, 58) = 1.152, p = .288$ , and no significant main effect of the Child Age covariate was revealed  $F(2, 58) = .158, p = .692$ . With regards to the linear regression examining the effects of ADHD status, working memory scores (i.e.,  $F_{\text{trialcor}}$ ,  $B_{\text{trialcor}}$ ), and inhibitory

control scores (i.e., SSRT) on children's total requests for clarification, the first model with Child Age was not significant,  $F(1, 46) = .713, p = .403$ , and the second model with all variables examined was also not significant,  $F(5, 42) = 1.040, p = .407$ . Thus, none of the variables entered appeared to predict children's clarification requests (see Table 3.3).

**3.4.3.5.2 Admitting ignorance.** An ANCOVA examined the effects ADHD diagnosis and Child Age on the sum score concerning children admitting ignorance. There were no significant main effects of ADHD diagnosis,  $F(2, 58) = 2.299, p = .135$ , or the Child Age covariate,  $F(2, 58) = 2.550, p = .116$ . The linear regression examining the effects of ADHD status, working memory scores (i.e.,  $F_{trialcor}$ ,  $B_{trialcor}$ ), and inhibitory control scores (i.e., SSRT) on the sum of instances in which children admitted ignorance was also not significant with respect to the first model examining Child Age,  $F(1, 46) = .442, p = .510$ , and the second model with all variables examined,  $F(5, 42) = .877, p = .505$ . Child Age, ADHD diagnosis, working memory, and inhibitory control did not predict children's propensity to admit ignorance (see Table 3.3).

**3.4.3.5.3 Correcting the interviewer.** Results of the ANCOVA examining the sum score concerning children correcting the interviewer revealed no significant main effect of ADHD diagnosis  $F(2, 58) = .104, p = .748$  and no significant main effect of the Child Age covariate,  $F(2, 58) = .1039, p = .312$ ). With regards to the linear regression examining the effects of ADHD status, working memory scores (i.e.,  $F_{trialcor}$ ,  $B_{trialcor}$ ), and inhibitory control scores (i.e., SSRT) on children's sum of instances of correcting the interviewer, the first model with Child Age was not significant,  $F(1, 46) = 1.380, p = .246$ , and neither was the second model which included all variables examined,  $F(5, 42) = .796, p = .559$ . Here, Child Age, ADHD diagnosis, working memory, and inhibit

control scores did not appear to predict children’s sum total of correcting the interviewer (see Table 3.3).

**3.4.3.5.4 Total ground rule applications.** Finally, an ANCOVA tested the effects of ADHD diagnosis and the Child Age covariate on the sum of all ground rule applications combined. This analysis revealed no significant main effects of ADHD diagnosis  $F(2, 58) = 2.813, p = .099$  or Child Age,  $F(2, 58) = 3.045, p = .086$ . Finally, we examined the sum of all ground rule applications in a linear regression analysis that included children’s working memory and inhibitory control scores in addition to ADHD diagnosis and Child Age entered in the first step. The first model with Child Age was not significant,  $F(1, 46) = 1.976, p = .167$ , and the second model with all variables examined was also not significant,  $F(5, 42) = 1.131, p = .359$ . Overall, it does not appear as if Child Age, ADHD diagnosis, working memory, and inhibit control scores predicted children’s total ground rule applications (see Table 3.3).

**Table 3.3**  
*Results of Linear Regressions Examining the Effects of ADHD Diagnosis, Working Memory (i.e., Ftrialcor, Btrialcor), Inhibitory Control (i.e., SSRT), and Child Age on Ground Rule Applications*

Dependent Variable	Model	Variables in the Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Requests for Clarification	1	Constant	10.542	7.418		1.421	.162	-4.390	25.473
		Child Age	-.833	.987	-.124	-.844	.403	-2.820	1.153
	2	Constant	13.422	9.194		1.460	.152	-5.133	31.977
		Child Age	-1.170	1.171	-.174	-.999	.323	-3.534	1.193
		ADHD	-.690	1.102	-.098	-.627	.534	-2.913	1.533
Ftrialcor	.396	.243	.279	1.625	.112	-.096	.887		

		Btrialcor	-.438	.288	-.258	-1.521	.136	-1.019	.143
		SSRT	.000	.005	.007	.043	.966	-.009	.010
Admitting Ignorance	1	Constant	12.875	8.954		1.438	.157	-5.148	30.898
		Child Age	-.792	1.191	-.098	-.665	.510	-3.189	1.606
	2	Constant	12.469	11.163		1.117	.270	-10.058	34.996
		Child Age	-.270	1.422	-.033	-.190	.850	-3.140	2.599
		ADHD	-1.326	1.337	-.156	-.992	.327	-4.025	1.373
		Ftrialcor	-.108	.295	-.063	-.365	.717	-.704	.488
Btrialcor		-.479	.349	-.235	-1.372	.177	-1.184	.226	
		SSRT	.000	.006	.006	.034	.973	-.011	.011
Correcting the Interviewer	1	Constant	9.333	4.000		2.334	.024	1.282	17.384
		Child Age	-.625	.532	-.171	-1.175	.246	-1.696	.446
	2	Constant	10.309	5.058		2.038	.048	.100	20.517
		Child Age	-.909	.644	-.248	-1.411	.166	-2.210	.391
		ADHD	.246	.644	.064	.406	.687	-.977	4.469
		Ftrialcor	.017	.134	.023	.130	.897	-.253	.288
		Btrialcor	.216	.158	.234	1.361	.181	-.104	.535
		SSRT	.000	.003	-.012	-.070	.945	-.005	.005
All Rules Combined	1	Constant	32.750	12.033		2.722	.009	8.530	56.970
		Child Age	-2.250	1.601	-.203	-1.406	.167	-5.472	.972
	2	Constant	36.199	15.042		2.407	.021	5.844	66.555
		Child Age	-2.350	1.916	-.212	-1.226	.227	-9.217	1.517
		ADHD	-1.770	1.802	-.153	-.982	.332	-5.407	1.866
		Ftrialcor	.305	.398	.131	.766	.448	-.498	1.109
		Btrialcor	-.702	.471	-.252	-1.490	.144	-1.652	.249
		SSRT	.000	.008	.005	.028	.997	-.015	.015

### 3.5 Discussion

Few studies have focused on individual differences in how children perform on ground rule practice questions and how they subsequently apply the rules during the substantive interview phase. The present study examined the potential differences in ground rule performance and application among children with ADHD and TD children who were interviewed about a staged laboratory event. Children's responses to ground rule practice questions and all ground rule applications made during the interview, in response to both open-ended invitation prompts and scripted questions, were assessed. Overall, over half of children passed the ground rule practice questions in their entirety. Ground rule applications demonstrate insight into how and when children apply the ground rules, which varied depending on which type of question was asked. Contrary to our hypotheses, children did not differ significantly regarding ground rule practice performance or application as a function of ADHD diagnosis. Although we could not test our hypothesis that working memory and inhibitory control scores would mediate potential differences in ground rule performance and application between ADHD and TD children because no group differences were found, we also did not find any relations between working memory, inhibitory control, and children's ground rule performance or application. Age appeared to have the greatest association with ground rule practice performance, but little apparent impact on children's ground rule applications.

Given the reliable deficits in working memory and inhibitory control experienced by children diagnosed with ADHD (e.g., Willcutt et al., 2005), we hypothesized that children with ADHD would perform worse on the ground rule practice questions than TD children, would apply the ground rules less frequently than TD children, and that working

memory and inhibitory control scores would mediate potential differences in ground rule performance and application between ADHD and TD children. These hypotheses were not supported. We had theorized that a child with difficulties in working memory and inhibitory control may struggle to hold the ground rule information in mind when answering the interviewer's questions and perhaps fail to inhibit simply blurting out the first response that jumps into their minds (e.g., responding the "I don't know" practice question with a guess about what might be in the interviewer's pocket). We predicted that such difficulties might affect both their application of the rules and their ability to answer the practice questions accurately. Yet, this was not apparent in the current data. The only published study to date to investigate individual differences in ground rule practice performance besides child age examined children with an intellectual disability and TD children (Brown et al., 2019). As such, much more can be done to explore the individual differences associated with how children understand and apply interview ground rules. For example, future research may examine individual differences in children's social development (e.g., comfort and willingness to ask for clarification) as even if children recognize they need help answering a question and have clear instructions on how to ask for that help, they may not feel socially comfortable asking an unfamiliar adult for assistance (Rodriguez Steen & Malloy, 2021).

In the current study, nearly two-thirds (63.9%) of children passed all four ground rule practice questions. These results are on par with past research examining children's understanding of the ground rule practice questions (Dickinson et al., 2015), though other research indicates that children have performed better (Fessinger et al., 2021) or worse (Brown et al., 2019). More research is needed to investigate how children perform on

ground rule practice questions as the extant literature yields mixed results. In the current study, although some children (36.1%) struggled to pass all the ground rule practice questions, performance on individual practice questions was high. Children performed worst on the “I don’t know” rule practice question (70.5% passed), and best on the two “Correct the Interviewer” questions (91.7% passed the first question; 90.2% passed the second question) and the “Truth v. Lie” practice question (91.8% passed). The Correct the Interviewer rule has important implications for children’s interview responses (see Brubacher et al., 2015 for a discussion) yet the Truth v. Lie practice question is rarely assessed in ground rule research (e.g., Danby et al 2015; Dickinson et al., 2015; Fessinger et al., 2021) as this question is more about telling the truth, which is difficult to objectively assess. It may also be the case that children are unlikely to apply this rule as it is difficult to imagine that they would claim that a particular statement was truthful or deceptive during an interview, especially since they are instructed to make only truthful statements. Beyond this, the practicality of the Truth v. Lie practice question is up for debate as research demonstrates that passing this rule has little impact on children’s truth-telling (Bala et al., 2000). As a result, truth-lie competency requirements have been dropped in some jurisdictions (e.g., Canada; Lee et al., 2010). Overall, few individual differences in performance emerged regarding ground rule practice question performance, but potential ceiling effects were likely for all but the “I don’t know” practice question.

We can only speculate as to why children performed worst on the “I don’t know” rule when compared to the other ground rule practice questions. When children failed this rule, it was often due to them guessing at the answer to the practice question. Perhaps

something about asking “What’s in my pocket?” even when it was preceded by a clear statement instructing children to say “I don’t know” invited children to use their imagination whereas with the other practice questions, there was potentially less room to extrapolate an answer. For example, asking “If I said you were a 3-year-old boy/girl, what would you say?” might be more straightforward and easier for children to refute, while asking “What’s in my pocket?” may draw children towards speculation or, in the case of a few children, answering within the context of what they had in their *own* pocket. Within the ground rule literature, question format has been found to affect how children respond to interview questions (Rodriguez Steen & Malloy, 2021; Waterman et al., 2001, 2004). Thus, perhaps some other facet of the “What’s in my pocket?” question is driving children’s ability to practice applying the “I don’t know” rule appropriately in response.

Although children’s performance on ground rule practice questions did not differ with respect to their ADHD diagnosis as we had hypothesized, ground rule performance varied by age. The older children (8-year-olds = 81.3%) passed significantly more practice questions than the younger children (7-year-olds = 44.8%). Metacognitive abilities develop rapidly during this period and likely explains why the older children performed better despite the narrow age range tested. It is likely that older children had more developed comprehension monitoring skills, and were thus better equipped to recognize when they needed additional information or support to answer a question. Past research shows a similar pattern with respect to age. For example, Dickinson et al., (2015) found that performance increased from 54.2% for 7-year-olds to 61.0% for the combined 8- to 9-year-old age group in their study. Interestingly, Fessinger et al., (2021) found that performance among the 7- to 9-year-olds in their sample was considerably

higher than performance reported by Dickinson and colleagues with 95% of children in this age group passing all the practice questions compared to 87% of the 4- to 6-year-olds. Results of their study similarly support that performance on practice questions increases with age. However, they did not examine performance between the individual ages in the 7- to 9-year-old age group. Thus, direct comparisons cannot be drawn.

We examined all ground rule applications in the substantive phase of children's interviews about a staged event, including the methods used to apply each rule, where applicable. Many children (86.9%) applied the "I don't understand" rule to request clarification at least once. Similar to past research (Malloy et al., 2015; Rodriguez Steen & Malloy, 2021), the most common way children applied this rule was with an explicit request for clarification such as saying "I don't understand" or something similar (e.g., "What do you mean?"). That a majority of clarification requests were made explicitly is in line with expectations of child interviewees given that children are instructed to request clarification as needed with such an explicit request. Thus, although we made no a priori predictions regarding ground rule applications with respect to which method would be applied, this finding was not surprising nor was the relative infrequency of the other clarification request methods applied (e.g., making an inference (45.9%), repeating the question (4.9%), and nonverbal requests (0%). Past research indicates that these methods of requesting clarification are less likely to be applied than explicit requests (Malloy et al., 2015; Rodriguez Steen & Malloy, 2021).

All of the children in the current research admitted ignorance at least once. They did so by applying the "I don't know" rule explicitly (80.3%), saying "I don't remember" (78.7%), "I forgot" (36.1%), or some other way of expressing uncertainty such as saying

“I’m not sure” (18.0%). Applications were higher in the current sample than in past research (Rodriguez Steen & Malloy, 2021), but can be explained in part by the expansion of the coding system used in the current study. Given that the focus of the current research was broader than in our past research (Rodriguez Steen & Malloy, 2021) and Study 1 of this thesis which both focused largely on children’s applications of the “I don’t understand” rule, we expanded our “I don’t know” coding category in the current work to include all instances of admitting ignorance.

With respect to “Correcting the Interviewer,” nearly all children (98.4%) corrected the interviewer at least once during their interview. Extant research does not tell us much about how children apply this rule and application of the “Correct the Interviewer” rule was not examined by previous studies focusing on ground rule practice question performance (Brown et al., 2019; Dickinson et al., 2015; Fessinger et al., 2021). In the current study, children had many opportunities to correct the interviewer due to the nature of some of the questions asked. Suggestive questions (e.g., “You chose a (incorrect) Band-Aid, didn’t you?”) were suppositional and asked children about events that did not happen, requiring children to correct the interviewer’s mistake to accurately answer the question. Future research should focus on identifying the circumstances in which children feel comfortable correcting the interviewer or are able to recognize that they should do so such as when an interviewer makes mistakes while summarizing a child’s statements or makes subtler mistakes beyond the blatantly inaccurate suggestive questions examined in the current research.

To this point, we found that ground rule applications varied as a function of interviewer question type. Children were asked open-ended invitation, directive, option-

posing, and suggestive questions. Overall, the most ground rule applications were made in response to suggestive questions (43.9%) while a smaller percentage of ground rule responses were prompted by open-ended invitations (29.4%) and directive questions (20.2%). Few ground rule responses were prompted by option-posing questions (6.4%). That suggestive questions prompted the largest percentage of ground rule applications is unsurprising given these questions were designed to be leading in nature (e.g., “You started with the (incorrect) station, didn’t you?”). Children were most likely to apply the “Correct the Interviewer” rule in response to a suggestive question with a considerably smaller number of children also applying the “I Don’t Understand” rule. Past research indicates that open-ended invitation prompts and directive WH-questions are more likely to prompt a ground rule response than option-posing questions (Malloy et al., 2015; Waterman et al., 2001, 2004) and a similar pattern emerged in the current research. Children admitted ignorance by saying “I don’t know” or something similar or requested clarification to open-ended invitation prompts and directive WH-questions more often than to option-posing questions. Past research indicates that this is likely because it is harder to generate responses to questions that are more open in nature than it is to say “Yes” or “No” to an option posing question (Waterman et al., 2001, 2004).

Results of the current research indicate that some questions (e.g., suggestive questions) lend themselves to particular ground rule applications (e.g., “Correct the Interviewer”). Other questions (e.g., open-ended invitations) might generate a different ground rule response (e.g., “I Don’t Know” or “I Don’t Understand”) or potentially no ground rule response as children may be less likely to recognize they need to use a ground rule (e.g., in response to option-posing questions).

### ***3.5.1 Limitations and Future Directions***

Study 2 represents one of only a handful of studies investigating the individual and developmental differences that may impact children's ground rule practice question performance and subsequent application of these rules in interviews. We focused on ADHD and a very narrow age range in this study; there are a multitude of paths future research can take. For example, research has yet to examine adolescent ground rule practice question performance and application. As adolescents are more likely to become involved in the justice system than their younger counterparts (Finkelhor et al., 2013), it is also important to investigate how this population practices and applies these rules. Recent research examining ground rule instructions with adults found that ground rule practice questions were helpful at increasing adults' performance during an interview (Ali et al., 2020). If adults can benefit from such instructions, so too may adolescents.

