How do Leading Questions Impact Children with an Intellectual Disability?

By

Rachel Parsons, BA, Postgraduate Diploma Psychology

Submitted in partial fulfilment of the requirements for the degree of Doctor of Psychology (Forensic)

Deakin University
March, 2013
I am the author of the thesis entitled

How do Leading Questions Impact Children with an Intellectual Disability?

submitted for the degree of Doctorate Psychology (Forensic)

This thesis may be made available for consultation, loan and limited copying in accordance with the Copyright Act 1968.

'I certify that I am the student named below and that the information provided in the form is correct'

Full Name: ................................................Rachel Parsons........................................

Signed: ......................................................... Signature Redacted by Library

Date: .........................................................August 5, 2013...........................................
I certify that the thesis entitled:

**How do Leading Questions Impact Children with an Intellectual Disability?**

submitted for the degree of:

**Doctor of Psychology (Forensic)**

is the result of my own work and that where reference is made to the work of others, due acknowledgment is given.

I also certify that any material in the thesis which has been accepted for a degree or diploma by any university or institution is identified in the text.

'I certify that I am the student named below and that the information provided in the form is correct'

Full Name ..........................................................Rachel Parsons ...........................................

Signed .............................................................

Date .....................................................................March 7, 2013 .................................
Acknowledgments

I wish to extend my sincere gratitude and appreciation to the following individuals for their contribution to the completion of my thesis. First and foremost I would like to thank my supervisor, Dr. Belinda Guadagno, for her guidance and support throughout the duration of my studies. Thank you for your continued belief in me, as if it was not for your encouragement five years ago, I would never have thought I was able to complete my Doctoral degree. Thank you also to Dr. Carolyn Hughes-Scholes who offered important feedback in the final drafting of the chapters of this thesis and Associate Professor Mark Stokes for providing consultation on the statistical analyses for this research.

This research would not have been possible without the willing participation of the primary schools, principals, teachers, parents/carers, and most importantly the children. Thank you particularly to the schools for their participation in this project but more importantly for their interest and belief in the merits of this work. Further, I would like to acknowledge all those people who assisted in the co-ordination and organisation of this project, notably Dr. Rita Cauchi and Christine Williams for staging the Deakin Activities events. Special thanks also to Annemarie Hindle for assisting with the interviews, data entry and for completing the reliability coding. Your ongoing assistance and dedication to this research has been invaluable.

Most importantly, my deep appreciation goes to my beautiful friends and family who have supported and encouraged me in so many ways throughout this long process. My sincerest gratitude goes to my parents and
brother, for your constant love, support and unfailing belief in me. Thank you to all my friends and family who have supported me through the difficult times and have shared in my achievements and successes.

Finally, to my fiancé Ben. Words cannot express the love and appreciation I have for the various ways in which you have supported and encouraged me over this long journey. Thank you for your unwavering belief and faith in my ability to complete this even when I doubted my own abilities. Thank you for all the sacrifices you have made to enable me to achieve this goal. Thank you for sitting next to me on the late nights pretending to work and for cooking me breakfast in the early mornings. Thank you for helping me to keep things in perspective and remaining positive when that felt immensely difficult. But most importantly, thank you for not allowing this all consuming thesis to stand in the way of a proposal!
Table of Contents

Acknowledgments........................................................................................................... iv
List of Tables .................................................................................................................... ix
List of Figures .................................................................................................................. xi
Abstract ............................................................................................................................. xii

CHAPTER 1 - INTRODUCTION .................................................................................. 1

CHAPTER 2 – INVESTIGATIVE INTERVIEW PRACTICE
WITH CHILDREN AND THE USE OF LEADING
QUESTIONS ............................................................................................................... 12

2.1 Substantive Phase of an Interview ................................................................. 15

2.1.2 Leading Questions ......................................................................................... 19

2.1.2.1 Misleading Questions ............................................................................... 22

2.1.2.2 Suggestive Questions ............................................................................... 25

2.1.2.3 Presumptive Leading Questions ............................................................... 25

2.1.2.4 Content- and Temporal-Leading Questions ........................................... 27

2.2 Summary .................................................................................................................. 28

CHAPTER 3 – THE EFFECT OF DIFFERENT TYPES OF
QUESTIONS ON THE RECALL OF CHILDREN WITH AN
INTELLECTUAL DISABILITY .............................................................................. 30

3.1 Overview of the Results of Past Research ......................................................... 31

3.2 Methodological Limitations of Prior Studies...................................................... 32

3.2.1 The Use of Inappropriate Control Groups and
Classification of Intellectual Disability ................................................................. 32

3.2.2 The Variation in the Use of Leading Question Types................................. 34

3.3 Recent Research Developments........................................................................... 35

3.4 The Rationale for Exploring the Impact of Leading
Questions on Children’s Recall Following a Repeated Event............................... 38
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1.2 Avoiding the Use of Presumptive Questions</td>
<td>134</td>
</tr>
<tr>
<td>7.1.2.1 The Types of Errors Elicited by Presumptive Leading Questions</td>
<td>135</td>
</tr>
<tr>
<td>7.1.2.2 Onus on the Child to Explicitly Refute the Incorrect Information Presumed within Presumptive Leading Questions</td>
<td>137</td>
</tr>
<tr>
<td>7.1.3 Directions for Future Research and Practice</td>
<td>139</td>
</tr>
<tr>
<td>7.2 Understanding the Impact of Temporal-Leading Questions</td>
<td>140</td>
</tr>
<tr>
<td>7.3 Minimising the Effect of a Leading Intervening Interview on a Subsequent Best-Practice Interview</td>
<td>142</td>
</tr>
<tr>
<td>7.4 Conclusion</td>
<td>145</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>147</td>
</tr>
<tr>
<td>Appendix A</td>
<td>168</td>
</tr>
<tr>
<td>Script of the First Occurrence of the Deakin Activities Event</td>
<td>168</td>
</tr>
<tr>
<td>Appendix B</td>
<td>173</td>
</tr>
<tr>
<td>Version 1 of the Biasing Interview</td>
<td>173</td>
</tr>
<tr>
<td>Appendix C</td>
<td>176</td>
</tr>
<tr>
<td>Memory Recall Interview Protocol</td>
<td>176</td>
</tr>
</tbody>
</table>
List of Tables

Table 5.1 Instantiations of the Main Memory Items of the Deakin Activities Events.............................................................. 71
Table 5.2 Examples of Leading Questions Contained within the Interview................................................................. 73
Table 5.3 GEE Results for Likelihood of Assent Response to Leading Questions Within each Group Across Question Type....................... 81
Table 5.4 GEE Results for Response Completeness (Total Details Reported) Within each Group Across Question Type....................... 85
Table 5.5 GEE Results for Degree of Response Error (Total Incorrect Details Reported) Within each Group Across Question Type............. 86
Table 5.6 The Number of Incorrect Details Provided in Response to Each Leading Question Classified by Error Type for CWID............. 91
Table 5.7 The Number of Incorrect Details Provided in Response to Each Leading Question Classified by Error Type for MAM Control Children........................................................................................................ 92
Table 5.8 The Number of Incorrect Details Provided in Response to Each Leading Question Classified by Error Type for CAM Control Children........................................................................................................ 93
Table 6.1 GEE Results for Response Completeness (Total Details Reported) and Degree of Response Error (Total Incorrect Details Reported) Across the Three Groups of Children............................... 112
Table 6.2 GEE Results Within each Group Across the Types of Errors Reported by Children during the Recall Interview......................... 114
Table 6.3 The Number of Biasing Interview Errors made by Children for each Leading Question Type

Table 6.4 The Number of Biasing Interview Errors Resulting from the Intrusion of Content Versus Temporal Information
List of Figures

Figure 2.1 Leading Questions.................................................................24
Abstract

Literature exploring the impact of different types of leading questions on the recall abilities of children with an intellectual disability (CWID) relative to both mental-age match (MAM) and chronological-age match (CAM) children is limited. Further, no research has examined the impact of different types of leading questions on the recall of CWID following a repeated event. Understanding the impact of leading questions on children’s recall is important for a number of reasons, for instance where disclosures are not forthcoming and the interviewer has a reasonable belief that the child is at risk, or all other questions have been exhausted and event specific details are still required (Lyon, 1995; Ministry of Justice, 2011a; Poole & Lamb, 1998). The literature, three broad types of leading questions have been identified; (i) misleading questions, (ii) suggestive questions, and (iii) presumptive questions. Recent literature has also distinguished between; (i) content-leading questions which raise/suggest/presume specific details (i.e., actions, objects, persons) that have occurred in the event, and (ii) temporal-leading questions which raise/suggest/presume the time or temporal source of various content details (Guadagno & Powell, 2013).

The current thesis aimed to examine whether the various types of leading questions that have been identified in the literature differentially impact children’s responses about an occurrence of a repeated event, and whether the response style of CWID is different to that of MAM and CAM children. The impact of the different types of leading questions was examined in two different contexts: (i) children’s immediate responses to the various leading questions asked during an interview, and (ii) children’s
account of their experiences provided during a best-practice interview (consisting of open-ended and specific questions) following a prior biasing interview (that included the various types of leading questions).

Two studies are reported in the current thesis; both employed the same three groups of participants. Group 1 comprised 46 CWID ($M$ chronological-age = 10.53 years, $SD = 1.5$ years; $M$ mental-age = 6.78 years, $SD = 1.04$ years), Group 2 consisted of 40 MAM control children ($M$ mental-age = 7.21 years, $SD = .10$ years), and Group 3 contained 40 CAM control children ($M$ chronological-age = 9.85 years, $SD = 1.7$ years). In Study 1, a mock interview paradigm was used whereby the children participated in a series of four innocuous events (staged twice a week for two weeks) at their school and were later individually interviewed by a researcher about the final occurrence of the event within a week of its staging. The interview was fully scripted and contained the full range of leading questions identified in prior work. The children’s responses to the various questions were examined. Overall, children (CWID, MAM and CAM) were able to resist assenting to the misinformation contained within the questions and did not go on to provide detailed false accounts. However differences across question type and group were observed. CWID assented significantly more often to misleading questions than did their typically developing peers, while MAM and CAM control children more frequently assented to suggestive and presumptive questions than misleading questions. Furthermore, all children provided more detailed and inaccurate responses to presumptive leading questions compared to all other types of leading questions.
Study 2 examined the impact of previously experienced leading questions on these same children’s subsequent recall in an interview that adhered to best-practice principles (this later interview was conducted within a week of the first interview). Overall, children of all intellectual abilities were able to provide detailed accounts and recalled a number of correct details about the last occurrence of the repeated event. CWID intruded less misinformation put to them during the biasing interview than did their typically developing peers. When children did intrude misinformation from the biasing interview, mainstream children were more likely to intrude information put to them in presumptive leading questions, while CWID were equally likely to intrude information from both presumptive and misleading questions. Further, all children were more likely to repeat temporal-leading information than content-leading information from the biasing interview in their later recall.

Overall, the findings of this thesis suggest that children of all intellectual abilities are able to provide detailed and accurate accounts of an occurrence of a repeated event and may be capable of resisting leading questions. However, this thesis also detailed differences in the way in which various types of leading questions impact the immediate and later recall abilities of children. The current work identified the detrimental impact of presumptive leading questions on both children’s initial acceptance of the misinformation contained within these questions and the subsequent intrusion of this information in children’s later recall. The results also highlighted the higher rate of intrusion of misinformation from temporal-leading questions in children’s recall during a best-practice interview. This
thesis discusses the implications of these findings for interviewer practice and training, specifically the use of leading questions during an investigative interview when it has been determined that leading questions may be required. Directions for future research are provided.
CHAPTER 1 - INTRODUCTION

Children are required to provide verbal accounts of their experiences to a range of people, in both formal and informal contexts for various purposes. Children communicate with their parents, teaching professionals, social workers, psychologists, medical practitioners, police and child protection officers and sometimes other legal professionals. Although some forms of communication are to simply share an experience, in many cases the accuracy and detail of the child’s account is important. For example, teachers and principals question children about issues that arise in the school (e.g., truancy, misbehaviour) and the information they elicit often underpins decisions about curriculum, child safety and disciplinary action. Police and child protection officers question children about possible abuse and/or neglect and sometimes education departments conduct parallel investigations of alleged child abuse (to inform decisions about the continued employment of a teacher). Although the accuracy of a child’s account of an event or experience is generally important, this is never more so than when a child is required to make a statement about alleged abuse to police or a court. Here, the accuracy and completeness of the child’s account is imperative and has numerous legal implications; it may determine whether charges are laid against the accused, it can affect whether the child is deemed a competent witness, and may influence the outcome of a trial (Henry & Gudjonsson, 2003; Henry, Ridley, Perry, & Crane, 2011).