Although no individual differences in working memory or inhibitory control were reported in the current study, we may have been limited in terms of power with respect to the analyses concerning executive functioning. Our power analysis indicated that our full sample ( $n = 61$ ) provided us with .79 power to detect small to medium effect sizes with ADHD status, working memory, and inhibitory control as predictor variables. However, once data were cleaned and analyzed, we had valid working memory and inhibitory control scores for only 51 children. Future research should test how executive functioning affects children's ground rule performance and application in larger samples.

It should also be noted that, in keeping with the NICHD protocol (Orbach et al., 2000), children were not given an opportunity to practice applying the "I don't understand" rule when it was introduced. Thus, we were not able to assess children's

performance with respect to the “I don’t understand” rule. Further, the current research did not examine whether ground rule practice question performance impacted ground rule applications later on during the interview as it was not within the scope of the present study.

Finally, children were questioned about a staged laboratory event that was innocuous in nature and likely fun for children. Thus, children’s performance on the ground rule practice questions and later ground rule applications in the current research may not be generalizable to real-life interview settings where the stakes are higher and children are being questioned about potentially stressful experiences. Our interview questions were also dissimilar in some ways to questions typically asked or recommended during investigative interviews with children (e.g., scripted questions, highly suggestive questions). That said, asking a wider variety of questions in the current research allowed us to ask questions that were more likely to elicit a ground rule response and to assess which types of questions were most likely to prompt a ground rule application.

### ***3.5.2 Conclusions***

In sum, ground rules are commonly recommended, introduced, and practiced in interviews with children (Brubacher et al., 2015). Yet, there is a considerable lack of research examining how children perform on ground rule practice questions and their ground rule applications later on during the interview. The current research expanded the field’s understanding of how children perform on ground rule practice questions, including how and to which interviewer questions they apply the ground rules during their interviews. Overall, children performed reasonably well on the ground rule practice

questions but younger children performed worse than their older counterparts. No differences in ground rule performance or application emerged with respect to ADHD diagnosis or working memory and inhibitory control scores. This research sheds light on children's metacognitive development and provides novel insights into how children understand and apply the ground rules while informing those who routinely question children.

## **Chapter 4. Study 3: Mock Jurors' Perceptions of Children's Ground Rule Application during Investigative Interviews**

### **4.1 Introduction**

Child sexual abuse (CSA) represents a significant public safety concern with potentially life-altering consequences for victims. Research indicates that 26.6% of girls and 6.1% of boys report sexual victimization before the age of 17 in the United States (Finkelhor et al., 2014). An estimated 58,700 cases of CSA were substantiated in the United States from 2015 to 2016 alone (Finkelhor et al., 2018), though it is largely understood that many cases go unreported to authorities (Bottoms et al., 2016; Lyon, 2009). When CSA is reported, it is common for the child's testimony to represent pivotal evidence regarding the alleged abuse (Malloy et al., 2010; Quas et al., 2005; Tabak & Klettke, 2014). Thus, in investigative interviews with alleged victims of CSA, clarity and accuracy are paramount. Interviews must be conducted with the child's capabilities and limitations in mind in order to obtain a detailed, complete, and accurate report from the child directly.

A critical component to the success of an investigative interview is that a child indicates when they do not understand or know the answer to a question. Thus, many best-practice guidelines for conducting investigative interviews with potential CSA victims include a portion of the interview designed to establish interview "ground rules" (e.g., Memorandum of Good Practice; Home Office, 1992; National Institute of Child Health and Human Development [NICHD] protocol; Orbach et al., 2000). Such rules are intended to promote accuracy and support within an interview setting by providing children with the language necessary to, for example, say "I don't know," say "I don't

understand,” and correct the interviewer if they have made a mistake. By informing children of these ground rules at the outset of an interview and encouraging their use as appropriate, it is intended that children will better understand the novel investigative interview context and be able to advocate for themselves throughout the interview.

Extant ground rule research has aimed to increase children’s understanding and appropriate application of these rules, with varying degrees of success (see Brubacher et al., 2015, for a review). However, this limited body of research has been conducted without a concomitant understanding of how adults might view children’s application of these ground rules. Although appropriate application of the ground rules would likely increase children’s testimonial accuracy, it remains unclear how adults perceive a child who applies these rules within their investigative interview. For example, saying “I don’t know” or “I don’t understand,” especially multiple times during an interview, may undermine children’s credibility even if they are applying the rules appropriately and even if, ultimately, their testimony is more accurate and detailed as a result. In one study, 480 mock jurors rated 5- and 15-year-old victims of sexual abuse who demonstrated a powerless communication style (e.g., contained hesitations, expressions of uncertainty) as less truthful/accurate and intelligent/self-assured than those who demonstrated a powerful style (Experiment 1, Schmidt & Brigham, 1996). Yet, another study with a 6-, 10-, and 22-year-old witness of a robbery/murder also found a main effect of communication style but it was qualified by an interaction such that the effect only held for the adult witness (Ruva & Bryant, 2004). In this study, the 6- and 10-year-old witnesses were not viewed less positively as a result of the language style they used. A child who says “I don’t know” or “I don’t understand”, especially multiple times, may be viewed as

demonstrating a powerless communication style and thus thought to be less truthful/accurate. As adult fact-finders (e.g., judges, jurors) are responsible for evaluating and making judgements regarding children's eyewitness testimony, lacking an understanding of how children's ground rule application affects perceptions of them and their testimony is a crucial gap in the literature. The current study represents an important step toward understanding how mock jurors perceive an alleged victim of CSA who applies the "I don't understand" (IDU) rule or the "I don't know" (IDK) rule when interviewed.

#### ***4.1.1 Ground Rules in Investigative Interviews with Child Witnesses***

A large body of research supports that, when questioned in legal contexts, children will likely be asked complex questions potentially involving unfamiliar legal terminology (Evans et al., 2009; Katz & Hershkowitz, 2012). Furthermore, youth, especially younger children, may not have the vocabulary necessary to describe the events that occurred, how they felt about the events, or the timing of them (Ahern & Lyon, 2013; Wandrey et al., 2012). For instance, children are often asked to provide temporal information during investigative interviews (Orbach & Lamb, 2007; Powell et al., 2007), even though they may not fully understand temporal concepts until the adolescent years (Friedman, 1992; Montangero, 1992; Tartas, 2001). Children must also play the role of "expert" in interviews – a role they are typically unaccustomed to assuming when talking to adults (Hershkowitz et al., 2012; Saywitz & Comparo, 2013). Finally, children will be asked, often repeatedly, to discuss the event(s) in question, which may be painful, shameful, and/or embarrassing (Back et al., 2011; Hershkowitz et al., 2007). Taken together, such interviews provide ample opportunities for

misunderstandings and miscommunications to occur, which may negatively affect the child's report and/or their credibility.

Four ground rules are typically recommended in interview guidelines: (1) establish interviewer naiveté, (2) instruct the child to correct the interviewer if they make a mistake, (3) instruct the child to inform the interviewer when the child does not understand something (“I don’t understand;” IDU), and (4) instruct the child to inform the interviewer when the child does not know the answer to a question (“I don’t know;” IDK). Children are also frequently asked to determine the difference between a truth and a lie, and/or to only tell about things that have really happened to them. Best-practice recommendations also often include that children be given an opportunity to practice the ground rules as they are introduced (Brubacher et al., 2015). It is generally assumed that child witnesses will benefit from the introduction of interview ground rules (Saywitz & Comparo, 2013). Despite widespread recommendation and implementation, however, ground rule research is limited. A key limitation is that research has yet to investigate how adults perceive children who apply ground rules. In the current research, we examined adults’ perceptions of two ground rules (i.e., the IDU and IDK rules).

We chose to examine two rules – IDU and IDK - based on a number of factors. First, Brubacher and colleagues (2015) argued that the IDK rule is thought to be the most important rule to introduce because even if a child is unable to recognize why a question is difficult for them to answer (e.g., the child does not understand the question or the interviewer makes a mistake), saying “I don’t know” should still reduce potential errors. As such, ground rule research has focused largely on children’s understanding and application of the IDK rule, making it particularly important to understand how adults

perceive its usage by children. Second, research is needed on all of the typically introduced ground rules, in particularly the IDU rule, which has received considerably less empirical attention than the IDK rule. In the current research, we examined mock jurors' perceptions of children's implementation of both the IDK and IDU rules in investigative interviews.

#### ***4.1.2 Children's Ground Rule Application: IDK vs. IDU***

Although "I don't know" and "I don't understand" are both uninformative responses, at least in terms of failing to provide event memory details, the type of rule applied (IDU v. IDK) may influence adult fact-finders' perceptions of the child witness differently. Adult fact-finders may view children's IDK responses as a reluctance to answer the question, especially if the child continues to apply the rule across multiple questions. In contrast, children who say IDU may potentially be viewed more positively - willing to answer and actively attempting to understand what is being asked. That said, using IDU may also lead adults to perceive children as lacking cognitive or linguistic competence in ways that undermine their credibility or perceived ability to resist suggestions or leading questions.

Despite the fact that children are often introduced to both the IDK and IDU rules at the outset of investigative interviews, field research indicates that they rarely apply them in response to interviewer questions. Earhart and colleagues (2014) examined the transcripts of 79 investigative interviews with 4- to 13-year-old alleged victims of CSA and found that, on average, children said IDK to only about 5% of interviewer questions. With regards to the IDU rule, Malloy et al. (2015) found that 32% of transcripts from

investigative interviews ( $n = 91$ ) with suspected child sexual abuse victims (ages 4- to 13-years) contained no IDU rule applications.

Research examining children's IDU and IDK responses (Malloy et al., 2015; Rodriguez Steen & Malloy, 2021) indicates that question type may play a key role in whether children apply these rules in response to interview questions. For example, Malloy et al. (2015) found that children applied the IDU rule most frequently (68%) in response to open-ended recall prompts (e.g., "And then what happened?"). This makes sense because such prompts require recall memory to answer; therefore, an interviewee must comprehend the question in order to respond. Conversely, closed-ended recognition questions (e.g., yes/no and forced choice) contain or imply potential response options (e.g., "Yes," "No") within the question and can be answered (irrespective of accuracy) without additional processing. Children are considerably more likely to attempt to answer yes/no recognition questions than more open-ended recall questions, even when the questions are unanswerable (Waterman et al., 2001; 2004). Thus, a critical question remains: Will the type of question that triggers usage of the IDK and IDU ground rules affect how others perceive the child and the child's testimony? In the present study, we varied whether the types of interviewer prompts (recall versus recognition) to which children's IDK and IDU responses occurred.

#### ***4.1.3 Perceptions of Child Witnesses***

A sizeable body of work has focused on adults' perceptions of children's testimony, including what factors affect these perceptions and what misperceptions potential jurors hold about child witnesses (see Bottoms et al., 2007, for a review; Quas et al., 2005). Perhaps the most well-researched characteristic of child witnesses in relation

to how they are perceived by fact-finders is child age (Bottoms et al., 2007; Redlich et al., 2008). When it comes to CSA victims, adults have been found to perceive older children as more competent but less honest and younger children as less competent but more honest (Bottoms et al., 2007). Compared to younger children, older children are generally perceived as less suggestible (Buck & Warren, 2009; Nikonova & Ogloff, 2005). Research conveys a mixed message regarding how fact-finders perceive child witnesses at various ages and age-related differences in perceptions of CSA victims are not necessarily linear.

Schmidt & Brigham (1996, Experiment 1) found that a 5-year-old female CSA victim was seen as significantly more truthful and accurate than a 15-year-old female CSA victim, and both the 5-year-old and 10-year-old victims were seen as more intelligent and self-assured than the 15-year-old victim. Wright and colleagues (2009) found that when participants were shown vignettes of CSA victims at various ages (i.e., 3 to 12, 15, and 18-years-old), perceptions of their honesty increased until the child was 11-years-old and then began to decrease as child age increased. At the same time, perceptions of the child's reliability as a witness increased significantly from 3- to 6-years-old but then results did not reveal any further increases in reliability perceptions with child age (Wright et al., 2009). Still others have found no effects of age: Danby et al. (2021), for example, found no age-related differences in perceptions of credibility when comparing a 6-year-old to a 10-year-old child maltreatment victim.

Within the context of ground rule application, potential age-related perceptions could lead mock jurors to view IDU and IDK responses from a younger child as a more accurate reflection of the witness's knowledge while viewing those same responses from

an older child as more dishonest, a sign of reluctance to answer the interviewer's questions, or a lack of cooperativeness. Thus, child age was also manipulated in the current study.

## **4.2 The Present Study**

Researchers invested in improving guidelines for interviewing children have largely neglected to focus on how adults perceive children's use of ground instructions. In the present study, we addressed the following research questions: (1) How do mock jurors perceive children's IDU and IDK ground rule use, and (2) What factors affect these perceptions (i.e., child age, rule type applied, frequency of rule application). To address these questions, participants read a transcript of the first investigative interview of an alleged victim of CSA and then responded to Likert scale, yes/no, and open-ended items to assess their perceptions of the child and the interview. The current study conformed to a 2 (Child Age: 6 v. 10) X 2 (Rule Type: IDU v. IDK) X 2 (Application Frequency: 1-time v. 6-times) between subjects design.

We hypothesized a main effect of application frequency in that mock jurors would have more positive perceptions of the child (e.g., assign more guilt to the alleged perpetrator, view the child as more credible, more understanding of the interview's purpose, less likely to have lied, etc.) as well as the interview (e.g., fairer, more age appropriate questions) when interviews contained 1-time rule usage (regardless of the particular rule) than when interviews contained 6-times rule usage. We hypothesized a main effect of rule type such that mock jurors would view IDU responses more positively than IDK responses. Drawing from previous literature on adult perceptions of child witnesses (Bottoms et al., 2007; Goodman et al., 2002), we also predicted a main effect

of child age such that mock jurors would view the 6-year-old victim more positively than the 10-year-old victim on items concerning the child's honesty, but less positively on items concerning the child's competence and credibility. We also hypothesized a main effect of child age such that mock jurors would view the interview with the 10-year-old as fairer and the questions asked as more age appropriate than the interview with the 6-year-old child. We explored interactions among child age, rule type, and rule application frequency, but made no a priori predictions regarding potential interactions. We also explored the child's overall accuracy and mock jurors' verdict judgements, but made no a priori predictions with respect to these outcome variables.

## **4.3 Method**

### ***4.3.1 Participants***

Of the 956 participants initially recruited, 94 (9.8%) either: (1) screened out (e.g., were not eligible to serve on a jury in the United States or Canada), or (2) did not consent to participate. Of the 862 participants who both screened in and consented, 124 (14.7%) failed one of two attention checks (e.g., "Please select the number '5' from the available options for this question") and were dropped from further analysis. Five participants reported ages of three or more standard deviations from the mean age and were removed from the final sample. Thus, 716 (83.1% of the initial sample) participants represented the final sample.

The final sample ( $n = 716$ , 59.5% male) were either citizens of Canada (51.0%,  $n = 365$ ) or the United States (49.0%,  $n = 351$ ). Ages ranged from 18- to 69-years-old ( $M = 35.82$  years,  $SD = 11.04$ ). Participants identified as white (64.9%,  $n = 465$ ), Asian (22.8%,  $n = 163$ ), Black (9.4%,  $n = 67$ ), Latinx (8.7%,  $n = 62$ ), or other (11.1%,  $n = 22$ ).

A minority of participants (5.3%,  $n = 38$ ) reported a yearly income of over \$100,000/year, whereas 32.9% ( $n = 235$ ) had a yearly income of \$55,000-\$100,000/year, 45.8% ( $n = 327$ ) had a yearly income of \$15,000-\$55,000/year, and 12.8% ( $n = 92$ ) reported a yearly income of less than \$15,000/year. Only 14.4% ( $n = 103$ ) of participants reported serving on a jury prior to study participation, and 40.5% ( $n = 290$ ) reported being a parent. All participants took part in our survey hosted by Qualtrics via Amazon Mechanical Turk (Mturk) using CloudResearch (formerly TurkPrime; see Litman et al., 2017). We used the CloudResearch Approved List to ensure high data quality and targeted only US and Canadian citizens with CloudResearch's demographic options. Participants received \$2.00 USD/CAD as compensation.

#### ***4.3.2 Procedure***

Participants first answered three screening questions to determine their eligibility to serve on a jury in either Canada or the United States: (1) Are you 18 years old or older?; (2) Are you a citizen of Canada or the United States?; and (3) Are you fluent in English? If participants responded "No" to any of these three questions, their participation in the study ended. If participants screened in, they provided informed consent (see Appendix C1), responded to a brief demographic questionnaire (see Appendix C2), viewed one of 12 randomly assigned transcripts (see Appendix C3, Supplemental Materials), and completed a questionnaire regarding their assigned transcript (see Appendix C3, Supplemental Materials). After completing the study, participants were debriefed, thanked, and compensated.