There is international consensus about how to maximise the accuracy and detail of a child’s account and what constitutes best-practice in an
investigative interview (Powell & Snow, 2007). The primary objective of all prominent interview protocols (e.g., Home Office, 2007; National Institute of Child Health and Human Development [NICHD]: Lamb, Hershkowitz, Orbach & Esplin, 2008; Ministry of Justice, 2011a, 2011b) and guidelines is to gain an account of the event or situation in the child’s own words, with minimal specific prompting from the interviewer (Home Office, 2007; Lamb et al., 2008; Poole & Lamb, 1998; Wilson & Powell, 2001). Research has consistently demonstrated that such an account, referred to as the free-narrative account, is best elicited via the use of non-leading open-ended questions (Home Office, 2007; Lamb et al., 2008; Lamb, Sternberg, & Esplin, 1998; Ministry of Justice, 2011a; Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Powell & Guadagno, 2008; Powell & Snow, 2007; Wright & Powell, 2006). Open-ended questions are questions which encourage elaborate responses and do not dictate what specific information the child is required to report or restrict the child’s response options (e.g., “Tell me all about the part where . . .”; Cederborg, Danielsson, La Rooy & Lamb, 2009; Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a; Poole & Lamb, 1998; Powell & Snow, 2007; Wright & Powell, 2006). These questions are essential because they allow children to narrate their experiences in their own words, at their own pace, without interruption from the interviewer (Powell & Snow, 2007). Furthermore, open-ended questions maximise the accuracy of the recall for both mainstream children and children with an intellectual disability (CWID) and minimise the opportunity for confusion, contamination and misunderstandings between the child and the interviewer (Agnew & Powell,
Maintaining an open-ended approach is a complex task for child interviewers, never more so than when the child has experienced the same or similar events repeatedly over time. Research has established that although some children experience a single incident of abuse, in many cases children are victims of repeat offending (Powell & Roberts, 2002; Powell, Roberts, Ceci & Hembrooke, 1999; Powell, Roberts, Thomson & Ceci, 2007; Powell & Thompson, 2002; Victorian Law Reform Commission [VLRC], 2004), and CWID are particularly vulnerable to repeated abuse (Hershkowitz, Lamb, & Horowitz, 2007). In most Australian jurisdictions, for an alleged offender to be convicted in relation to repeated offences, the child’s evidence (and/or that of other corroborating sources) needs to provide more than simply a general account of what typically took place. Rather, each specific act or occurrence of abuse must be identified and distinguished from all others by reference to time, place or some other unique contextual detail (e.g., a particular item of clothing that was worn during an incident of abuse or who was present, so long as this information is unique to just one act or occurrence of abuse; S v. R, 1989). In cases of alleged repeated abuse, the role of the interviewer in addition to using best-practice guidelines is to assist the child to identify and distinguish each occurrence from all others which is an inherently difficult task. Little research has specifically examined interview strategies that may assist a
child in discriminating between occurrences of a repeated event (Guadagno & Powell, 2008).

Despite clear articulation in the literature about the questions to be maximised in an interview with a child, there is far less clarity about the questions that should be avoided. Interview protocols have generally recommended interviewers avoid leading questions (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Ministry of Justice, 2011a), and research has demonstrated that the frequency of leading questions in field interviews with children is generally low, with estimates ranging from .02 to .14 (Cederborg, Orbach, Sternberg & Lamb, 2000; Davies, Westcott & Horan, 2000; Hershkowitz, Lamb, Sternberg & Esplin, 1997; Hughes-Scholes & Powell, 2008; Lamb et al., 1996; Lamb, Sternberg & Esplin, 2000; Lamb, Sternberg, Orbach, Esplin & Mitchell, 2002; Lamb, Sternberg, Orbach, Hershkowitz, Horowitz & Esplin, 2002; Orbach et al., 2000; Powell, Hughes-Scholes, & Sharman, 2012; Sternberg, Lamb, Davies & Westcott, 2001; Sternberg, Lamb, Hershkowitz, Esplin, Redlich & Sunshine, 1996; Warren et al., 1999). Whilst leading questions generally do not constitute a high proportion of questions contained in these interviews, research has shown that almost all interviews feature at least one leading question (Hughes-Scholes & Powell, 2008). While there is some understanding of the use of leading questions in interviews, little is known about the impact of these questions on children’s recall.

Leading questions have been defined as questions which presume certain information, suggest/imply a particular answer or raise specific details not previously mentioned by the witness (Fisher & Geiselman, 1992;
Guadagno & Powell, 2013; Home Office, 2007; Hughes-Scholes & Powell, 2008; Lamb et al., 2008; Ministry of Justice, 2011a; Orbach et al., 2000; Poole & Lamb, 1998; Wilson & Powell, 2001). Leading questions can be leading for both true and false details, that is leading questions can raise details that were experienced or details that were not experienced at all. Leading questions which raise/suggest/presume either experienced non-target or non-experienced details can both be detrimental in obtaining detailed and accurate information from children. Research has been conducted which has included both true and false leading questions (Agnew & Powell, 2004; Henry & Gudjonsson, 2003; Milne & Bull, 1998; Powell & Roberts, 2002; Powell et al., 1999) however the focus of this thesis is on the impact of leading questions raising false information (including those questions which raise correct information but tie this information to an incorrect occurrence).

Researchers have long commented that children are vulnerable to misleading interviewer questions (questions which raise false information that has not been previously reported by the child; Henry & Gudjonsson, 1999; Michel, Gordon, Ornstein, & Simpson, 2000; Milne & Bull, 1998; Pear & Wyatt, 1914). Specifically, it has been found that; (i) children are more easily led (i.e., more likely to provide false information in response to misleading interviewer questions) than adults (see Ceci & Bruck, 1993, 1995 for review), (ii) younger children are more easily led than older children (see Ceci & Bruck, 1993, 1995 for review), and (iii) CWID are more easily led than mainstream children (Henry & Gudjonsson, 1999;
Michel et al., 2000; Milne & Bull, 1998; Young, Powell, & Dudgeon, 2003).

The full story regarding how leading questions impact CWID remains unclear. This is a complex area of research and there remain many gaps in our understanding. Certainly, a number of researchers have shown that CWID are more likely to acquiesce (agree) to misleading questions than children of the same chronological-age (Michel et al., 2000; Milne & Bull, 1998; Pear & Wyatt, 1914). However, more recent research has challenged the simplicity of the claim of previous research that CWID are more vulnerable than mainstream children to all leading questions and contend that this is a complex area (Agnew & Powell, 2004). This research has highlighted the importance of investigating how different types of leading questions may impact CWID. Agnew and Powell (2004) revealed that CWID were significantly less likely than chronological-age matched (CAM) and mental-age matched (MAM) children to repeat the information contained in a leading question during a recall interview held one day after an intervening interview. So what does this finding mean for interview protocols and training programs? What is the relative impact of different types of leading questions on the accuracy of children’s accounts, and to what degree does children’s intellectual functioning influence the relationship between leading questions and children’s recall abilities?

Understanding the relative impact of different types of leading questions is important for a number of reasons. First, there are circumstances where interviewers do need to use these more focused questions. For instance, where disclosures are not forthcoming and the
interviewer has a reasonable belief that the child is at risk, or all other questions have been exhausted and event specific details are still required (Lyon, 1995; Ministry of Justice, 2011a; Poole & Lamb, 1998). This is particularly the case for CWID, with research indicating that these children require more specificity in questioning when attempting to obtain detailed and accurate accounts of an event compared to mainstream children (Agnew & Powell, 2004). However, recent research has challenged the idea that all CWID require more specific questioning. Results of Brown and colleague’s (2012) work suggested that children with mild intellectual disability require no more directive questioning than children matched on developmental level, however children with moderate intellectual disability do require more support (e.g., in the form of more specific and focused questioning) than other children.

Second, a child’s statement in an abuse investigation is of particular importance because child abuse (particularly sexual abuse) is often committed in secret, is part of a routine, remains undetected for some time, and there is typically little corroborating evidence (i.e., other witness statements, medical evidence) to substantiate the child’s allegation (Ceci & Bruck, 1993; Connolly & Lindsay, 2001; Lamb & Brown, 2006; Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Read, Powell, Kebbell & Milne, 2009; Roberts & Powell, 2001). As such, maximising the child’s account of alleged abuse is of pivotal importance. Although it is imperative that interviewers do not lead false disclosures via leading questions which raise/suggest/presume false information, it would be valuable to know if certain types of leading questions are less detrimental to inform interviewer
training. In the few cases where an interviewer is not able to gain an adequate statement from a child using best-practice questioning, it would be useful to understand how different types of leading questions impact responding so that a decision can be made regarding the type of leading question that might be relied on as a last resort.

Third, research in this area is limited (only nine studies have specifically investigated the relationship between leading questions and intelligence in children; Agnew & Powell, 2004; Brown, Lewis, Lamb, & Stephens, 2012; Gordon, Jens, Hollings, & Watson, 1994; Henry & Gudjonsson, 1999, 2003, 2007; Jens, Gordon, & Shaddock, 1990; Michel et al., 2000; Pear & Wyatt, 1914). Varied methodological designs have been employed across these studies, and the investigations produced diverse results. Until methodological differences are controlled, the impact of different types of leading questions on children’s recall will remain unknown. Despite continued research in this area, there is a need for controlled designs investigating the impact (in terms of error rates) of different types of leading questions on the recall of children of different intellectual abilities.

Finally, prior research is also limited because much of this work has used a single event paradigm; no studies have investigated the impact of leading questions on CWID when recalling a repeated event. The effect of repeated experience on children’s memory and recall and the way in which intellectual ability may impact this relationship remains unknown. This gap persists despite a growing understanding of the impact that repeated experience has on; (i) children’s memory and recall abilities, and (ii) the
increased difficulties faced by interviewers when interviewing children about a repeated event. Furthermore, recent research contends that there are two types of leading questions. Content-leading questions are questions that raise/suggest/presume specific details (i.e., actions, objects, persons) that have occurred in the event. In contrast, temporal-leading questions raise/suggest/presume the time or temporal source of various content details (e.g., dates or times; Guadagno & Powell, 2013). These two categories are not necessarily mutually inclusive or exclusive (Guadagno & Powell, 2013).

A question that raises content information (e.g., that the child wore a blue hat) when the child had not previously disclosed that (s)he wore a blue hat, and makes reference to the time when the content detail was believed to occur (e.g., the last time you were at the beach) would be both a content- and temporal-leading question. While temporal-leading questions can also occur within a single event, they are more common in interviews about repeated events (Guadagno & Powell, 2013).

Given that the relationship between intellectual disability and leading questions has only been investigated in relation to a single event paradigm, what is the effect of those types of leading questions more common in interviews about repeated events on both mainstream children and CWID? Understanding that abuse often occurs repeatedly over time (Powell & Roberts, 2002; Powell, et al., 1999; Powell, et al., 2007; Powell & Thomson, 2002; VLRC, 2004), and CWID are particularly vulnerable to ongoing abuse (Hershkowitz, et al., 2007), it is important that we not only advance understanding of the impact of different types of leading questions but that research begins to investigate what impact event repetition might
have on the relationship between leading questions and intellectual disability.

The aim of this thesis is to address these gaps within the literature. Specifically, the current thesis is concerned with understanding; (i) the impact of different types of leading questions on children’s immediate and subsequent recall of a repeated event, and (ii) the influence that intellectual disability may have on this effect. Overall, the current thesis is structured as follows. Chapter 2 provides a brief overview of the guidelines currently offered by experts when conducting investigative interviews with children and provides a description of the different types of leading questions that have been identified within the literature. Chapter 3 follows with a review of the available literature regarding the effects of various question types on CWID. It concludes with a discussion of the interaction between event repetition and leading questions and the importance of expanding research to include the use of a repeated event design when exploring the impact of questions on CWID. Chapter 4 provides a summary regarding the impact of event repetition on children’s memory and recall. Further, this chapter discusses the recent recognition of content- and temporal-leading questions. Together, these chapters provide the framework and rationale for the design and procedures utilised in the empirical research of this thesis.

Chapters 5 and 6 present this original research. Each chapter begins with an overview of the importance of and rationale for this original work. Chapter 5 presents the first empirical study (Study 1), which examines children’s recall when asked different types of leading questions about an occurrence of a repeated event. Specifically, this work explores the impact
different leading questions may have on the responses of CWID relative to MAM and CAM control children when asked different types of leading questions. Chapter 6 presents the second empirical study (Study 2). The aim of this study was to enhance our understanding about the impact leading questions previously experienced by children (in a separate biasing interview) may have on children’s later recall of an occurrence of a repeated event during a best-practice interview. Further, this study also examined differences (if any) in the response of CWID relative to their MAM and CAM controls.