### **4.3.3 Materials**

**4.3.3.1 Demographic questionnaire.** The demographic questionnaire (see Appendix C2) asked for participants to report their gender, race and ethnicity, highest degree earned, occupation, and annual income. Participants also indicated whether they had ever served on a jury in Canada or the United States, whether they had any children, and, if so, the age(s) of their child(ren).

**4.3.3.2 Transcripts.** Participants read a portion of one of 12 randomized transcripts (6 pages, double spaced; see Appendix C3 Supplemental Materials) of the first investigative interview of a female alleged CSA victim. This transcript was derived from an actual case of alleged CSA and was sanitized (i.e., names and locations removed) to protect confidentiality. The interview was conducted following the best-practice NICHD investigative interview protocol (Lamb et al., 2018; Orbach et al., 2000) and involved the child alleging multiple incidents of sexual abuse perpetrated by her mother's live-in boyfriend.

Transcripts were identical except for our experimental manipulations of child age, rule applied, and rule application frequency. Child age (6 v. 10 years) was manipulated at the top of the interview transcript. The ages used were selected based on a number of factors. The responses provided by the child needed to appear developmentally appropriate for both ages. Additionally, although preschool children do testify in legal contexts, the majority of child witnesses are 6 years old or older (Malloy et al., 2015; Myers et al., 2002). Thus, 6 and 10-year-olds were selected to maintain believability while including children at the lower and higher end of elementary school age.

In transcripts where the IDU or IDK ground rule was applied 6 times, interview questions triggering the ground rule application were recall prompts ( $n = 4$ ) (e.g., “Tell me everything about that”) and recognition questions ( $n = 2$ ) (e.g., “And did he take all of his clothes off or only some of his clothes off?”). In transcripts where the IDU or IDK ground rule was applied only 1-time, trigger questions were alternated so that half of the participants who viewed a 1-time rule application transcript saw the rule applied in response to a recall trigger question and half saw the rule applied in response to a recognition trigger question. In all transcripts, IDU and IDK responses occurred in response to questions that might naturally generate such responses in the field (e.g., “Okay, tell me everything about erm - his privates?”). We first pilot tested the transcripts with 140 jury eligible undergraduate psychology students at a North American university. Similar to items described below, pilot participants were asked to rate items such as the child’s credibility, believability, likelihood of lying, suggestibility, reluctance, and understanding of the interview questions and purpose, as well as items regarding the fairness and age appropriateness of the interview.

**4.3.3.3 Perceptions of the child and interview.** After reading through their randomly assigned transcript, participants responded to Likert scale items regarding their perceptions of the child in the transcript and the interview (see Appendix C3, Supplemental Table 1 for a complete list of the items; see Table 4.1 for descriptive statistics). Child-related items concerned, for example, the child’s suggestibility, cooperativeness, intelligence, accuracy, truthfulness, and how much weight a jury should give the child’s testimony. Interview-related items concerned multiple items about the interview as a whole such as the interview’s fairness and the age appropriateness of the

questions. Participants rated all Likert scale items on a 7-point scale ranging from 1 (not at all) to 7 (very) (e.g., “How credible was the child?” [1 = “not at all credible,” 7 = “very credible”]).

**Table 4.1**

*Overall Mean Ratings for Likert-Scale Outcome Variables*

Question	<i>M</i>	<i>SD</i>
How accurate was the child?	5.21	1.35
How credible was the child?	5.76	1.22
How believable was the child?	5.95	1.18
How guilty is alleged perpetrator?	6.13	1.30
How confident are you in the degree of guilt of the alleged perpetrator?	5.74	1.49
How likely is it that the child was truthful with the interviewer?	6.01	1.11
How likely is it that the child understood the questions being asked?	5.41	1.26
How likely is it that the child recognized the degree of seriousness of the situation?	4.99	1.66
How much sympathy do you feel for the child?	6.56	.94
How likely is it that the child intentionally lied to the interviewer during the interview?	2.75	1.62
How intelligent was the child??	5.19	1.27
How suggestible was the child?	4.53	1.52
How likely is it that the child understood what their statements would be used for?	4.40	1.61
How consistent was the child during the interview?	5.71	1.22
How competent was the child?	5.33	1.29
How much weight do you think a jury should give the child’s testimony?	5.77	1.29
How age appropriate were the questions asked in the interview?	4.60	1.78
How fair was interview?	5.51	1.32
How cooperative was the child?	5.99	1.08
How reluctant was the child to talk to the interviewer?	4.29	1.53

Participants also responded to two dichotomous questions: (1) “Based on the evidence provided by the child, would you convict the alleged perpetrator?” and (2) “Do

you think the child in the transcript gave an accurate and honest account of what happened to her?” These two questions were followed-up with open-ended questions aimed at elucidating how participants made these decisions and their general perceptions of the child (i.e., “What information led you to decide to convict/not convict the alleged perpetrator?”; “What was your opinion of the child in the transcript?”). Dichotomous questions were intermixed among Likert-scale questions and the corresponding open-ended question immediately followed each dichotomous question. Participants responded to two attention checks (e.g., “Please select the number ‘5’ from the available options for this question”) and two manipulation checks (e.g., “How old was the child in the transcript you read?”). Attention and manipulation checks were intermixed among the Likert scale and dichotomous questions, excluding our final attention check (i.e., “Did you pay attention and answer honestly?”), which was the last question participants answered before being debriefed, thanked, and compensated.

#### ***4.3.4 Data Reduction and Coding***

In order to analyze our various Likert-scale outcome variables and reduce the number of primary analyses, we conducted an exploratory factor analysis with three iterations to create composite variables. Two composite variables emerged: (1) Child’s Credibility, and (2) Perceived Guilt of Perpetrator. Child’s Credibility contained 9 Likert-scale items concerning the child’s accuracy, credibility, believability, truthfulness, intelligence, understanding of the questions asked, consistency, competency, and cooperativeness. For Child’s Credibility, the Kaiser-Meyer-Olkin (Kaiser, 1970; Kaiser & Rice, 1974) value was .910 and Bartlett’s Test of Sphericity (Bartlett, 1954) was statistically significant at  $p < .001$ . Examination of the component matrix indicated that

all items loaded at .624 or higher (range = .624 to .862). Perceived Guilt of Perpetrator contained 4 Likert-Scale items concerning sympathy for the child, how much weight a jury should give the child's testimony, degree of guilt of the alleged perpetrator, and confidence in degree of guilt of the alleged perpetrator. For Perceived Guilt of Perpetrator, the Kaiser-Meyer-Olkin (Kaiser, 1970; Kaiser & Rice, 1974) value was .716 and Bartlett's Test of Sphericity (Bartlett, 1954) was statistically significant at  $p < .001$ . Examination of the component matrix indicated that all items loaded at .618 or higher (range = .618 to .881).

Two coders scored responses from the open-ended "What information led you to decide to convict/not convict the alleged perpetrator" question and the "What was your opinion of the child in the transcript?" question. See Appendix C3, supplementary analyses for these coding categories, reliability information, and results.

#### **4.4 Results**

First, we present preliminary analyses. Second, we present results of ANOVAs and logistic regressions testing our hypotheses by examining the effects of child age, rule applied, and frequency of rule application on our outcome variables (i.e., composite scores, individual Likert-scale items pertaining to the child and interview, verdicts). Third, we present results concerning the effects of our participant characteristic covariates. For brevity, only  $P$ -values for non-significant results are presented.

##### ***4.4.1 Preliminary Analyses***

Preliminary analyses examined the equivalence of our experimental conditions in terms of randomized distribution of transcripts and mock juror gender; investigated potential differences between the samples drawn from the US and Canada; and tested the

potential impact of the type of trigger question that generated the rule application (recall vs. recognition). For all preliminary tests, chi-square analyses assessed dichotomous, while one-way ANOVAs examined continuous (i.e., Likert-scale, composite) outcome variables.

Chi-square analyses revealed that our 12 randomly assigned transcript versions were equally distributed across participants ( $ps > .205$ ). That is, each of our 12 transcripts were viewed by approximately the same number of participants. Regarding juror gender, no significant gender differences emerged in child accuracy or verdicts ( $ps > .091$ ). One-way ANOVAs revealed a gender difference in only one of the continuous outcome variables: Male participants viewed the child as significantly more suggestible ( $M = 4.64$ ,  $SD = 1.46$ ) than female participants ( $M = 4.34$ ,  $SD = 1.50$ ),  $F(1, 674) = 6.557$ ,  $p = .011$ . Thus, juror gender was very rarely related to mock jurors' perceptions and was not considered in the primary analyses.

With regards to potential differences between the samples drawn from the US and Canada, chi-square tests indicated that US and Canadian participants did not differ significantly on the dichotomous child accuracy scores or verdicts ( $ps > .257$ ). However, results indicated that US and Canadian participants differed significantly in their age ( $M = 38.69$  years for US participants,  $M = 33.06$  years for Canadian participants;  $F(1, 716) = 49.714$ ,  $p < .001$ ,  $\mu^2 = .065$ ), parent status ( $n = 164$  US parents,  $n = 126$  Canadian parents;  $X^2(1, N = 712) = 10.704$ ,  $p < .001$ ), and past jury service ( $n = 86$  US participants with prior jury experience,  $n = 17$  Canadian participants with prior jury experience;  $X^2(1, N = 704) = 56.477$ ,  $p < .001$ ). Thus, Participant Age, Parent Status, and Past Jury Service were included as covariates in the primary analyses.

Finally, preliminary analyses tested the potential impact of the type of trigger question that generated the rule application (recall vs. recognition) by examining those in the 1-time rule application condition who viewed a transcript in which the IDU or IDK rule was applied once to either a recall or recognition question. One-way ANOVAs revealed no significant effects of trigger question type on our two composite variables, Child's Credibility,  $F(1, 473) = .006, p = .939, \mu^2 = .004$ , and Perceived Guilt of Perpetrator,  $F(1, 473) = .068, p = .795, \mu^2 = .009$ , or the remaining individual Likert-scale items ( $n = 7; ps > .280$ ). Chi-square analyses revealed no significant difference for the dichotomous child accuracy variable based on trigger question,  $X^2(1, N = 459) = .632, p = .427$ . Similarly, trigger question type did not significantly affect verdicts  $X^2(1, N = 445) = .007, p = .936$ . Thus, trigger question type is not considered further.

#### ***4.4.2 Effects of the Experimental Manipulations on Mock Jurors' Perceptions of the Child and the Interview***

In this section, we present results examining the effects of child age, type of ground rule applied, and frequency of rule application on mock jurors' perceptions of the child and the interview. We hypothesized that mock jurors would have more positive perceptions of the child and the interview when interviews contained 1-time rule usage versus 6-times rule usage, more positive perceptions of IDU usage than IDK usage, and more positive perceptions of the 6-year-old child, compared to the 10-year-old child, on items concerning the child's honesty, but less positively on items concerning the child's competence and credibility. We also hypothesized that mock jurors would have more positive perceptions of the interview (i.e., see it as fairer and containing more age-appropriate questions) with the 10-year-old child than the 6-year-old child. To test for

these hypothesized effects, we examined our two composite variables (Child's Credibility and Perceived Guilt of Perpetrator) and the seven individual Likert-scale items concerning the child and the interview that did not fit into our composite variables per the factor analysis via 2 (Child Age: 6 v. 10) X 2 (Rule Applied: IDU v. IDK) X 2 (Application Frequency: 1-time v. 6-times) ANOVAs controlling for Participant Age, Parent Status, and Past Jury Service. To examine our dichotomous variable concerning whether participants thought the child gave an honest and accurate account, we conducted a logistic regression analysis controlling for Participant Age, Parent Status, and Past Jury Service.

**4.4.2.1 Child's credibility.** For the composite score of Child's Credibility, a significant main effect of Application Frequency emerged,  $F(1, 692) = 13.965, p < .001, \mu^2 = .020$ . As expected, participants who viewed a transcript in which the child applied either rule 1 time viewed the child as more credible ( $M = 5.67, SD = .87$ ) than those who viewed a transcript where the child applied either rule 6 times ( $M = 5.39, SD = .99$ ). Contrary to our hypotheses, no other significant main effects or interactions emerged ( $ps > .079$ ).

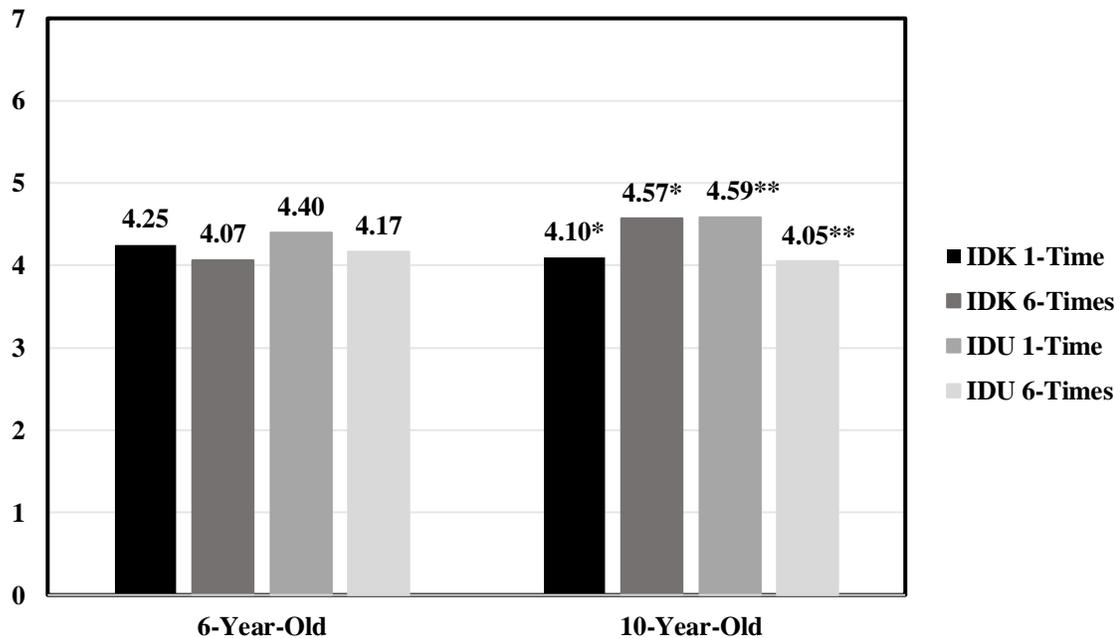
**4.4.2.2 Perceived guilt of perpetrator.** Regarding Perceived Guilt of the Alleged Perpetrator, a significant main effect of Application Frequency emerged,  $F(1, 692) = 5.244, p = .022, \mu^2 = .008$ . As anticipated, participants who viewed a transcript in which the child applied either rule 1 time perceived the alleged perpetrator as guiltier ( $M = 6.06, SD = 1.01$ ) than those who viewed a transcript where the child applied either rule 6 times ( $M = 5.87, SD = 1.06$ ). Unexpectedly, no other significant main effects or interactions emerged ( $ps > .084$ ).

**4.4.2.3. Individual items related to the child.** Individual items pertaining to the child included the likelihood that the child intentionally lied; the child's suggestibility, reluctance, understanding of the interview's purpose, and recognition of the seriousness of the interview; and the dichotomous variable concerning whether the child had given an honest and accurate account of what happened to her. With respect to the likelihood that the child intentionally lied during her interview, a significant main effect of Application Frequency emerged,  $F(1, 686) = 11.699, p < .001, \mu^2 = .017$ . As expected, participants in the 1-time rule application condition were significantly less likely to indicate that the child intentionally lied during the interview ( $M = 2.62, SD = 1.52$ ) than those in the 6-times rule application condition ( $M = 3.03, SD = 1.67$ ). Regarding the child's suggestibility, contrary to our expectations, no significant main effects or interactions emerged regarding Child Age, Rule Applied, or Application Frequency ( $ps > .182$ ).