After the studies are presented, conclusions are drawn regarding the implications of the current findings for investigative interview practice. Specifically, Chapter 7 offers broad recommendations regarding the use of various leading questions during investigative interviews when it has been determined that leading questions are required. Specifically the detrimental impact of presumptive leading questions on children’s recall is discussed. This chapter also discusses the effect of an intervening leading interview on children’s later recall. Finally, this chapter highlights the importance of understanding the use and impact of temporal-leading questions in investigative interviews with children. This final chapter concludes with a discussion of the implications of the current work on interviews’ practice and directions for future research are discussed.
CHAPTER 2 – INVESTIGATIVE INTERVIEW PRACTICE WITH CHILDREN AND THE USE OF LEADING QUESTIONS

There has been a wealth of literature in the area of investigative interviewing with children. The purpose of this research has been to ensure the most accurate and reliable evidence is obtained from children. While some research has offered broad guidelines or recommendations about interview practice (Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Orbach & Lamb, 2001; Poole & Lamb, 1998; Powell & McMeekan, 1998; Powell & Snow, 2007; Wright & Powell, 2006), others have developed more structured interview protocols aimed at translating these professional guidelines/recommendations into an operational protocol for investigative interviewers (Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a). Despite the breadth of literature in this area, there is substantial consensus among commentators regarding the way in which investigative interviews should be conducted (Lamb et al., 2008). It is generally accepted that the purpose of an investigative interview with a child is to obtain an account of the event/situation in the child’s own words, with minimal specific prompting from the interviewer (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Poole & Lamb, 1998; Wilson & Powell, 2001). Further, all view an interview as consisting of the following phases: introduction, rapport building, establishing the ground-rules, substantive phase, and closing the interview.1 While there are some minor

---

1 Throughout this thesis, the main components of an investigative interview will be referred to as ‘phases’. However, it has been recognised that the phases that comprise a best-practice interview are not a checklist that should be rigidly followed; rather best-practice acknowledges that flexibility in incorporating these core components into an interview is the key element to a best-practice interview (Home Office, 2007; Ministry of Justice, 2011a).
differences within the research (i.e., differences in terminology used) all agree as to the major components of an interview as outlined above. Each of these components will now be briefly described in turn, aside from the substantive section of the interview. As the primary focus of this thesis is on the substantive phase of an interview, this will be covered in more detail in the following section (section 2.1).

Commencing an interview with an introduction assists the child to understand who the interviewer is (e.g., their name and profession) and the purpose of the interview (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Lamb et al., 2008; Ministry of Justice, 2011a). The rapport building stage is important for ensuring the child feels comfortable with the interaction style of the interview. Engaging the child in conversation about neutral topics using questions similar to ones asked during the substantive phase of the interview (i.e., largely open-ended) is important to acquaint the child to the style of the interaction that is expected (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Lamb et al., 2008; Ministry of Justice, 2011a). This style of communication is often unfamiliar as children rarely experience interactions with adults where they are expected to provide the information. In particular, children with an intellectual disability (CWID) seldom engage in active conversation with adults (Westcott & Cross, 1996). A well established rapport between interviewer and interviewee can improve both the quantity and quality of the information obtained during the interview (Ministry of Justice, 2011a).

It is important that the interviewer explain the ground-rules of the interview to the interviewee to minimise the impact of their authority on a
child’s desire to please the interviewer through their responses (Home Office, 2007; Lamb et al., 2008). The witnesses should be advised that; (i) if (s)he does not understand or does not know the answer to a question that is asked s(he) should say so and that responses such as “I don’t know” are acceptable, and (ii) if the interviewer misunderstands what the witness has said or incorrectly summarises what has been said (s)he should point this out to the interviewer (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Lamb et al., 2008; Ministry of Justice, 2011a). At the outset of the interview it is important that the interviewer advise the child that (s)he is a unique source of information because the interviewer was not present at the event(s) and that (s)he is unaware of what occurred (Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a). This ground-rule is particularly important for more vulnerable witnesses (e.g., children or individual’s with an intellectual disability) that may be under the false impression that the interviewer already knows much of what occurred (Ministry of Justice, 2011a).

The next component of an investigative interview is the substantive phase, which will be discussed in the following section. After the substantive component of the interview, the interviewer is required to close the interview. In this final phase, every effort should be made to ensure that the child leaves the interview in a positive state of mind (Home Office, 2007; Ministry of Justice, 2011a). The interviewee should be thanked for their participation (not for providing information) and asked if there is anything else (s)he wishes to communicate or if (s)he has any questions (Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a). Where
possible, an explanation of what (if anything) may happen next should be provided to the child (Ministry of Justice, 2011a). It is good practice that the interviewee (or his/her guardian) is provided with a business card or contact details of the interviewer so they can contact the interviewer if they have any additional questions or matters they wish to discuss after the conclusion of the interview (Lamb et al., 2008; Ministry of Justice, 2011a).

2.1 Substantive Phase of an Interview

It is recommended that an interviewer begin the substantive phase of an interview by inviting the child to say what (s)he has come to talk about today (Lamb et al., 2008; Powell & Snow, 2007). When introducing the topic of concern (i.e., the alleged offence), it is recommended that the interviewer begin with a non-leading, open-ended invitation, such as “Tell me what you have come to talk to me about today” (Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Lamb et al., 2008; Powell & Snow, 2007). From this point the aim is to elicit a free-narrative account of the topic of concern in the child’s own words (Home Office, 2007; Lamb et al., 1998, 2008; Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Wilson & Powell, 2001). Once the to-be-recalled event has been established, the interviewer should ask the child to recall as much as (s)he can remember about the event (e.g., “Tell me everything you can remember about . . . start at the beginning”). When the child provides some information about the event, open-ended verbal prompts (e.g., “What else happened?” “Tell me all about the part where . . .”), minimal encouragers and non-verbal prompts (e.g., head nodding, “Mhmm”, “uh huh”, pauses) are used to encourage the child to continue talking (Home Office, 2007; Lamb et al., 1998; Poole & Lamb,
The importance of the free-narrative approach is that it minimises the interviewer’s influence on the child’s account (Dent & Stephenson, 1979; Home Office, 2007; Lamb, Orbach, Hershkowitz, Horowitz & Abbott, 2007; Orbach & Lamb, 2001) through the use of open-ended questions. These questions are essential because they encourage elaborate responses and allow children to narrate their experiences in their own words, at their own pace, without interruption from the interviewer (Home Office, 2007; Powell & Snow, 2007). Furthermore, open-ended questions maximise the accuracy of all children’s accounts (including CWID) and minimise the opportunity for confusion, contamination and misunderstandings between the child and the interviewer (Agnew & Powell, 2004; Cederborg & Lamb, 2008; Feltis et al., 2010; Guadagno & Powell, 2008; Home Office, 2007; Kebbell et al., 2004; Lamb, Orbach, Hershkowitz, Esplin et al., 2007, Lamb et al., 2008; Orbach & Lamb, 2007; Powell et al., 2005).

Utilising open-ended questions is particularly beneficial when questioning a child about a repeatedly experienced event, as children make few source-monitoring errors in response to open-ended questions. Source-monitoring errors occur when a child recalls details but these memories are not tagged to the correct source or experience (Johnson, Hashtroudi, & Lindsay, 1993; Roberts & Blades, 2000). For example a child may confuse details they are recalling to have come from a book when in fact they came from a movie the child saw. When children have experienced a repeated event, children may become highly confused between occurrences of these events (Powell et al., 1999) and tend to make more source-monitoring errors than children who have experienced a single one-time event. After
experiencing a repeated event, a child may make a source-monitoring error when (s)he is asked to recall details from a specific occurrence (the ‘target occurrence’), and (s)he recalls details from another experienced occurrence of the event (‘non-target occurrence’). For example, a source monitoring error may occur where a child is accurately recalling details that were experienced during an occurrence of the repeated event (e.g., “Sally wore a purple hat”) however these details are inaccurately recalled to have occurred within the target occurrence (e.g., “Sally wore a purple hat the last time we went to the park” when Sally wore a purple hat but not during the last occurrence). Open-ended questions can therefore be used to minimise the contamination of their reports from non-target events in the form of source-monitoring errors (Roberts & Powell, 2001).

Once as much information as possible has been elicited from the child’s free-narrative recall, the interviewer is then to proceed to more specific questioning. While the free-narrative account contains the most accurate information from a child, it sometimes does not include all of the necessary detail and information needed to successfully prosecute an alleged offender (Poole & White, 1991; Steller & Boychuk, 1992). To elicit more offence specific information there are a variety of additional questions that can be effectively used, provided they are used sparingly and only after a free-narrative account from the child has been exhausted (Agnew, 2003; Home Office, 2007). These questions include; (i) specific cued-recall questions (“What was the man wearing?” when it has been established that the man was wearing clothes), (ii) specific closed questions including yes/no questions (“Was the man wearing a red top?” when it has been
established that the man was wearing clothes), and forced choice questions ("Was the man wearing a red top or a blue top?" when it has been established that the man was wearing clothes).

The advantage of asking specific cued-recall questions is that they orient the child to precisely what information is required by the interviewer (Agnew, 2003). These questions enquire about a particular item but require the child to generate the specific detail without any suggestion from the interviewer (Roberts & Powell, 2001). The detriment of using questions such as these is that the number of errors in the child’s response usually increases because when specific information is sought there is an increased likelihood that the information requested is not available in the child’s memory store (Agnew, 2003). When this is the case, the child may confuse the event with another event, or make up information merely to please the interviewer (Ceci & Bruck, 1993).

Specific closed (yes/no) questions do not encourage elaborate memory retrieval; rather they restrict the range of response options and simply state that one of the options is correct (Powell & Roberts, 2002). These questions require children to simply recognise whether the information proposed by the interviewer was present during the target occurrence and agree or disagree with that information (Roberts & Powell, 2001). The detriment of using these questions can be that children simply acquiesce without engaging in deeper memory processing (Roberts & Powell, 2001).

Research in the area of investigative interviewing with children has explored the impact of various questions on children’s recall, articulated
protocols for investigative interview practice, and evaluated the applicability and effectiveness of these protocols. While a great deal of research has been conducted, there is only limited information available about the questions that should be avoided during investigative interviews. It is generally accepted that leading questions should be avoided, however not a great deal is known about the impact of these different types of questions and why they should be avoided. As previously discussed, there are situations where leading questions may assist the interview process. These questions can be utilised at the end of an interview, after the free-narrative phase has been exhausted, or when there still remains information to be obtained from an interviewee (Home Office, 2007). Further, when a disclosure is not forthcoming from a child and there is evidence to suggest that abuse has occurred, leading questions may be asked (Lyon, 1995; Poole & Lamb, 1998). The following section will provide an outline of the different types of leading questions identified within the literature and how the definition of a leading question has been broadened by recent research.

**2.1.2 Leading Questions**

Most commentators would agree that a leading question is a question that presumes certain information, suggests/implies a particular answer or raises specific details not previously mentioned by the interviewee (Fisher & Geiselman, 1992; Guadagno & Powell, 2013; Home Office, 2007; Hughes-Scholes & Powell, 2008; Lamb et al., 2008; Ministry of Justice, 2011a; Orbach et al., 2000; Poole & Lamb, 1998; Wilson & Powell, 2001). A child’s ability to resist leading questions can influence professionals’ and lay-persons’ evaluations about a child’s capacity to offer credible testimony
(Michel et al., 2000). When a child errs in his/her recollection of an event in response to a leading question the quality of the child’s entire evidence may be called into question (often police and prosecutions officers will choose not to proceed with the case, or judges and jury members will question the credibility of the child’s evidence; Henry & Gudjonsson, 2003; Henry et al., 2011; Mulder & Vrij, 1996). Furthermore, given their coercive nature, their ability to contaminate a child’s memory of an event, and the high rates of errors associated with these questions, leading questions are generally not admissible in court.² Considering the above implications on children’s testimony, expert interview protocols have recommended against the use of leading questions in investigative interviews (Home Office, 2007; Lamb et al., 1998, 2008).

Given the consensus of interview protocols that leading questions should generally be avoided during investigative interviews, it is encouraging that the literature investigating the incidence of leading questions during interviews has found that these questions typically represent a small proportion of all questions asked in interviews; estimates range from .02 to .14 (Cederborg et al., 2000; Davies et al., 2000; Hughes-Scholes & Powell, 2008; Hershkowitz et al., 1997; Lamb et al., 1996; Lamb et al., 2000; Lamb, Sternberg, Orbach, Esplin et al., 2002; Lamb, Sternberg,

² It is important to note that a child may encounter leading questions during the evidence-in-chief, cross-examination, or re-examination stage of a trial; however detailed discussion in this area is outside the scope of this paper. Until recently there was no rule against the use of leading questions during cross-examination and it has been contended that ‘good’ lawyers will ask nothing but leading questions (Lyon, 1995). However, recent amendments to Victorian legislation have provided the courts leave to disallow leading questions during cross-examination when considering how the witness’s age, mental or intellectual impairment may affect their ability to answer such questions (s.42 2d Evidence Act, (2008) Vic).
Orbach, Hershkowitz et al., 2002; Orbach et al., 2000; Powell et al., 2012; Sternberg et al., 2001; Sternberg et al., 1996; Warren et al., 1999). However whilst the overall frequency within interviews are low, research has shown that almost all interviews feature at least one leading question (Hughes-Scholes & Powell, 2008).

Furthermore, research has shown that children often participate in interviews or conversations with multiple professionals (e.g., teachers, child protection workers) or adults (e.g., parent/caregiver) prior to participating in an investigative interview and throughout the legal process (Crossman & Caron, 2006; Goodman et al., 1992; McGough, 1994). These intervening interviews often contain a higher proportion of leading questions (Agnew, Powell & Snow, 2006) as these are often occurring with adults who have not had experience or training in investigative interview practice. Research has shown that extensive specialised training is required for investigative interviewers to master an open-ended, non-leading style of questioning (Cederborg, Alm, da Silva Nises, & Lamb, 2012; Powell et al., 2005). Furthermore, research exploring the interviewing style of police versus caregivers when interviewing CWID showed that caregivers used a significantly higher proportion of leading questions and negative strategies than did police officers (Agnew et al., 2006). This research highlighted that these children’s performance during an investigative interview may be negatively impacted by the interview/conversational style adopted by their caregivers in an intervening interview.