Unexpectedly, no significant main effects of Child Age, Rule Applied, or Application Frequency emerged regarding the child's reluctance to talk to the interviewer. However, results revealed a significant Rule Applied x Application Frequency interaction,  $F(1, 688) = 4.739, p = .030, \mu^2 = .007$ , and a significant Child Age X Rule Applied X Application Frequency interaction,  $F(1, 688) = 3.955, p = .047, \mu^2 = .006$  (see Figure 4.1), the latter of which will be interpreted. Follow-up analyses on this unanticipated 3-way interaction revealed that there were no significant differences in how mock jurors perceived a 6-year-old's reluctance when they used the IDU rule 1 time ( $M = 4.40, SD = 1.52$ ) or 6 times ( $M = 4.17, SD = 1.65$ ),  $F(1, 688) = .833, p = .362, \mu^2 = .001$ . The same was true for participants who read about a 6-year-old who used the IDK rule 1 time ( $M = 4.25, SD = 1.63$ ) or 6 times ( $M = 4.07, SD = 1.55$ ),  $F(1, 688) = .564, p =$

.453,  $\mu^2 = .001$ . However, participants viewed the 10-year-old's 1-time IDU usage ( $M = 4.59$ ,  $SD = 1.36$ ) as demonstrating more reluctance than the 10-year-old's 6-times IDU usage ( $M = 4.05$ ,  $SD = 1.42$ ),  $F(1, 688) = 5.021$ ,  $p = .025$ ,  $\mu^2 = .007$ , whereas the opposite was true for IDK rule usage. Participants viewed the 10-year-old who used IDK 1 time as *less* reluctant ( $M = 4.10$ ,  $SD = 1.46$ ) than the 10-year-old who used IDK 6 times ( $M = 4.59$ ,  $SD = 1.58$ ),  $F(1, 688) = 3.924$ ,  $p = .048$ ,  $\mu^2 = .006$ .

**Figure 4.1.**  
*Mean Ratings for Reluctance of the Child*



*Figure 4.1.* Mean Likert-scale ratings for reluctance of child during the interview by condition. This figure illustrates the mean Likert-scale ratings assigned by participants regarding how reluctant the child was during the interview across all transcript conditions.

*Note.* \* $F(1, 688) = 3.924$ ,  $p = .048$ ,  $\mu^2 = .006$ ; \*\* $F(1, 688) = 5.021$ ,  $p = .025$ ,  $\mu^2 = .007$

Mock jurors also rated how likely it was that the child understood what their statements would be used for. For this item, and as we anticipated, a significant main effect of Application Frequency emerged,  $F(1, 690) = 9.130$ ,  $p = .003$ ,  $\mu^2 = .013$ :

Participants in the 1-time rule application condition endorsed a greater likelihood of the child understanding the purpose of the interview ( $M = 4.44$ ,  $SD = 1.63$ ) than those in the 6-times rule application condition ( $M = 4.06$ ,  $SD = 1.56$ ). Regarding how likely it was that the child recognized the degree of seriousness of the interview, and contrary to our hypotheses, no significant main effects or interactions emerged based on Child Age, Rule Applied, or Application Frequency ( $ps > .110$ ).

A majority of participants ( $n = 610$ , 85.2%) responded “Yes” when asked, “Do you think the child in the transcript gave an accurate and honest account of what happened to her?” with 10.9% ( $n = 78$ ) responding “No,” and 3.9% ( $n = 28$ ) of participants choosing not to answer this question. Those who selected “Prefer not to Answer” were excluded from the following analysis. A logistic regression analysis examined the effects of Child Age, Rule Applied, and Application Frequency on this dichotomous overall accuracy variable, including the effects of our three covariates. The model was significant,  $X^2(6) = 22.699$ ,  $p < .001$ , Nagelkerke  $R^2 = .065$ , correctly classifying 88.8% of the cases. Rule Applied was the only significant hypothesized predictor ( $p < .001$ ): Those who viewed a transcript in which the IDK rule was applied were 2.33 times more likely to indicate that the child gave an accurate and honest account of what happened to her during the interview than those who viewed a transcript in which the IDU rule was applied (95% CI = 1.396, 3.870). The Participant Age covariate also emerged as a significant predictor ( $p = .011$ ). See the Effects of the Participant Characteristic Covariates section below.

**4.4.2.4. Individual items related to the interview.** Individual items pertaining to the interview concerned the interview’s fairness and the age appropriateness of the

interview questions. As expected, results revealed a significant main effect of Application Frequency concerning interview fairness,  $F(1, 688) = 7.450, p = .007, \mu^2 = .011$ . That is, participants in the 1-time rule application condition perceived the interview as fairer ( $M = 5.56, SD = 1.26$ ) than those in the 6-times rule application condition ( $M = 5.26, SD = 1.42$ ). Results also revealed a significant main effect of Application Frequency with respect to the age appropriateness of the interview questions,  $F(1, 686) = 8.485, p = .004, \mu^2 = .012$ . As we anticipated, participants in the 1-time rule application condition viewed the interview questions as more age appropriate ( $M = 4.69, SD = 1.73$ ) than those in the 6-times rule application condition ( $M = 4.27, SD = 1.83$ ).

#### ***4.4.3 Effects of the Experimental Manipulations on Mock Jurors' Verdicts***

Most participants (77.8%,  $n = 557$ ) indicated that they would convict the alleged perpetrator based on the child's testimony while 14.4% ( $n = 103$ ) would not convict and 7.8% ( $n = 56$ ) preferred not to answer this question. Those who selected "Prefer not to Answer" were excluded from the following analysis. A logistic regression analysis examined the effects of Child Age, Rule Applied, and Application Frequency on the dichotomous verdict outcome variable, including the effects of our three covariates (Participant Age, Parent Status, and Past Jury Service). The model was significant,  $X^2(6) = 17.376, p = .008$ , Nagelkerke  $R^2 = .045$ , correctly classifying 84.2% of the cases. However, the Participant Age covariate was the only significant predictor in the model ( $p < .001$ ) (see Effects of the Participant Characteristic Covariates below). Thus, child age, whether they applied the IDU or the IDK rule, and rule application frequency did not significantly affect participants' verdicts.

#### **4.4.4 Effects of the Participant Characteristic Covariates**

In addition to examining the hypothesized effects of child age, rule applied, and rule application frequency, our primary analyses examined the potential effects of three covariates.

**4.4.4.1 Participant age.** Participant age was associated with mock jurors' perceptions of the overall accuracy of the child, interview fairness, and the age appropriateness of the interview questions. Regarding overall accuracy of the child, for every 1-year increase in participant age, the odds of indicating that the child gave an accurate and honest account decreased by .971 (95% CI = .949, .993). As participant age increased, so too did ratings of interview fairness and age appropriateness of the interview questions (see Table 4.2). Finally, regarding mock jurors' verdicts, participant age emerged as the only significant predictor in the logistic regression model ( $p < .001$ ): For every 1-year increase in participant age, the odds of endorsing conviction decreased by .963 (95% CI = .944, .983).

**4.4.4.2 Parent status.** Participants who were parents indicated a higher likelihood of the child intentionally lying ( $M = 3.08$ ,  $SD = 1.78$ ) than those who were not parents ( $M = 2.53$ ,  $SD = 1.38$ ), viewed the child as more suggestible ( $M = 4.74$ ,  $SD = 1.53$ ) than those who were not parents ( $M = 4.36$ ,  $SD = 1.42$ ), and perceived a greater likelihood that the child understood the interview's purpose ( $M = 4.50$ ,  $SD = 1.69$ ) than those who were not parents ( $M = 4.19$ ,  $SD = 1.55$ ).

**4.4.4.3 Past jury service.** Participants with past jury service perceived a higher likelihood that the child intentionally lied ( $M = 3.65$ ,  $SD = 2.03$ ) than those who did not have past jury experience ( $M = 2.61$ ,  $SD = 1.44$ ), and they viewed the child as more

suggestible ( $M = 4.98, SD = 1.60$ ) and more reluctant ( $M = 4.72, SD = 1.65$ ) than those who did not have past jury experience ( $M = 4.43, SD = 1.44$  for suggestibility and  $M = 4.21, SD = 1.50$  for reluctance) (see Table 4.2). Participants with past jury service experience indicated a higher likelihood of the child understanding the interview's purpose ( $M = 4.90, SD = 1.45$ ) than those who did not have past jury experience ( $M = 4.21, SD = 1.62$ ) while also endorsing a greater likelihood of the child recognizing the seriousness of the interview ( $M = 5.21, SD = 1.54$ ) than those who did not have past jury service experience ( $M = 4.83, SD = 1.71$ ) (see Table 4.2).

**Table 4.2**

*Effects of Jury Status, Parent Status, and Participant Age on Mock Jurors' Perceptions*

Dependent Variables	Variables Examined	Effects	<i>F</i>	<i>df</i>	<i>P</i>	$\mu^2$
Degree of Seriousness	Child Age, Ground Rule Applied, Frequency of Rule Application	Past Jury Status covariate	3.936	(1, 689)	.048	.006
Suggestibility	Child Age, Ground Rule Applied, Frequency of Rule Application	Past Jury Status covariate	10.226	(1, 659)	< .001	.015
		Parent Status covariate	10.574	(1, 659)	< .001	.016
Intentionally Lied	Child Age, Ground Rule Applied, Frequency of Rule Application	Past Jury Status covariate	33.852	(1, 686)	< .001	.047
		Parent Status covariate	14.403	(1, 686)	< .001	.021
Understood Purpose	Child Age, Ground Rule Applied, Frequency of Rule Application	Past Jury Status covariate	13.431	(1, 690)	< .001	.019
		Parent Status covariate	4.019	(1, 690)	.045	.006
Reluctance	Child Age, Ground Rule Applied, Frequency of Rule Application	Past Jury Status covariate	9.226	(1, 688)	.002	.013
Question Appropriateness	Child Age, Ground Rule Applied,	Participant Age	15.356	(1, 686)	< .001	.022

Interview Fairness	Frequency of Rule Application Child Age, Ground Rule Applied, Frequency of Rule Application	Participant Age	7.675	(1, 688)	.006	.011
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#### 4.5 Discussion

Although research has expanded our understanding of how and when children apply the ground rules, and how to encourage them to do so when appropriate, the field lacks understanding of how adults perceive children’s application of the ground rules during formal interviews. In the current study, we examined how jury-eligible adults perceived a child’s application of two routinely recommended ground rules during an investigative interview – informing children that they can say “I don’t know” (IDK) and “I don’t understand” (IDU). Specifically, we asked mock jurors to make several judgments regarding a child (6-years-old v. 10-years-old) who applied a ground rule (IDK v. IDU) in their investigative interview either 1 time or 6 times, including in response to both recall and recognition questions. Consistent with our hypotheses, rule application frequency affected mock jurors’ perceptions of the child and the interview in several key ways. Yet, child age and the specific ground rule applied had considerably more limited effects.

As hypothesized, those who viewed a transcript in which a rule was applied once viewed the child and the interview more favorably than those who viewed a transcript in which either rule was applied six times. That is, participants in the 1-time rule application condition were more likely to view the child as credible, perceived more guilt on the part of the alleged perpetrator, and thought the child was less likely to have intentionally lied during her interview. They also had more positive perceptions of the interview itself with

mock jurors in the 1-time rule application condition perceiving the interview as fairer, the questions as more age appropriate, and the child as more likely to have understood the purpose of the interview than mock jurors in the 6-times rule application condition. It appears as if multiple applications of either the IDU or IDK rule during an investigative interview not only led to participants viewing the child and her testimony more negatively, but also led participants to view the interview more critically. Perhaps mock jurors noticed that the child in the 6-times rule application condition transcripts was struggling to answer the questions with informative responses, thus endorsing lower ratings of interview fairness and age appropriateness of the questions. This pattern is similar to Castelli et al. (2005) who reported that even though mock jurors rated the trial of a CSA victim as unfair when leading and suggestive questions were asked, they were also more likely to view the child as less credible than mock jurors who viewed a trial in which the questions were less leading.

Perceptions regarding the child's suggestibility did not vary as a function of rule application frequency. This is perhaps unsurprising given that the interview used in the current study followed best-practice guidelines for conducting investigative interviews with alleged CSA victims and thus contained no highly suggestive questions or comments. Future research examining mock jurors' perceptions of ground rule applications in response to more suggestive interviewing techniques is warranted because adults might view a child that uses the IDU rule to request clarification to a complex or highly suggestive question as more intelligent, for example, than a child who uses it in response to non-leading, simple question, especially if this occurs numerous times.

Regarding the types of questions asked in these interviews, results indicated that mock jurors in the 1-time rule application condition were not affected by the type of question triggering the ground rule application (those in the 6-times rule application condition saw both question types). It may have been that mock jurors perceived little difference between the recognition (e.g., yes/no, option posing) versus the recall (e.g., WH- style) questions asked in the current study or that mock jurors are affected by question type when one type dominates the stimulus material. For example, 276 student mock jurors rated the 6-year-old mock witness of a robbery/murder as more credible than all other witnesses when he was asked predominantly open-ended questions (e.g., “What happened after the party?”). In contrast, when asked predominantly closed-ended questions (e.g., “Did you go to your bedroom to put on your pajamas?”), there were no credibility differences across age groups. In the current study, however, there was no difference across transcripts in predominant question type - only in the questions that elicited the ground rule application.

Our hypothesis regarding a main effect of rule type whereby mock jurors would view IDU responses more favorably than IDK responses was unsupported. This was somewhat surprising given that interviewers appear to respond differently to IDK versus IDU responses in field studies examining investigative interviews with youth (e.g., Earhart et al., 2014; Malloy et al., 2015). Of note, behavioral responses towards ground rule applications during an interview may not reflect how the interviewers actually viewed those children’s responses. Although IDU responses should reflect metalinguistic skills and speech powerfulness, such responses may still be viewed similarly to IDK responses in terms of being relatively uninformative responses overall, and thus may be

perceived as similarly powerless by mock jurors. In the current research, mock jurors did not appear to distinguish much between the application of the IDK versus IDU rules. An exception to this is that participants who viewed a child using the IDK rule were more likely to indicate that the child had given “an honest and accurate account of what happened to her” than a child who used the IDU rule. Perhaps admitting a lack of knowledge or memory for some aspect of an event was consistent with mock jurors’ expectations about child witnesses (Ruva & Bryant, 2004). Overall, it seems that adults in the current study were less sensitive to the rule type applied than the frequency of its usage; whether this same pattern extends to other ground rules (e.g., correct the interviewer) and even more frequent usage of them are areas ripe for future research.

Contrary to our hypotheses, no main effects of child age emerged. The one finding concerning child age was a significant three-way interaction between child age, rule applied, and rule application frequency concerning the reluctance of the child. That is, the 10-year-old child who used the IDK rule once was viewed as *less* reluctant than the 10-year-old child who used the IDK rule six times. This finding makes intuitive sense. However, the opposite was true when considering the IDU rule; a 10-year-old who used IDU once was rated as *more* reluctant than a 10-year-old who applied the IDU rule six times. This pattern was not evident among those who viewed the 6-year-old’s interview. This was an unexpected finding, and one that requires further investigation. We can only speculate as to why the same pattern did not emerge with respect to the IDK and IDU responses among those who viewed older children’s interviews. Perhaps multiple IDU responses made the 10-year-old seem more engaged in the conversation and as if they were making active efforts to try to understand what was being asked of them, while

multiple IDK responses made her appear unwilling to discuss events fully. Research examining perceptions of witnesses who exhibited powerless versus powerful speech styles found that powerless speech only negatively impacted the credibility of the adult witness, not the 6- or 10-year-old witness (Ruva & Bryant, 2004). The authors reasoned that this finding captured mock jurors' expectations of child versus adult witnesses' capabilities. Similarly, due to potentially different expectations for the 6-year-old's versus the 10-year-old's willingness to speak with the interviewer and ability to engage in conversation about difficult topics, perhaps participants who viewed the 6-year-old's interview did not read into her singular or multiple use of "I don't understand" or "I don't know."

#### ***4.5.1 Limitations and Future Directions***

The present study was limited in several ways. First, although there are other commonly introduced ground rules, we focused on only two in the current research (IDU and IDK). Future research should aim to expand on our findings by examining how fact-finders' view children who apply the other ground rules as well (e.g., correcting the interviewer). Second, the age range of the children tested in the current study was limited in that we compared two relatively young, pre-pubescent children in order to make the identical testimony provided by the 6-year-old and 10-year-old believable. Given that adolescents are more likely to experience sexual abuse than younger children (Finkelhor et al., 2013) and that older youth are viewed differently than young children in CSA cases (Bottoms et al., 2007), future research should expand the age range tested here to examine how fact-finders perceive adolescents who apply the ground rules during their investigative interviews. Third, main effects of our Participant Age, Parent Status, and

Past Jury Service covariates emerged in several analyses. Although beyond the scope of the current research, future studies should further investigate these and other individual differences in how mock jurors perceive children who apply ground rules in investigative interviews.

#### ***4.5.2 Practical Implications and Conclusions***

Ground rules are intended to help children navigate the novel and stressful context of investigative interviews. Thus, appropriate use of these rules should, in theory, increase clarity and accuracy. Although children are instructed to apply the IDU and IDK rules when needed (Brubacher et al., 2015), the present research indicates that application of either rule multiple times during an investigative interview may undermine the child's testimony in various ways. Results indicated that mock jurors' perceptions of children who applied the IDK or IDU ground rule only one time during their interview were generally more positive than their perceptions of children who applied a ground rule six times. Research examining adult fact-finders' perceptions of children indicates that adults often unaware of their own biases and struggle to identify factors that may affect a child's testimony (e.g., interview quality, suggestibility; Buck et al., 2011; Quas et al., 2005;) and that, in these cases, expert testimony can help to sensitize adults to these factors (Buck et al., 2011; Gabora et al., 1993; Kovera et al., 1994). As ground rule application may influence mock jurors' perceptions negatively, fact-finders might benefit from being told that children are encouraged to use ground these rules at the outset of investigative interviews. This is an important question for future research.