Past research however has been limited by the restricted definition of leading questions used, as most studies utilised a single category to
represent all leading questions, and only recently has the understanding of what constitutes a leading question been expanded. Research has identified three broad categories of leading questions; (i) misleading, (ii) suggestive, and (iii) presumptive. Recent research has also identified that misleading and presumptive questions have two subtypes. The identification of these subtypes of leading questions has led to an expanded definition and broadened our understanding about what constitutes a leading question. The different types of leading questions and the recent expansion of the definition of leading questions will be discussed in turn. A summary table of the types (including the subtypes) of leading questions identified in the literature is presented in Figure 2.1.

2.1.2.1 Misleading Questions

Misleading questions raise new false information not previously disclosed by the child (e.g., “Was the lady wearing a coat?” when it has not been previously established what the lady was wearing). Misleading questions have been traditionally utilised in the literature to assess the impact of leading questions on children’s recall (Gordon et al., 1994; Jens et al., 1990; Michel et al., 2000; Milne & Bull, 1998). Misleading questions do not encourage elaborate memory retrieval; rather they restrict the range of response options to ‘yes’ or ‘no’ (Powell & Roberts, 2002). These types of questions allow for the child to simply acquiesce rather than generate a response to the question.

Misleading questions also pose additional difficulties regarding repeated events. It has been contended that, children who have experienced a repeated event are more vulnerable to misleading questions compared to
children who have experienced a single event (Connolly & Lindsay, 1998; Powell & Roberts, 2002). If a child is asked about an experienced but non-target incident detail (e.g., “Did she wear a red coat the last time?” when she was wearing a red coat but not during the last time) the child may simply assume the instantiation was present during the target occurrence because it is familiar (Roberts & Powell, 2001). These questions which simply require a recognition response often do not permit a thorough appraisal of the source of that detail (Lindsay & Johnson, 1989).

The definition of misleading questions was established early in the literature (Gordon et al., 1994; Jens et al., 1990; Michel et al., 2000; Milne & Bull, 1998) and has been modified and developed since. The heavy reliance on misleading questions has been identified as a limitation of past research because it has been found that the variability in the questions used to assess memory may account for some of the discrepancies in findings across studies (Powell & Roberts, 2002). Furthermore, an interview where a child’s statement is obtained in response to a large number of these questions would not be admissible in court (Powell & Roberts, 2002). Further, limiting research by only relying on misleading questions does not allow for an in-depth analysis of the types of errors that might be made by children in response to different types of interviewer suggestions.

The traditional conceptualisation of misleading questions was later expanded to include two subtypes, identified by Hughes-Scholes and Powell (2008). First, misleading questions which raise limited information that the child had not previously disclosed; for example, “Was the lady wearing a yellow coat?” when the child had not previously mentioned what the lady
Figure 2.1 Leading Questions

- **Leading Questions**
  - Misleading Questions
    - Misleading Limited-Information Questions
      - "Was the lady wearing a yellow coat?"
    - Misleading Highly-Specific Questions
      - "Was the lady wearing a yellow coat with red buttons?"
  - Suggestive Questions
    - "The lady wore a yellow coat, didn’t she?"
  - Presumptive Questions
    - Presumptive Cued-Recall Questions
      - "What colour was the lady’s coat?"
    - Presumptive Open-Ended Questions
      - "Tell me everything you can remember about the coat that the lady wore"
was wearing. Second, misleading questions which raise **highly specific** information that the child has not previously mentioned; for example, “Was the lady wearing a yellow coat with red buttons?” when the child had not previously stated what the lady was wearing. This research recognised the heterogeneity of leading questions and acknowledged the previously defined misleading question could be phrased in two different ways (Hughes-Scholes & Powell, 2008).

### 2.1.2.2 Suggestive Questions

Leading questions can also be phrased in a suggestive manner, that is a “didn’t you” form. This style of question is suggestively phrased in the sense that the desired response is embedded in the question (e.g., “The lady wore a yellow coat, didn’t she?”) and is made clear to the interviewee. This type of question also limits the response options available to the child to a ‘yes’ or ‘no’ answer (Henry & Gudjonsson, 1999, 2003; Michel et al., 2000).

### 2.1.2.3 Presumptive Leading Questions

This category of question presumes information not previously disclosed by the child and cues the child to comment on the presumed information (e.g., “I heard the lady wore a coat. What colour was the lady’s coat?” when the child had not mentioned the lady wearing a coat). Unlike, suggestive questions which make clear to the child the desired response, presumptive leading questions presume information and then invite the child to comment on this information. These questions can be phrased as either a cued-recall or an open-ended question.
The use of presumptive cued-recall questions (e.g., “What colour was the lady’s coat?” when the child had not indicated that the lady wore a coat) do not allow for a child to simply acquiesce, as is the case for misleading questions. These questions require children to reconstruct the target occurrence and retrieve the specific detail from that incident (Roberts & Powell, 2001). Cued-recall questions engage children in deeper memory processing where they are required to encode, store and then retrieve the interviewer’s suggestion at a later date; a process that requires more sophisticated memory and language skills than simply acquiescing to a question (Waterman, Blades, & Spencer, 2000). Further, these questions can assist when recalling an occurrence of a repeated event as the deeper processing involved in responding to these questions contrasted to acquiescing to a misleading question, can provide children with information that can enable children to make more accurate source judgements (Johnson et al., 1993). This cued-recall subtype of presumptive leading questions have received limited examination in the literature (Agnew & Powell, 2004; Henry & Gudjonsson, 1999, 2000; Hughes-Scholes & Powell, 2008; Powell et al., 2012).

Presumptive open-ended leading questions presume a certain detail has occurred which the child has not previously mentioned and are phrased in an open-ended way (e.g., “Tell me everything you can remember about the coat that the lady wore” when the child has not mentioned what the lady wore). Despite the open-ended phrasing, presumptive open-ended leading questions can be just as detrimental as misleading questions on children’s recall if they introduce new information not previously reported by the
interviewee (Powell & Snow, 2007). These types of questions require the child to generate their own response in their own words, but about a presumption that the interviewer has made. These open-ended questions which presume false information are more likely to lead to false accounts from children than closed yes/no questions containing the same details (Greenstock & Pipe, 1996; Roberts, Lamb, & Sternberg, 1999). The use of these types of leading questions has only recently been discussed and included in the literature (Powell & Snow, 2007; Powell et al., 2012).