The present study represents an important first step toward understanding how adults perceive children's implementation of interview ground rules. Because adult fact-

finders (e.g., jurors, judges, legal professionals) are responsible for evaluating and making judgements regarding children's testimony, it is imperative to understand the impact of encouraging certain types of responses with ground rules. Results of the current study have implications for those who interview children (e.g., investigative interviewers, researchers, medical professionals), design interview interventions, and provide expert testimony concerning children's eyewitness testimony.

## **Chapter 5. General Discussion and Conclusions**

### **5.1 General Discussion**

Interview ground rules are a vital component of conducting formal interviews with children. The ground rules are intended to provide children with the language needed to advocate for themselves and reduce inaccuracies or misunderstandings during the substantive phase of the interview. They aim to explain how the interview will proceed, inform children on how they can tell an interviewer when they need support (e.g., how to request clarification, how to correct an interviewer's mistake), and provide children with an opportunity to practice applying the rules as they are introduced. Yet, even with various protocols calling for and promoting the importance of such instructions, the ground rule section of interview protocols is surprisingly under-researched (Brubacher et al., 2015), especially when compared with the extent of the attention paid to other aspects of children's investigative interviews. As such, there is much to explore with respect to how these rules are understood and applied by children, including how adults might perceive their applications.

Taken together, the studies that compose this thesis advance the field's current understanding of the ground rules used in investigative interviews with children. Such understanding is also important for other formal contexts in which children are interviewed such as when they are asked about their experiences or symptoms in medical or clinical contexts. Three studies were presented: (1) Study 1 tested whether "I don't understand" reminders helped facilitate children's appropriate requests for clarification when children were interviewed about a staged event, (2) Study 2 explored whether ADHD, working memory, and inhibitory control affect children's ground rule practice

question performance and application, and (3) Study 3 examined the impact of children's "I don't know" and "I don't understand" ground rule application in an investigative interview on mock jurors' perceptions of an alleged CSA victim. Given the various limitations of the extant literature (e.g., limited focus on individual differences in ground rule understanding and application, no empirical research concerning how adults perceive ground rule applications) this thesis contributed to the ground rule and child witness literatures in several ways as well as to the fields of Developmental and Forensic Psychology more broadly.

First, regarding whether reminding children of the "I don't understand" rule encourages appropriate clarification requests, results of Study 1 determined that child age and reminding children to say "I don't understand" both affected the proportion of clarification requests children made in response to tricky questions. Children (6- to 11-year-olds) were asked simple and tricky questions during their interviews, and half of the children in this sample were introduced to our Reminder condition in which they received two "I don't understand" rule reminders at designated points during their interviews. Results indicated that 9-to 11-year-olds and children in the Reminder condition made significantly greater proportions of clarification requests to our tricky questions than 6- to -8-year-olds and children in the No Reminder condition. Encouragingly, all children, even those in our Reminder intervention, differentiated between the tricky and simple questions when requesting clarification. The reminders did not increase clarification requests across the board; children in the Reminder condition only made more clarification requests in response to the tricky questions, not the simple ones. Thus, our

Reminders were successful at increasing children's appropriate clarification requests only.

Research examining the "I don't understand" rule is quite limited with only three published studies to date examining methods via which children's appropriate clarification requests can be increased. One limitation of the past research is that the lengthy, multi-session interventions that increased appropriate clarification requests were also impractical in most formal interview settings (Peters & Nunez, 1999; Saywitz et al., 1999) because of the time it would take to administer them. Moreover, the brief interventions tested in our past research were largely ineffective at helping children to request clarification (Rodriguez Steen & Malloy, 2021). Study 1 expanded upon past research by testing another brief, novel method for increasing such responses and yielded encouraging results. Future research should continue to test ways in which children's appropriate requests for clarification can be bolstered, including expanding the age range tested in the "I don't understand" rule literature to include older children and adolescents. In sum, Study 1 demonstrated that 6- to 11-year-olds are often able to discern when they need clarification in an interview context, shedding light on children's metacognitive development, but may also forget that asking for clarification is an option for them without reminders during an interview.

Second, in our study concerning ADHD diagnosis, executive functioning, and children's ground rule performance and application (Study 2), we found variability in ground rule performance and application, including in which type of interviewer questions prompted ground rule usage. Overall, children performed well on individual ground rule practice questions, but over one third (36.1%) of the children failed to pass

all four of the ground rule practice questions, and the 7-year-olds passed significantly fewer practice questions than the 8-year-olds. In this study, children were asked open-ended invitation, directive, option-posing, and suggestive questions during their interview about a staged event. Children were most likely to use ground rules to respond to suggestive questions and did so primarily by correcting the interviewer. This is not surprising, given that suggestive questions are problematic in nature and several of the suggestive questions asked (e.g., “What color was the hat you put on?” when no hat was put on) included inaccurate clauses that easily lent themselves to children applying the “correct the interviewer” rule. That said, children often “go along with” suggestive questions like these (Ceci & Bruck, 1993; Kulkofsky & Klemfuss, 2008; Roebbers & Schneider, 2005), and it is important to examine which children will correct the interviewer and under what circumstances. Interestingly, and unexpectedly, children’s ground rule performance and applications did not differ based on ADHD diagnosis or children’s working memory and inhibitory control skills. Results of Study 2 add to the current literature regarding individual differences in children’s ground rule practice question performance and subsequent application but also open the door for a myriad of future directions concerning other potential individual differences which have been largely unexplored.

Third, the results of our mock juror study (Study 3) indicate that ground rule applications, especially when they occur multiple times during an interview, may negatively affect how adult fact finders perceive children who are making allegations of sexual abuse. For example, mock jurors perceived the child who applied either the “I don’t know” or “I don’t understand” rule only 1 time more positively (e.g., more credible,

less likely to have intentionally lied) than the child who applied either ground rule 6 times. Study 3 represents an important discovery in the child witness literature and demonstrates that although the ground rules are commonly recommended, introduced, and encouraged during investigative interviews with children, their frequent application may be detrimental to how children's testimony is perceived by others. Of course, Study 3 was not without its limitations, and replication of these findings as well as future work examining other factors regarding the ground rules within the mock juror paradigm is warranted before definitive conclusions can be drawn. We can tentatively suggest that the utility of the ground rules likely outweighs the potential for any negative impacts of their application on children's testimony. However, Study 3 suggests that if a child is applying these rules within their interview or testimony in the courtroom, as they are instructed to do, expert witness testimony describing why children use the ground rules and the research behind them may help offset the potential for adult fact-finders (e.g., judges, jurors) to make misguided judgements regarding the applications. Future research should aim to examine this possibility.

## **5.2 Conclusions**

Given the high stakes of investigative interviews with child witnesses, and the general need for formal interviews to be conducted appropriately across all interview contexts involving children, it is imperative that children receive the support necessary to facilitate their accuracy and success in these novel settings. Support within formal interviews includes setting developmentally appropriate ground rules and empirically assessing whether they are effective, including how mock jurors perceive their application. In the current research, we expanded the field's understanding of interview

ground rules and contributed novel findings to the ground rule and child witness literatures. Results of the current work inform Forensic and Developmental psychological circles including all who question children (e.g., forensic interviewers, doctors, developmental researchers), design interventions for conducting interviews with children, and provide expert testimony regarding the capabilities and limitations of child witnesses. Results also expand our understanding of children's metacognitive abilities. The current thesis outlines the multitude of paths future directions can take regarding interview ground rules which are bound to have implications for investigative interviews with children and thus for facilitating the truth-seeking function of the legal system.

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## Appendices

### Appendix A.

#### A1. Study 1: Parent Consent Form

##### **Online Consent Form to Participate in a Research Study**

**Title of Research Study:** Children's Requests for Clarification

**Name of Principal Investigator (PI):** Dr. Lindsay Malloy

**PI's contact number(s)/email(s):** (905) 721-8668 ext. 5965;  
lindsay.malloy@ontariotechu.ca

**Names(s) of Co-Investigator(s), Faculty Supervisor, Student Lead(s), etc., and contact number(s)/email(s):** Lillian Rodriguez Steen; (905) 721-8668, ext. 3841,  
Lillian.rodriquezsteen@ontariotechu.net

**Departmental and institutional affiliation(s):** Faculty of Social Science and Humanities, Ontario Tech University

**External Funder/Sponsor:** The Society for Research in Child Development (SRCD)

### **Introduction**

You and your child are being asked to take part in a research study entitled Children's Requests for Clarification. Please read the information about the study presented in this form. The form includes details on study's procedures, risks and benefits that you should know before you decide if you would like to take part. You should take as much time as you need to make your decision. You should ask the Principal Investigator (PI) or study team to explain anything that you do not understand and make sure that all of your questions have been answered before signing this consent form. Before you make your decision, feel free to talk about this study with anyone you wish including your friends and family. Participation in this study is voluntary.

This study has been reviewed by the University of Ontario Institute of Technology (Ontario Tech University) Research Ethics Board [15626] on [insert date].

### **Purpose and Procedure:**

The purpose of this study is to learn the best ways to encourage children to request clarification to an adult's questions that are difficult to comprehend or impossible to answer. If you allow your child to participate in the study, your child will learn about health and safety from a research assistant by watching a video of a few brief activities

(e.g., learning how to care for a small, pretend cut drawn on her finger) and will then be asked a series of questions about these activities over Zoom. This study will take approximately 20 to 30 minutes. You and your child have been invited to participate in this study because interviewing children is the best way to determine which interview techniques help children answer adult questions most accurately. We don't want to forget or miss anything that your child says, so we will audio/video record the conversation within the Zoom meeting. The recording will only be heard/viewed by people involved in this research study.

### **Potential Benefits:**

Your child will benefit from participating in the study by learning more about health and safety, and it is expected that your child will have an enjoyable experience. Also, by being in the study, your child may benefit society because the results from this study will be given as advice to people who talk to children, especially those who interview children in formal contexts (e.g., teachers, doctors, lawyers, social).

### **Potential Risk or Discomforts:**

This study involves no more than minimal risk. Your child may not want to answer some questions. Your child will be told that he/she can stop being in the study at any time. If your child seems distressed or anxious, the study will be stopped and your child will be reassured. You may find it uncomfortable to answer some of the items on the questionnaire (e.g., income). You can skip any questions that you do not wish to answer by selecting the "prefer not to answer" option. There may be risks associated with participating in this study via the online meeting platform, Zoom. Our team has taken every step possible to ensure these risks are minimal including setting individual passwords for each Zoom interview, locking down the meeting once your child has joined so no other participants can join, and ensuring we have the latest and most secure version of Zoom.

### **Use and Storage of Data:**

Basic demographic information and information about parenting style and children's behavior and attitudes will be collected from parents. Children's responses to interview questions will be collected from children via video/audio Zoom recordings. In any report of the study results, no information will be included that will make it possible to identify your child. Research records will be stored securely in a locked filing cabinet within a locked laboratory at the University of Ontario Institute of Technology, and electronic files will be stored as encrypted files in a password protected cloud-based storage system which will be accessed via password protected computers. Data will be identified only by a number that is assigned to your child. Only the research team will have access to the data, and it will be used to address our research questions. However, your child's records may be reviewed for audit purposes by authorized University or other agents who will be bound by the same provisions of confidentiality. Your privacy shall be respected. No information about your identity will be shared or published without your permission,

unless required by law. Confidentiality will be provided to the fullest extent possible by law, professional practice, and ethical codes of conduct. Please note that confidentiality cannot be guaranteed while data are in transit over the Internet. Data will be kept indefinitely to potentially allow for follow-up studies. All information collected during this study, including your personal information, will be kept confidential and will not be shared with anyone outside the study unless required by law. You will not be named in any reports, publications, or presentations that may come from this study.

**Confidentiality:**

Your privacy shall be respected. No information about your identity will be shared or published without your permission, unless required by law. Confidentiality will be provided to the fullest extent possible by law, professional practice, and ethical codes of conduct. Please note that confidentiality cannot be guaranteed while data is in transit over the Internet. This research study includes the collection of demographic data which will be aggregated (not individually presented) in an effort to protect your anonymity. Despite best efforts it is possible that your identity can be determined even when data is aggregated.

**Voluntary Participation:**

You and your child's participation in this study is voluntary and you may partake in only those aspects of the study in which you feel comfortable. You may also decide not to be in this study, or to be in the study now, and then change your mind later. You may leave the study at any time. You will be given information that is relevant to your decision to continue or withdraw from participation. Such information will need to be subsequently provided. You may refuse to answer any question you do not want to answer by selecting the "prefer not to answer" option.

**Right to Withdraw:**

If you withdraw from the research project at any time, any data that you have contributed will be removed from the study and you do not need to offer any reason for making this request. Your participation is voluntary, and you can answer only those questions that you are comfortable with answering. The information that is shared will be held in strict confidence and discussed only with the research team. You will be given information that is relevant to your decision to continue or withdraw from participation. Your child is free to participate in the study or stop at any time during the study. Your child's withdrawal at any point will not affect any benefits to which he/she is otherwise entitled. The researcher reserves the right to remove your child from the study without your consent at such time that they feel it is in the best interest of your child. If you or your child withdraw from the research project at any time, any data that you have contributed will be removed from the study and you need not offer any reason for making this request. Results of the analyses

of the anonymized data will be published in group/aggregate form, and it will be impossible to identify individual participants and to withdraw results once they have been published or otherwise disseminated (e.g., via presentations).

**Conflict of Interest:**

There are no real, potential, or perceived conflicts of interest concerning this study. Researchers have an interest in completing this study. Their interests should not influence your decision to participate in this study.

**Compensation, Reimbursement, Incentives:**

At the end of the study, your child will receive a small prize for participating via email and you will receive a \$5 Amazon e-gift card.

**Debriefing and Dissemination of Results:**

Following the completion of the study, your child will be debriefed by the research team. They will be told that sometimes adults ask silly or tricky questions and that it is always okay to ask for clarification if they do not understand something. Results will be published in manuscript form. Data will be presented at the group/aggregate level, and it will not be possible to identify individual participants. If you are interested in learning the results of this study, please contact Dr. Malloy at [lindsay.malloy@ontariotechu.ca](mailto:lindsay.malloy@ontariotechu.ca).

**Participant Rights and Concerns:**

Please read this consent form carefully and feel free to ask the researcher any questions that you might have about the study. If you have any questions about your rights as a participant in this study, complaints, or adverse events, please contact the Research Ethics Board through the Research Ethics Office – [researchethics@ontariotechu.ca](mailto:researchethics@ontariotechu.ca) or 905.721.8668 x. 3693.

If you have any questions concerning the research study or experience any discomfort related to the study, please contact the researcher, Dr. Lindsay Malloy, at (905) 721-8668 ext. 5965 or [lindsay.malloy@ontariotechu.ca](mailto:lindsay.malloy@ontariotechu.ca).

By consenting, you do not give up any of your legal rights against the investigators, sponsor or involved institutions for compensation, nor does this form relieve the investigators, sponsor or involved institutions of their legal and professional responsibilities.

**Consent to Participate:**

1. I have read the consent form and understand the study being described;
  2. I have had an opportunity to ask questions and my questions have been answered. I am free to ask questions about the study in the future;
  3. I understand that audio and video-taping my child will be part of the study process;
- I freely consent to participate** in the research study, understanding that I may discontinue participation at any time without penalty.
- I freely consent for my child to participate** in the research study, understanding that he/she may discontinue participation at any time without penalty.

### **OPTIONAL CONSENT**

I agree to be contacted in the future for possible follow-up studies and to find out more about findings of this study.

- I freely consent to be contacted in the future** for possible follow-up studies and to find out more about findings of this study.

A2. Study 1: Child Assent Form

**ONLINE CHILD ASSENT TO PARTICIPATE IN A RESEARCH STUDY**

**Children's Requests for Clarification**

**WHY ARE YOU DOING THIS STUDY?**

My name is (identify yourself to the child by name). We are asking you to be in a study. A study is when you find out about things. We want to find out what kids say about health and safety.

**HOW MANY OTHERS WILL BE IN THIS STUDY?**

If you want to be in the study, you will be one of 150 kids in this study.

**HOW LONG WILL THE STUDY LAST?**

The study will last about 20 to 30 minutes.

**WHAT WILL HAPPEN IN THIS STUDY?**

If you want to be in this study, you will learn about health and safety and then answer some questions about what you learned online over Zoom.

We don't want to forget or miss anything that you say, so we will make a video of the study in Zoom. The video will only be seen by people involved in this research study.

**CAN ANYTHING BAD HAPPEN TO ME?**

There is very little chance that something in the study will make you feel bad. Sometimes kids decide that they don't like being in the study and that they don't want to answer the questions. That's okay.

**CAN ANYTHING GOOD HAPPEN TO ME?**

You will learn important health and safety skills in the study.

**DO I HAVE OTHER CHOICES?**

You can choose not to be in the study.

**WILL ANYONE KNOW I AM IN THE STUDY?**

Information about you and the video from the study will be kept safe and private. Only people involved in the study will see this information.

**WILL I BE GIVEN ANYTHING FOR PARTICIPATING?**

All kids who do the study get a small prize at the end. You will get a prize even if you decide not to be in the study or that you want to stop.

**WHAT IF I DO NOT WANT TO DO THIS?**

If you don't want to be in this study, you don't have to. Remember, being in this study is up to you and no one will be upset if you don't want to, or if you change your mind and want to stop.

**WHO CAN I TALK TO ABOUT THE STUDY?**

If you have any questions about the research study you may contact Dr. Lindsay Malloy (lindsay.malloy@ontariotechu.ca; 905-721-8668 ext. 5965). If you want to talk with someone about your rights related to being in this research study, you may contact the Research Ethics Office at (905) 721-8668 ext. 3693 or [researchethics@ontariotechu.ca](mailto:researchethics@ontariotechu.ca).

**PARTICIPANT AGREEMENT**

This research study has been explained to me, and I verbally agree to be in this study.

[Research Assistant verbally explains assent form to child and then obtains a verbal assent from the child to be recorded along with the interview online in Zoom]

A3. Study 1: Parent Demographic Questionnaire

**FAMILY DATA FORM**

<b>Date form completed:</b>
<b>Child's name:</b>
<b>Child's date of birth:</b>
<b>Child's place of birth:</b>
<b>Languages spoken at home:</b>

**Ethnic Background of CHILD (please check appropriate response)**

Arab	
Black	
Chinese	
Filipino	
Indigenous (e.g., First Nations, Inuk, Métis)	
Japanese	
Korean	
Latin American	
South Asian (e.g., East Indian, Pakistani, Sri Lankan)	
Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian)	
West Asian (e.g., Iranian, Afghan)	
White (Caucasian)	
Other (please specify)	

**Marital Status of parents/guardians (check one)**

Single	
Married	
Separated	
Divorced	
Widowed	
Partners	

If separated or divorced, who is the custodial parent/guardian? \_\_\_\_\_

<b>Gender (please circle the appropriate response)</b>			
Parent 1:		Parent 2:	
Male	Female	Male	Female
<b>Age</b>			
Parent 1:		Parent 2:	
20-25	26-30	20-25	26-30
31-35	36-40	31-35	36-40
41-45	46 or over	41-45	46 or over

### Education

<b>Degree received (check all that apply)</b>			
Parent 1:		Parent 2:	
No degree, certificate or diploma		No degree, certificate or diploma	
High school graduate		High school graduate	
High school graduate, some post-secondary		High school graduate, some post-secondary	
Post-secondary certificate or diploma		Post-secondary certificate or diploma	
University degree		University degree	
Masters degree		Masters degree	
Ph.D.		Ph.D.	
MD		MD	
JD		JD	

### Occupation/Work Hours

<b>Please provide your job title and a brief description of your occupation</b>	
Parent 1:	Parent 2:
<b>Employment hours outside of the home per week (circle the appropriate response)</b>	
Parent 1:	Parent 2:
0 Hours	0 Hours
1-20 Hours	1-20 Hours
21-40 Hours	21-40 Hours
Over 40 Hours	Over 40 Hours

### Birthplace and Ethnic Background

Place of birth?	
Parent 1:	Parent 2:
Native Language?	
Parent 1:	Parent 2:
Ethnic Background (Please circle one)	
Parent 1: Arab Black Chinese Filipino Indigenous (e.g., First Nations, Inuk, Métis) Japanese Korean Latin American South Asian (e.g., East Indian, Pakistani, Sri Lankan) Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian) West Asian (e.g., Iranian, Afghan) White (Caucasian) Other (please specify)	Parent 1: Arab Black Chinese Filipino Indigenous (e.g., First Nations, Inuk, Métis) Japanese Korean Latin American South Asian (e.g., East Indian, Pakistani, Sri Lankan) Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian) West Asian (e.g., Iranian, Afghan) White (Caucasian) Other (please specify)

### Combined family income (yearly-please check one)

Less than \$15,000	
\$15,000 - \$25,000	
\$25,000 - \$35,000	
\$35,000 - \$45,000	
\$45,000 - \$55,000	
\$55,000 - \$75,000	
\$75,000 - \$100,000	
Over \$100,000	

#### A4. Study 1: Behavior Rating Inventory of Executive Function 2 (BRIEF2)

Please indicate how often each of the following items is true for your child using the following scale: Never, Sometimes, Often

1. My child is fidgety
2. My child resists or has trouble accepting a different way to solve a problem with schoolwork, friends, tasks, etc.
3. When given three things to do, my child remembers only the first or last
4. My child is unaware of how their behavior affects or bothers others
5. My child's work is sloppy
6. My child has explosive, angry outbursts
7. My child does not plan ahead for school assignments
8. My child cannot find things in their room or school desk
9. My child is not a self-starter
10. My child does not think before doing (is impulsive)
11. My child has trouble getting used to new situations (classes, groups, friends, etc.)
12. My child has a short attention span
13. My child has poor understanding of own strengths and weaknesses
14. My child has outbursts for little reason
15. My child gets caught up in details and misses the big picture
16. My child gets out of control more than friends
17. My child gets stuck on one topic or activity
18. My child forgets their own name
19. My child has trouble with chores or tasks that have more than one step
20. My child does not realize that certain actions bother others
21. My child's written work is poorly organized
22. Small events trigger big reactions from my child
23. My child has good ideas but does not get job done (lacks follow through)
24. My child talks at the wrong time
25. My child has trouble finishing tasks (chores, homework, etc.)
26. My child does not notice when their behavior causes negative reactions
27. My child reacts more strongly to situations than other children
28. My child has trouble remembering things, even for a few minutes
29. My child makes careless errors
30. My child gets out of their seat at the wrong times
31. My child becomes upset with new situations
32. My child has trouble concentrating on tasks, schoolwork, etc.
33. My child has poor handwriting
34. My child's mood changes frequently
35. My child has good ideas but cannot get them on paper
36. My child has trouble counting to three
37. My child leaves messes that others have to clean up
38. My child needs to be told to begin a task even when willing

39. My child acts wild or "out of control"
40. My child thinks too much about the same topic
41. My child forgets what they were doing
42. My child does not check work for mistakes
43. Angry or tearful outbursts are intense for my child but end suddenly
44. My child becomes overwhelmed by large assignments
45. My child loses lunch box, lunch money, permission slips, homework, etc.
46. My child needs help from an adult to stay on task
47. My child forgets to hand in homework, even when completed
48. My child has trouble putting the brakes on their actions
49. My child resists change of routine, foods, places, etc.
50. My child has trouble getting started on homework or tasks
51. My child's mood is easily influenced by the situation
52. My child underestimates time needed to finish tasks
53. My child does not bring home homework, assignment sheets, materials, etc.
54. My child cannot find the front door of the home
55. My child does not take initiative
56. My child becomes upset too easily
57. My child starts assignments or tasks at the last minute
58. My child has trouble moving from one activity to another
59. My child has trouble carrying out the actions needed to reach goals (saving money for special items, studying to get a good grade, etc.)
60. My child is disturbed by change of teacher or class
61. My child has trouble organizing activities with friends
62. My child becomes too silly
63. My child leaves a trail of belongings wherever they go

#### A5. Study 1: Health and Safety Video Script

**Daniella:** Hi Julia, my name is Daniella, and I'm going to talk with you about a few ways you can keep healthy and safe. There are five stations: a care of cuts station, a dangers station, a temperature station, a heartbeat station, and a teeth brushing station.

**Draw attention to the box marked "Do Not Touch" and say:** Oh, this isn't supposed to be here. My friend told me she needed to take these toys to a school later. We can't play with them because they're very fragile. I'll just put them off to the side [PLACE BY DANGERS STATION FOR LATER].

#### Care of Cuts:

**Daniella:** Alright Julia, this is the care of cuts station and today we're going to learn how to take care of a small cut or scrape. First, hold out your finger and draw a line on the tip with this red marker. We will pretend this is the cut.

Perfect! First, we need to make sure the pretend cut is clean. Let's use this wipe to keep germs and dirt from getting into the cut, okay? [Give Julia the wipe and have her "clean" her cut]. Let me see you do it!

Great job! Now that you have cleaned your cut, you can put on a bandage to protect the cut and help it heal. You can choose a [Sponge Bob, Toy Story, or Cars] Band-Aid.

[AFTER JULIA CHOOSES THE BAND-AID] Great, Julia let's put the [JULIA'S CHOICE] Band-Aid on your pretend cut. Okay, now that your pretend cut is clean and protected, let's move on to the next station!

#### Dangers:

**Daniella:** This is the dangers station.

We are going to look at some pictures that show some things that aren't very safe. I want you to look really carefully at the pictures and think about **what** is unsafe in the picture.

[SHOW EACH OF THE 3 PICTURES, ONE BY ONE]

Here's the first one. What's unsafe in this picture? [wait for Julia to respond, and then follow up with the next question]

How could you try to fix it to make it safer?

Great job Julia, now let's move on to the next station.

**Mini Secret Keeping Event:**

**On your way to the next station, take out puppets from the “Do Not Touch” box and say:** I know we are not supposed to touch them, but I think it will be okay as long as we are very careful with them since they are fragile.

**Give Julia the doctor and police officer puppets and Daniella puts on the fireman puppet. Break the fireman puppet and say:** Oh no! I broke it! We shouldn't have touched these puppets when we were told not to. I'll just put them away and maybe nobody will notice. Let's have this be our *secret* and not tell anybody that the fireman puppet broke. I might get into trouble if anyone finds out that I broke the puppet! Let's just go on to the next station!!

**Temperature:**

**Daniella:** This is the temperature station.

Today I am going to teach you how to check your temperature. Checking your temperature is an important part of staying healthy. Your body needs to be at the right temperature to feel the best. You can check your temperature by placing the thermometer under your arm and holding it there for 10 seconds. Let's try it! Place the thermometer under your arm and let's count to 10 together.

[COUNT TO 10]

Great job Julia, that's exactly how to check your temperature. Now let's move onto the next station.

**Heartbeat:**

**Daniella:** Okay, Julia, this is the heartbeat station.

Listening to your heartbeat can show you that you are healthy and strong. You can use a stethoscope to listen to your heartbeat, just like a real doctor! All you have to do is hold this part against your heart and listen. Can you try?

Well done Julia, we're almost done! Now let's move onto the last health and safety station.

**Teeth Brushing:**

**Daniella:** This is the teeth brushing station.

Today we are going to learn how to brush our teeth to make sure our teeth are clean and healthy. Here is our tooth brush [PICK UP TOOTH BRUSH] and here is our model of the mouth [PICK UP MONSTER]. I will show you the best way to brush your teeth, then you can have a turn practicing [DEMONSTRATE HOW TO BRUSH TEETH STARTING IN THE BACK OF THE MOUTH AND MOVING ALONG BRUSHING IN SMALL CIRCLES AND BRUSHING THE GUMS AND TONGUE TOO THEN HAND JULIA THE TOOTH BRUSH AND TEETH]. Okay Julia, now it's your turn! Make sure you start in the back and brush in small circles, just like I did... And don't forget to brush the gums and the tongue too!

Well done Julia, thank you for learning how to stay healthy and safe with me today!

A6. Study 1: Health and Safety Interview Questions

*RA Interviewer Name:* \_\_\_\_\_

*Subject #:* \_\_\_\_\_

*Date:* \_\_\_\_\_

**So, like I said, my name is [INSERT RA NAME] and I am a researcher.**

**As you can see, we have a video-recording of our Zoom meeting started. This will record our conversation so I can remember everything you tell me. Sometimes I forget things and the recording allows me to listen to you without having to write everything down.**

**Part of my job is to talk to children about things that have happened to them. I meet with lots of children so that they can tell me the truth about things that have happened to them. So, before we begin, I want to make sure that you understand how important it is to tell the truth.**

**If I say that my shirt is red (or green, a color that you are clearly not wearing) is that true or not true?**

[Wait for an answer, then say:]

**That would not be true, because my shirt is really [black/blue/etc.]. And if I say that I am sitting down now, would that be true or not true [right or not right]?**

[Wait for an answer.]

**It would be [true/right], because you can see I am really sitting down.**

**I see that you understand what telling the truth means. It is very important that you only tell me the truth today. You should only tell me about things that really happened to you.**

[Pause.]

**If I ask a question that you don't understand, just say, 'I don't understand.' Okay?**

[Pause]

**So, if I ask you "What is your gender embodiment?" what would you say?**

[Wait for an answer]

[If the child says, "I don't understand," say:]

**Right. Because "embodiment" is a hard word. So, I would say "Are you a boy or a girl?"**

[Wait for answer]

[If the child offers a GUESS, say:]

***Well, do you know what the word “embodiment” means? When you don’t understand a word, don’t guess -- say that you don’t understand.”***

**Okay, and if I don’t understand what you say, I’ll ask you to explain.**

[Pause.]

**If I ask a question, and you don’t know the answer, just tell me, ‘I don’t know.**

**So, if I ask you, ‘What is my dog’s name?’ what would you say?**

[Wait for an answer.]

[If the child says, “I don’t know,” say:]

**Right. You don’t know, do you?**

[If the child offers a GUESS, say:]

***No, you don’t know because you don’t know me. When you don’t know the answer, don’t guess -- say that you don’t know.”***

[Pause.]

**And if I say things that are wrong, you should tell me. Okay?**

[Wait for an answer.]

**So if I said that you are a 2-year-old girl [when interviewing a 5-year-old boy, pick the wrong age and gender!], what would you say?**

[If the child denies and does not correct you, say:]

***What would you say if I made a mistake and called you a 2-year-old girl [when interviewing a 5-year-old boy, etc.]?***

[Wait for an answer.]

**That’s right. Now you know you should tell me if I make a mistake or say something that is not right.**

[Pause.]

**So if I said you were standing up, what would you say?**

[Wait for an answer.]

**Okay, [INSERT CHILD NAME], now I'm going to ask you some questions about the health and safety video that you just watched.**

**Tell me everything that happened during the health and safety video.**

[Wait for an answer.]

**Tell me more about what happened during the health and safety video.**

[Wait for an answer.]

**Tell me one more thing about the health and safety video.**

[Wait for an answer.]

**Okay, [INSERT CHILD NAME], thank you! Now I've got some more questions to ask you about the health and safety video.**

**\*FOR CHILDREN IN THE REMINDER CONDITION: But before we begin, remember, if I ask a question that you don't understand, just say, 'I don't understand.' Okay?**

[Pause]

**Okay, and if I don't understand what you say, I'll ask you to explain.**

1. Did the girl in the video practice how to safely carry scissors?

**Y N IDK IDU**

2. How many health and safety stations did the girl in the video go to?

**IDK IDU**

3. **What do you think – based on your understanding of time - was either the total length of the time you spent watching the video that we just had you watch a little bit ago while you and I were not talking, in your opinion?**

- a. If child indicates "don't understand": Oh, I'm sorry. That wasn't very clear. How long was the health and safety activity video you just watched?

**IDK IDU**

4. Which Band-aid did the girl in the video choose?

**IDK IDU**

5. **Did she do that?**

- a. If child indicates “don’t understand”: Oh, I’m sorry. That wasn’t very clear. Did the girl in the video learn how to give someone stitches?

**Y N IDK IDU**

6. Did the girl in the video help the scientist find the dangers on some pictures?

**Y N IDK IDU**

7. Which station did the girl in the video go to first?

**IDK IDU**

8. **How did the girl in the video use the glorp on her cut?**

- a. If child indicates “don’t understand”: Oh, I’m sorry. That wasn’t very clear. How did the girl in the video use the wipe on her cut?

**IDK IDU**

9. Did the girl in the video learn how to clean the teeth?

**Y N IDK IDU**

10. **What [COUGH LOUDLY] were there?** If child indicates “don’t understand”: Oh, I’m sorry. That wasn’t very clear. What kinds of dangers pictures were there?

**IDK IDU**

11. Which finger did the girl in the video draw the cut on?

**IDK IDU**

**\*FOR CHILDREN IN THE REMINDER CONDITION:**

**Okay [INSERT CHILD NAME], remember, if I ask a question that you don’t understand, just say, ‘I don’t understand.’ Okay?**

[Pause]

**Okay, and if I don't understand what you say, I'll ask you to explain.**

12. Did the girl in the video learn how to floss her teeth?

**Y N IDK IDU**

13. **Did the girl in the video use the wipe to clean the foothies?**

a. If child indicates "don't understand": Oh, I'm sorry. That wasn't very clear. Did the girl in the video use the wipe to clean her teeth?

**Y N IDK IDU**

14. What was your favorite part about the health and safety video?

**IDK IDU**

15. **Did the girl in the video learn to [MUMBLE]?**

a. If child indicates "don't understand": (Oh, I'm sorry, that wasn't very clear. Did the girl in the video learn to cross the street safely?)

**Y N IDK IDU**

16. Did the girl in the video use a marker for anything?

**Y N IDK IDU**

17. How many healthy fruits and vegetables did ~~you~~ the girl in the video learn about?

**IDK IDU**

18. **Where was it?**

a. If child indicates "don't understand": Oh, I'm sorry. That wasn't very clear. Where was the fake cut?

**IDK IDU**

19. Did the girl in the video check her temperature?

**Y N IDK IDU**

20. **Is it not true that when the girl in the video was looking at the dangers pictures while she was doing the health and safety activity that you just**

**watched, that the pictures of the dangers she saw were not very pretty or colorful?**

- a.** If child indicates “don’t understand”: Oh, I’m sorry. That wasn’t very clear. Were the pictures of the dangers colorful?

**Y N IDK IDU**

21. Where did the scientist go after she told the girl in the video about health and safety?

**IDK IDU**

22. Did the girl in the video listen to her heart beat?

**Y N IDK IDU**

**Okay, [INSERT CHILD NAME], I just have a few more questions for you and then we’re all done!**

**1. The scientist asked the girl in the video not to tell anyone that she broke the puppet. Do you think the girl will tell anyone what happened?**

**Y N IDK IDU**

**2. Why/Why don’t you think the girl will tell someone?**

**IDK IDU**

**3. Were any of my questions silly?**

**Y N IDK IDU**

## A7. Study 1: Debriefing Script

### **Interview RA:**

“Okay [INSERT CHILD NAME], that’s all the questions I have! Thank you so much for talking with me today and for helping me to learn what children think about health and safety.”

“I know some of the questions I asked were silly questions, it’s always a good idea to tell adults that you do not understand their questions if they ask you tricky questions like I did today.”

“Before you head back to your [MOM/DAD] here is a super scientist button for being so helpful today.”

“Do you have any questions for me?” [ANSWER ANY QUESTIONS THE CHILD HAS]

“Okay [INSERT CHILD NAME], have a great day!”

A8. Study 1: Supplemental Tables

**Table 1S**

*Scripted Questions Coding Manual: Categories and Examples*

Coding Category	Coding Subcategory	Coding Rule	Example Responses
Clarification Requests: I Don't Understand	Overall clarification	Did the child request clarification?	N/A
	Explicit clarification request	Did the child say "I don't understand" or something similar including "Pardon," "What did you say?" or any other form of follow-up question?	C: "I don't understand"
			C: "What do you mean?"
			C: "Can you repeat that?"
Repeats question	Did the child repeat the question back verbatim or close to it?	C: "What's a heartbeat?"	
		I: "Where was it?"	
		C: "How many were there?"	
Makes an inference	Did the child make an inference defined as the child inferring or guessing what the interviewer is getting at?	I: "Did she do that?"	
		C: "Like, did she pick a band-aid?"	
Nonverbal request	Did the child make a confused face or otherwise nonverbally show that they didn't understand the question?	C: [looks confused, no verbal response]	
I Don't Know		Did the child say "I don't know" explicitly?	C: "I don't know."
			C: "Well, I'm not really sure"
Answered the Question		Did the child simply answer the question	C: "Yes"
			C: "She just wiped it"

*Note.* "I" denotes interviewer and "C" denotes child.

**Table 2S***Free Recall Open-Ended Questions Coding Manual: Categories and Examples*

Coding Category	Coding Rule	Example Responses
Overall clarification	Did the child request clarification during the free recall questions?	N/A
Free recall prompts	How many free recall prompts did the child receive?	N/A
Explicit clarification request	Did the child say “I don’t understand” or something similar including “Pardon,” “What did you say?” or any other form of follow-up question?	I: “Tell me everything that happened during the health and safety activity,” C: “Do I have to do it in order?”
Repeats question	Did the child repeat the question back verbatim or close to it?	Category was not used
Makes an inference	Did the child make an inference defined as the child inferring or guessing what the interviewer is getting at?	Category was not used
Nonverbal request	Did the child make a confused face or otherwise nonverbally show that they didn’t understand the question?	Category was not used

*Note.* “I” denotes interviewer and “C” denotes child.

**Table 3S***“Were Any of my Questions Silly” Question Coding Manual: Categories and Examples*

Coding Rule	Coding Category	Example Responses
How did the child respond to the “Were any of my questions silly?” question?	No	“Not really.” “Nope.”
	Yes	“Yeah, a few.” “Yes.”
	“I don’t understand” or any other form of requesting clarification (e.g., “Huh,” “What do you mean?”)	“I don’t understand.” “What?”
	“I don’t know” or anything similar (e.g., “I don’t think so,” “I’m not sure”)	“Hmm, I don’t really know.” “I don’t think so”
	Other	“Um, maybe.”

## **Appendix B.**

B1. Study 2: Interview Script

### **Section I. TRUTH/LIES CEREMONY AND RULES OF INTERVIEW**

**(Just record responses to the following questions)**

**If I said that you took your shoes off when you came into this room, would that be TRUE or NOT TRUE?**

**If I asked you ‘What’s in my pocket’ what would you say?**

**So, if I said that you were a *3-year-old girl* (when interviewing a 5-year-old boy etc.), what would you say?**

**If I said that you were STANDING UP, what would you say? (This only works if the child is sitting down, as they should be)**

### **Section II. RAPPORT (PRACTICE IN EPISODIC MEMORY)**

**Now, I want to get to know you better. Tell me about things you like to do.**

**Tell me about things you don’t like to do.**

**You did a great job telling me everything you remember. It is VERY IMPORTANT that you tell me EVERYTHING you remember about things that have REALLY happened to you.**

### **Section III. FREE RECALL ABOUT STAGED EVENT**

**Now that I know you a little better, let me tell you why I've come to talk to you today. I heard that a lady/man talked to you about health and safety. I wasn't there but I'd like to know ALL about what happened. Tell me everything that happened from the beginning to the end as best you can.**

### **Section V. DIRECT/SPECIFIC QUESTIONS**

**Now I have some other questions about what happened when the lady talked to you about health and safety.**

1. What did the lady/man look like who taught you about health and safety?
2. Did someone try to take your doctor's coat off in the room?
3. What was the FIRST station that you went to?
4. Did someone take a picture of you with a cell phone?
5. How many stations were there?
6. Did anyone else come into the room when you learned about health and safety?
7. In the CARTOON, did Arthur cut his finger?
8. Why did someone get upset when you learned about health and safety?

9. What was the LAST station that you went to?
10. Did you break one of the puppets?
11. Where did you take the lady's temperature?
12. Did the lady/man wear a doctor's hat when you learned about health and safety?

### **Section VI. SUGGESTIVE QUESTIONS**

**I've asked you lots about what happened when the lady/man talked to you about health and safety. I just need to ask you a few more questions about that now, just to make sure I really understand what happened.**

1. When you drew the pretend cut on your leg, did you use a red pen or a blue pen?
2. You took the lady's temperature in her ear, right?
3. Did you put one of the puppets on?
  - a. Did you put one of the puppets on? (skeptical tone)
4. Why did the lady give you a hug in the room?
5. The lady showed you pictures of some things that are dangerous, right?
6. What color was the hat you put on?
7. Did anything bad happen in the room?

- a. Did anything bad happen in the room? (skeptical tone)
- 
- 8. You chose a (incorrect) Band-Aid, didn't you?
  - 9. When the lady broke the puppet, was she happy or mad?
  - 10. You started with the (incorrect) station, didn't you?
  - 11. Did you try to listen to your heart rate on your stomach?
    - a. Did you try to listen to your heart rate on your stomach? (skeptical tone)
  - 12. The other lady/man who came into the room wanted to borrow the puppets, right?

**Section VII. ENDING THE INTERVIEW**

**You've told me lots of things today and I want to thank you for helping me.**

- 1. Is there anything else you want to tell me?**
- 2. Are there any questions you want to ask me?**

B2. Study 2: Supplemental Tables

**Table 1S**

*Ground Rule Application Coding Categories and Examples*

Ground Rule	Coding Category	Coding Rule	Example Responses
Clarification Requests: I Don't Understand	Explicit clarification request	Did the child say "I don't understand" or something similar including "Pardon," "What did you say?" or any other form of follow-up question?	C: "I don't understand" C: "What do you mean?" C: "Can you repeat that?" C: "What's a heartbeat?"
	Repeats question	Did the child repeat the question back verbatim or close to it?	I: "How many stations were there?"  C: "How many stations were there?"
	Makes an inference	Did the child make an inference defined as the child inferring or guessing what the interviewer is getting at?	I: "I want you to tell me everything that's happened to you from the beginning right to the end."  C: "With the health and safety?"
	Nonverbal request	Did the child make a confused face or otherwise nonverbally show that they didn't understand the question?	C: [looks confused, no verbal response]
Admitting Ignorance: I Don't Know	I don't know	Did the child say "I don't know" explicitly?	C: "I don't know."
	I don't remember	Did the child say "I don't remember" explicitly?	C: "We did activities, a few activities and we looked at what was dangerous. I don't

	I forgot	Did the child say “I forgot” or “I forget” explicitly?	remember anything else.” C: “Um. I forgot.”
	Uncertainty	Did the child indicate uncertainty in a different way?	C: “Um. I’m not really sure, it could have been a couple activities.”
Correcting the Interviewer	Corrected the interviewer	Did the child correct the interviewer’s mistake?	I: “Did you break one of the puppets?” C: “Yes, well I didn’t do it, it was that lady.”

---

*Note.* “I” denotes interviewer and “C” denotes child.

**Table 2S***Descriptive Statistics for Ground Rule Practice Question Performance by Age*

Practice Question	Age Group	% Children who Passed	<i>M</i>	<i>SD</i>
I Don't Know	7-year-olds	51.7%	.54	.51
	8-year-olds	87.5%	.88	.34
Truth v. Lie	7-year-olds	86.2%	.86	.35
	8-year-olds	96.9%	.97	.18
First Correct the Interviewer	7-year-olds	96.6%	.89	.31
	8-year-olds	93.8%	.94	.25
Second Correct the Interviewer	7-year-olds	86.2%	.86	.35
	8-year-olds	93.8%	.94	.25
Total Correct the Interviewer	7-year-olds	86.2%	.86	.35
	8-year-olds	93.8%	.94	.25
Total Across all Questions	7-year-olds	44.8%	3.10	1.01
	8-year-olds	81.3%	3.72	.68

**Table 3S***Sum Ground Rule Applications by Trigger Question*

Ground Rule	Trigger Question	<i>M</i>	<i>SD</i>
I Don't Understand	Open-ended invitations	.98	1.30
	Directive question	1.13	1.38
	Option-posing questions	.72	1.31
	Suggestive questions	1.62	1.74
Admitting Ignorance	Open-ended invitations	3.60	2.51
	Directive questions	2.00	1.47
	Option-posing questions	.26	.54
	Suggestive questions	1.18	1.18
Correct the Interviewer	Open-ended invitations	.00	.00
	Directive questions	.15	.36
	Option-posing questions	.07	.25
	Suggestive questions	4.48	1.78

## Appendix C.

C1. Study 3: Consent Form

### **Consent Form to Participate in a Research Study**

**Title of Research Study:** Adult Perceptions of Child Witnesses

**Name of Principal Investigator (PI):** Dr. Lindsay Malloy

**PI's contact number(s)/email(s):** (905) 721-8668 ext. 5965; lindsay.malloy@uoit.ca

**Names(s) of Co-Investigator(s), Faculty Supervisor, Student Lead(s), etc., and contact number(s)/email(s):** Dr. Lindsay Malloy, Lillian Rodriguez Steen; (905) 721-8668, ext. 3841, Lillian.rodriquezsteen@ontariotechu.ca

**Departmental and institutional affiliation(s):** Faculty of Social Science and Humanities, Ontario Tech University

**External Funder/Sponsor:** None

### **Introduction**

You are being asked to take part in a research study entitled **Adult Perceptions of Child Witnesses**. Please read the information about the study presented in this form. The form includes details on study's procedures, risks, and benefits that you should know before you decide if you would like to take part. You should take as much time as you need to make your decision. You should ask the Principal Investigator (PI) or study team to explain anything that you do not understand and make sure that all of your questions have been answered before signing this consent form. Before you make your decision, feel free to talk about this study with anyone you wish including your friends and family. Participation in this study is voluntary.

This study has been reviewed by the University of Ontario Institute of Technology (Ontario Tech University) Research Ethics Board [insert REB assigned #] on [insert date].

### **Purpose and Procedure:**

You have been invited to participate in this study because our team is investigating how jury eligible adults perceive child witnesses. Should you choose to participate, you will be one of 600 participants participating in the current study. If you participate in the study, you will be asked to read an investigative interview conducted with an alleged child sexual abuse victim and will then be asked a series of questions about this interview. Studies that examine adult perceptions of child witnesses typically follow a

procedure similar to the one used in this study. This study will take approximately 30 minutes.

**Potential Benefits:**

There are no direct benefits to participating. However, you may benefit society as the results from this study will be used to inform the legal system about jurors' perceptions of child witnesses which may lead to reforms.

**Potential Risk or Discomforts:**

Although this study involves no more than minimal risk, you will be asked to read a detailed and graphic testimony of a child describing sexual abuse. You may find it upsetting to read about a child describing sexual abuse. You may find it uncomfortable to answer some of the items on the questionnaires (e.g., about your income). However, you can stop participating in the study at any time. You can also skip any questions that you do not wish to answer simply by selecting the "prefer not to answer" option provided for each question. At the end of the study, you will be debriefed and information about relevant resources will be provided should you have questions or concerns. Should you wish to stop participating due to the subject matter discussed in the study, resources can be provided to assist you should you need support.

**Use and Storage of Data:**

Basic demographic information and perceptions of the interview will be collected via questionnaire. In any report of the study results, no information will be included that will make it possible to identify you. Research records will be stored securely in a locked filing cabinet within a locked laboratory at Ontario Tech University, and electronic files will be stored as encrypted files in a password protected cloud-based storage system which will be accessed via password protected computers. Data will be identified only by a number that is assigned to you. Only the research team will have access to the data, and it will be used to address our research questions. However, your records may be reviewed for audit purposes by authorized University or other agents who will be bound by the same provisions of confidentiality. Your privacy shall be respected. No information about your identity will be shared or published without your permission, unless required by law. Confidentiality will be provided to the fullest extent possible by law, professional practice, and ethical codes of conduct. Please note that confidentiality cannot be guaranteed while data are in transit over the Internet. Data will be kept indefinitely to potentially allow for follow-up studies and in accordance with the practices of open and transparent science. All information collected during this study, including your personal information, will be kept confidential and will not be shared with anyone outside the study unless required by law. You will not be named in any reports, publications, or presentations that may come from this study.

**Confidentiality:**

Your privacy shall be respected. No information about your identity will be shared or published without your permission, unless required by law. Confidentiality will be provided to the fullest extent possible by law, professional practice, and ethical codes of conduct. Please note that confidentiality cannot be guaranteed while data is in transit over the Internet. This research study includes the collection of demographic data which will be aggregated (not individually presented) in an effort to protect your anonymity. Despite best efforts it is possible that your identity can be determined even when data is aggregated.

**Voluntary Participation:**

Your participation in this study is voluntary and you may partake in only those aspects of the study in which you feel comfortable. You may also decide not to be in this study, or to be in the study now, and then change your mind later. You will be given information that is relevant to your decision to continue or withdraw from participation.

You may refuse to answer any question you do not want to answer by selecting the “prefer not to answer” option provided for each question.

**Right to Withdraw:**

If you withdraw from the research project at any time, any data that you have contributed will be removed from the study and you do not need to offer any reason for making this request. Your participation is voluntary, and you can answer only those questions that you are comfortable with answering. The information that is shared will be held in strict confidence and discussed only with the research team. You can decide to drop out of the study at any time by closing your browser. You will not be able to withdraw your data after you have submitted your survey because we will not be able to identify you. However, you can decide to simply close your browser. Results of the analyses of the anonymized data will be published in group/aggregate form, and it will be impossible to identify individual participants and to withdraw results once they have been published or otherwise disseminated (e.g., via presentations).

**Conflict of Interest:**

Researchers have an interest in completing this study. Their interests should not influence your decision to participate in this study.

**Compensation, Reimbursement, Incentives:**

Upon completion of the study, you will receive compensation in the amount of \$2.00 via Amazon Mechanical Turk. As is common practice, and to protect the integrity of the data, this payment will not be dispersed if the data are not of reasonable quality (e.g., if you

fail multiple simple, straight-forward attention checks such as “Select 2 for this item”) or if you fail to complete the survey. Remember that you can select “prefer not to answer” to any questions that you do not wish to answer.

**Dissemination of Results:**

Results will be published in manuscript form. Data will be presented at the group/aggregate level, and it will not be possible to identify individual participants. If you are interested in learning the results of this study, please contact Dr. Malloy at [lindsay.malloy@uoit.ca](mailto:lindsay.malloy@uoit.ca) after January, 2021.

**Participant Rights and Concerns:**

Please read this consent form carefully and feel free to ask the researcher any questions that you might have about the study. If you have any questions about your rights as a participant in this study, complaints, or adverse events, please contact the Research Ethics Office at (905) 721-8668 ext. 3693 or at [researchethics@uoit.ca](mailto:researchethics@uoit.ca).

If you have any questions concerning the research study or experience any discomfort related to the study, please contact the researcher, Dr. Malloy, at (905) 721-8668 ext. 5965 or [lindsay.malloy@uoit.ca](mailto:lindsay.malloy@uoit.ca).

By signing this form, you do not give up any of your legal rights against the investigators, sponsor or involved institutions for compensation, nor does this form relieve the investigators, sponsor or involved institutions of their legal and professional responsibilities.

**Consent to Participate:**

1. I have read the consent form and understand the study being described.
2. [If applicable] I have had an opportunity to ask questions and my questions have been answered. I am free to ask questions about the study in the future.
3. I freely consent to participate in the research study, understanding that I may discontinue participation at any time without penalty. A copy of this Consent Form has been made available to me.

I agree

C2. Study 3: Demographics Questionnaire

**Demographics Questionnaire**

Please provide the following information:

1. What is your gender?      Male      Female      Other      Prefer not to answer

2. Age: \_\_\_\_\_ years

3. Are you of Hispanic, Latinx, or Spanish origin?

            Yes              No              Prefer not to answer

4. Race (check all that apply):

\_\_\_\_\_ Aboriginal (e.g., Inuit, Métis, North American Indian)

\_\_\_\_\_ American Indian/Alaskan Native

\_\_\_\_\_ Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)

\_\_\_\_\_ Black (e.g., African, Haitian, Jamaican, Somali)

\_\_\_\_\_ Chinese

\_\_\_\_\_ Filipino

\_\_\_\_\_ Japanese

\_\_\_\_\_ Korean

\_\_\_\_\_ Latin American

\_\_\_\_\_ South Asian (e.g., Sri Lankan, Pakistani, Indian, Bengali)

\_\_\_\_\_ South East Asian (e.g., Vietnamese, Indonesian)

\_\_\_\_\_ White (Caucasian)

\_\_\_\_\_ Other \_\_\_\_\_

5. What is your highest degree earned? (Check all that apply)

No degree, certificate or diploma	
High school graduate	
High school graduate, some post-secondary	
Post-secondary certificate or diploma	
University degree	
Masters degree	
Ph.D.	
MD	
JD	

6. What is your occupation?

7. What is your yearly income? (please check one)

Less than \$15,000	
\$15,000 - \$25,000	
\$25,000 - \$35,000	
\$35,000 - \$45,000	
\$45,000 - \$55,000	
\$55,000 - \$75,000	
\$75,000 - \$100,000	
Over \$100,000	

8. Have you ever served on a jury in the United States or Canada?

Yes                  No

9. Do you have children?

Yes                  No

C3. Study 3: Supplemental Materials

**Supplemental Materials**

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**Table 1S***Perceptions Questionnaire*

Question	Response Type
How accurate was the child?	Likert-Scale, 1 to 7
How credible was child?	Likert-Scale, 1 to 7
How believable was the child?	Likert-Scale, 1 to 7
How guilty is alleged perpetrator?	Likert-Scale, 1 to 7
How confident are you in the degree of guilt of the alleged perpetrator?	Likert-Scale, 1 to 7
How likely is it that the child was truthful with the interviewer?	Likert-Scale, 1 to 7
How likely is it that the child understood the questions being asked?	Likert-Scale, 1 to 7
How likely is it that the child recognized the degree of seriousness of the situation?	Likert-Scale, 1 to 7
How much sympathy do you feel for the child?	Likert-Scale, 1 to 7
How likely is it that the child intentionally lied to the interviewer during the interview?	Likert-Scale, 1 to 7
How intelligent was the child?	Likert-Scale, 1 to 7
How suggestible was the child?	Likert-Scale, 1 to 7
How likely is it that the child understood what their statements would be used for?	Likert-Scale, 1 to 7
How consistent was the child during the interview?	Likert-Scale, 1 to 7
How competent was the child?	Likert-Scale, 1 to 7
How much weight should a jury give the child's testimony?	Likert-Scale, 1 to 7
How age appropriate were the questions asked in the interview?	Likert-Scale, 1 to 7
How fair was the interview?	Likert-Scale, 1 to 7
How cooperative was the child?	Likert-Scale, 1 to 7
How reluctant was the child to talk to the interviewer?	Likert-Scale, 1 to 7
Based on the evidence provided by the child, would you convict the alleged perpetrator?	Dichotomous, Yes/No
Do you think the child in the transcript gave an accurate and honest account of what happened to her?	Dichotomous, Yes/No
What information led you to decide to/not to convict the alleged perpetrator?	Open-Ended
What was your opinion of the child in the transcript?	Open-Ended
How old was the child in the transcript you read?	Manipulation Check

Did the child say "I don't understand," or ask for clarification to any interview questions by saying "What do you mean?" "I don't get it," or something similar? Manipulation Check

Please select the number "5" from the available options for this question. Attention Check

Realistically, we know that some respondents do not pay close attention to the interview transcript or to the questions about the interview transcript. This affects the quality of our data. Please select one of the following honestly. Your answer is confidential. It will not affect whether you receive payment and will not affect any rating given to you for your work. Did you pay attention and answer honestly? Attention Check

---

**Table 2S***Open Ended Response Coding Categories and Examples*

Question	Coding Category	Example Response
What information led you to decide to/not to convict the alleged perpetrator?	Child was not credible/honest	“The inconsistency of the answers”
	Child was credible/honest	“There were no contradictions in her testimony”
	Not enough evidence	“I would need more evidence”
	Enough evidence	“The witness statement from the child”
	Not enough detail	“I feel like she couldn’t recall many details. I wasn’t convinced beyond a reasonable doubt”
	Enough detail	“The detailed description of the sexual acts”
	Perpetrator specific	“If even half of what the child said is true he is clearly in the wrong and should be punished”
What was your opinion of the child in the transcript?	Other	“I don’t think it’s fair”
	Emotional response towards the Child	“I felt very sorry for her”
	Emotional response of the child	“She was scared, nervous, and embarrassed”
	Child was not credible/honest	“The child was told what to say by someone before the interview”
	Child was credible/honest	“My opinion is that the child was telling the truth in the transcript”
	Overall negative perception	“The child was not intelligent enough to handle a case like this”
	Overall positive perception	“Very intelligent”
	Uncertainty	“I can’t say exactly”
Other	“A typical child”	

## **Supplementary Coding and Analyses for Open-Ended Questions**

Two coders scored responses from the open-ended “What information led you to decide to convict/not convict the alleged perpetrator” question into the following 8 categories: (1) Child Not Credible/Honest, (2) Child Credible/Honest, (3) Not Enough Evidence, (4) Enough Evidence, (5) Not Enough Details, (6) Enough Details, (7) Perpetrator Specific, or (8) Other (see Table 3). Two coders also scored the open-ended question, “What was your opinion of the child in the transcript?” into the following 9 categories: (1) Emotional Response Towards the Child, (2) Emotional Response of the Child, (3) Child Not Credible/Honest, (4) Child Credible/Honest, (5) Negative Perception of the Child, (6) Positive Perception of the Child, (7) Expressed Uncertainty, (8) Abuse Specific, or (9) Other (see Table 3). Responses to both questions were coded dichotomously where 0 = not present and 1 = present; thus, participant responses could be coded into multiple categories. The exception to this was the “Other” category, which was only scored as “present” if the participant’s response did not fit into any other category.

The two coders first scored a subset of the responses (20%,  $n = 154$ ) independently to assess inter-rater reliability. The mean Cohen’s Kappa across all categories was .903, and ranged from .663 to 1.0 (Cohen et al., 2003). Although percent agreement for the lowest reported Cohen’s Kappa (.663) was very high (98.6%), there was little variability for this code as it was only used twice in the reliability subset. All discrepancies were resolved through discussion, and the remaining open-ended responses were divided between the two coders.

**Descriptive statistics.** Regarding the open-ended question “What information led you to decide to/not to convict the alleged perpetrator?,” participants who endorsed conviction largely viewed the child as credible/honest (35.7%,  $n = 213$ ) or cited that the child provided enough details in her testimony for them to make a pro-prosecution decision (35.9%,  $n = 214$ ). Participants who endorsed conviction also cited that enough evidence was presented in the transcript (13.6%,  $n = 81$ ), or that something specific to the perpetrator drove their decision (13.3%,  $n = 79$ ). Participants who did not endorse conviction largely cited a lack of evidence (39.6%,  $n = 44$ ) or details (39.6%,  $n = 44$ ) provided by either the child or in the transcript (e.g., “Need more information”), with relatively few participants indicating that the child was not credible/honest (27.9%,  $n = 31$ ).

Open-ended responses to the “What was your opinion of the child in the transcript?” question indicated that participants largely responded in terms of how the child must have been feeling (e.g., scared, shy, embarrassed, etc.) with 35.2% of participants ( $n = 252$ ) providing a response coded into our Emotional Response of Child category. A substantial proportion of participants also viewed the child as credible/honest (31.3%,  $n = 224$ ) while 19.1% ( $n = 137$ ) gave a response indicating how the transcript made them feel (e.g., expressed sympathy, anger, etc.) or gave a response coded as Positive Perception of Child (e.g., said the child was smart, cooperative, or nice) (16.2%,  $n = 116$ ). Very few participants viewed the child as not credible or dishonest (7.1%,  $n = 51$ ), perceived the child negatively (e.g., said the child was not intelligent) (2.7%,  $n = 19$ ), specifically mentioned that the child was a victim of abuse (2.2%,  $n = 16$ ), or expressed

uncertainty or that they did not know enough to give an opinion of the child (3.5%,  $n = 25$ ).

## Example Transcript

### 6-year-old, applies “I don’t understand” rule 6-times

**Age:** 6

**Gender:** Female

Case Notes: Child alleges multiple incidents of sexual abuse. Suspect is the live-in boyfriend of the child’s mother. Suspect is also under investigation for allegedly stabbing the child’s mother. The case is ongoing.

**“I” indicates statements made by the interviewer, “C” indicates statements made by the child.**

I: So as you can see we have a video camera and microphones here okay. And those are the microphones up there look. Okay they will record our conversation so I can remember everything that you tell me alright? Sometimes I forget things and the recorder allows me to listen to you without having to write everything down.

C: Yeah.

I: So part of my job is to talk to children and young people about things that have happened to them and I meet with lots of young people so they can tell me the truth about things that have happened to them.

C: Yeah.

I: Okay. And it’s very important that you tell me why A (male’s name) has brought you here today. And if you try and do that from the beginning to the end.

C: Okay then. Erm - there’s this man called B (male’s name) and he stabbed my mum but that’s not why I’m here I don’t think. And erm - when I was about erm five or six something like that wasn’t it erm - every time my mum went out he used to make me do really disgusting things to him like touch his parts and do everything else to him. And erm he used to make me do that to him every night erm when my mum went out. And erm - he used to keep doing it and erm - he told me not to tell my mum so I didn’t tell my mum. And - and he just kept doing that until I went in to care I think - yeah - until we moved to Q E Way (address), yeah.

I: You'll see me make some notes so I can remember what you say.

C: Yeah okay.

I: Okay. (Long pause) You said erm when mum was out he made you touch his parts?

C: Yeah.

I: Think back to a time that you can remember.

C: Mmm.

I: Okay. Perhaps the last time, and tell me everything about that?

C: What do you mean?

I: If you can remember.

C: Erm\\

I: \\Think back to the last time and tell me everything about that time?

C: I think the last time was either after my mum had been stabbed and - or I think it was before or after. And erm - he - before I went to live at Q E Way (address) erm - he made me do things to him like every other night. But erm he said that erm I think erm (pause) he made me do the same things like I did every single day erm before we moved to Q E Way (address).

I: You said that he made you touch his parts?

C: Yeah I did.

I: Tell me everything about touching his parts?

C: Erm - okay. Erm - he used to make me touch his parts. Erm - and he used to make me suck his parts. Erm - and just do what ever was possible with doing with his parts.

I: Right. So I really - I need to understand exactly what all of that means okay? Tell me more about what you mean by do whatever is possible with his parts?

C: I don't understand the question.

I: You said earlier didn't you erm do whatever is possible, he made you do whatever is possible with his parts?

C: Yeah.

I: I need you to explain to me what that means, just exactly what happened?

C: Well like erm touch it and suck it and erm (pause) I think that was just what he made me do and things like erm (pause) like touching him yeah? And erm - he used to make me do horrible things like that and sometimes he used to make me do it for ages because erm the only way he made me do it was because I was about five or six and I used to - every time I used to cry I used to have my doll and he used to take it off me and - and say something like if you don't do this then you're not getting my doll back. So I had to do the things that he told me to do to his part.

I: Yeah. Have we got another word for parts? What do you mean by parts?

C: His privates.

I: His privates. Okay. How did you suck his privates?

C: I don't understand.

I: Tell me everything you remember about sucking his privates?

C: Well I was about - I was about the height of where his privates was and erm he used to make me touch 'em and suck 'em and do everything else to him. Erm - and he was standing up and erm - he - every time I stopped he said erm something like carry on and so I had to.

I: And then what would happen?

C: And then erm he'd still make me do it and if he didn't - like if he heard my mum come in he would just get dressed and give me my doll back. But every - every time my mum used to go out he used to take me in to the bedroom.

I: Okay, tell me everything about erm - his privates?

C: I'm not sure what you mean.

I: Erm - what - say what his privates looked like erm.

C: Well (sigh) it was big erm - and erm - it used to stick out every time I used to do it to his privates and erm - and basically that's what it looked like.

I: Okay. And did he take all of his clothes off or only some of this clothes off?

C: I don't really understand.

I: Think back to those times and tell me more about him taking his clothes off?

C: Well he used to - I don't think he wore any shoes when he was walking around and he used to take his trousers off and put them on the floor and then he used to take his top off and his underwear off. And erm - he used to take my doll off me and then he told me to do all the things to him.

I: Right. And you said mum wasn't there?

C: Yeah.

I: Do you know where mum had gone?

C: Erm - no. Sometimes she said that she was just nipping to the shop.

I: And you said that you thought it was before or after him stabbing mum?

C: Yeah.

I: Okay. Did these things happen a long time ago or a short time ago?

C: I don't know what you mean.

I: Like whose class you were perhaps in at school or? So that we - so that we can understand when these things happened?

C: At the school - well I was at L (school's name) and I was only five or six so I probably would have been in the infants. I can't remember any of the teachers' names 'cos I don't go there any more, but C (female's name) does. Erm - and I used to be in the - there's a big building and there's like a small building that all the little children go in for like - and they play like with the nursery. And - but I can't remember whose class I was in.

I: Right, that's okay, that's alright, 'cos you remember don't you I told you if you can't remember something to tell me?

C: Yeah.

I: Right. (Long pause) Just so that I understand properly.

C: Yeah.

I: Tell me everything that you can remember - if you think back to that time okay - tell me everything you can remember about sucking his privates?

C: Well (sigh) he was - I was standing there and he was in front of me and erm - first of all I used to touch it and then he used to make me suck it all over and it was horrible. Erm - and he just said when I stopped carry on. And then I just had to carry on.

I: And then what would happen?

C: Well he wouldn't know when my mum would come in, he'd just hear the door. Erm - he'd just make me do the same things like touch it and suck it and everything until he heard the door. Or until either C (female's name) or B (male's name) knocked on the door or something.

I: Right, okay. Okay. What I'm going to do now is just go out of the room for two minutes with Iv (social worker's name).

C: Yeah.

I: Okay and just leave you for a little while on your own okay?

C: Okay.

I: And that's just so that we can go over erm - me and Iv (social worker's name) what we've missed out. So we make sure we've asked you everything that you can remember.