2.1.2.4 Content- and Temporal-Leading Questions

The definition of a leading question has been expanded by recent research to include both content- and temporal-leading questions. Content-leading questions are questions that raise specific details (i.e., actions, objects, persons) that occurred in the event (Guadagno & Powell, 2013). For example, the question “What colour was the skirt that Jenny wore?” is leading the child in terms of the content detail of a ‘skirt’ as the child had not previously mentioned that Jenny had worn a skirt. In contrast, temporal-leading questions suggest or presume the time or temporal source of various content details (Guadagno & Powell, 2013). For example, if it had been established that Jenny did wear a skirt, the question “What colour was Jenny’s skirt the time you were at the park”, is leading in terms of the temporal information, because the interviewer has presumed that Jenny wore a skirt the time they were at the park, when this had not been previously established. It is also important to note that these two categories are not necessarily mutually inclusive or exclusive (Guadagno & Powell, 2013). Consider the above example, if it had not been previously
established that Jenny wore a skirt, then the question “What colour was Jenny’s skirt the time you were at the park” would be leading both in terms of content information (e.g., that Jenny wore a skirt) and temporal information as it makes reference to the time when the content detail was believed to occur (e.g., the last time you were at the park).

Temporal-leading questions can relate both to single and repeated events, however they are particularly likely to occur when questioning a child about a repeated event (Guadagno & Powell, 2013). Due to the legal requirement of particularisation (see Chapter 4) in repeated occurrences of abuse, the focus of the interview is on identifying and distinguishing between the different acts of abuse. Therefore, the risk of the interviewer presuming or suggesting how particular details occurred within one event or across events is highlighted when conducting an interview about a repeated event. Content- and temporal-leading questions are discussed further in section 4.3.

2.2 Summary

A wealth of literature has been dedicated to investigative interview practice with children, and research has focused on various different aspects of this area. Some experts have offered general guidelines for professionals, while others have sought to translate these guidelines into structured investigative interview protocols for professionals. Globally, there is considerable consensus as to how to maximise children’s accounts of their experiences through the use of investigative interview techniques and an understanding of the types of questions that should be used to ensure reliable and accurate accounts are obtained from children. However, few
studies have investigated the questions that are to be avoided during interviews, specifically leading questions. This is concerning given that there are times when interviewers may need to use more focused questions, especially when interviewing CWID.

Recent developments within the literature have recognised the heterogeneity of leading questions, highlighting that there are numerous ways in which a question can be phrased in a leading way. Further, a repeated event paradigm can pose a heightened risk of particular leading questions occurring that may influence a child attempting to recall an occurrence of a repeated event. Given these developments within the literature, it is increasingly important to understand the impact of different kinds of leading questions on children of different developmental abilities to inform investigative interview practice and training.
CHAPTER 3 – THE EFFECT OF DIFFERENT TYPES OF QUESTIONS ON THE RECALL OF CHILDREN WITH AN INTELLECTUAL DISABILITY

As discussed in Chapter 2, a great deal of research has been dedicated to developing investigative interview guidelines and protocols for professionals when interviewing children. The depth of research conducted is primarily driven by the importance that the accuracy of a child’s account holds when considering the presentation of this evidence in court and the implications this may have on the perceptions of police, jury members, or judges and the ultimate outcome of a case. Further highlighting the importance of this research is the understanding that the questioning style employed by an interviewer is one of the primary factors in gaining detailed, accurate and relevant accounts from a child (Kebell et al., 2004; Lamb & Brown, 2006).

While the importance questioning techniques have on children generally is widely established, the impact that various questions have on children with an intellectual disability (CWID) is more unclear. Relatively little research has specifically examined the effect of different questions (including leading questions) on the performance of CWID compared with mainstream control groups when recalling events (Agnew, 2003). Further, the research that has been conducted has produced varied results due to the differences in the methodology used. Thus, it is important that researchers continue to labour to identify the relative impact of different types of questions (including leading questions) on the recall abilities of CWID. Further, such research is important for understanding the precise tasks faced
by interviewers when interviewing CWID and for developing and modifying recommendations for interviewing these children. The current chapter presents an overview of the research that has been conducted to date on the impact of leading questions on CWID and mainstream control groups when recalling an event and recent developments within this area of the literature.

3.1 Overview of the Results of Past Research

Because suggestibility is correlated with a person’s intelligence quotient (IQ) at the lower end of intelligence (Gudjonsson, 1988; McFarlane, Powell & Dudgeon, 2002), past literature contends that CWID are more suggestible than their chronological-age match (CAM) controls (Henry & Gudjonsson, 1999; Michel et al., 2000). Specifically, this research reported that CWID are always more likely to acquiesce to misleading questions (e.g., “Was the lady’s coat yellow?” when the lady was wearing a blue coat), than CAM control children (Henry & Gudjonsson, 1999; Michel et al., 2000; Milne & Bull, 1998; Pear & Wyatt, 1914). When research has expanded the intellectual disability group to include children with both mild and moderate intellectual disabilities and compared these children to both mental-age match (MAM) and CAM control children, no differences in the impact of leading questions between the mild intellectual disability group and CAM control children has been found. However, the moderate intellectual disability group has been found to be more suggestible than; (i) the mild intellectual disability group, and (ii) the CAM groups (Henry & Gudjonsson, 2003). When exploring differences between CWID and MAM control children, research has found no differences in the impact of leading
questions (Gordon et al., 1994; Henry & Gudjonsson, 1999; Jens et al., 1990; Michel et al., 2000). There are a number of methodological limitations contributing towards the varied results found. Namely, the use of inappropriate control groups and the types of questions used to assess this relationship. Each of these factors will now be discussed in turn.

3.2 Methodological Limitations of Prior Studies

A critical review of early research reveals a number of methodological limitations that impact our ability to interpret the research findings. Interpretation is complicated not only by the variability in research design employed across the different studies, but also by limitations in (and lack of detail regarding); (i) the samples used (and the inclusion or exclusion of appropriate control groups), and (ii) the nature of the questions used in the recall interview to assess the impact of leading questions.

3.2.1 The Use of Inappropriate Control Groups and Classification of Intellectual Disability Group

When reviewing past literature one clear methodological limitation was the use of inappropriate control groups. Early research often compared CWID to one control group (Gordon et al., 1994; Jens et al., 1990; Milne & Bull, 1998; Pear & Wyatt, 1914) either MAM or CAM control children, which limits the scope of the conclusions that can be drawn from the results. It is imperative to include two control groups if the results are to address the theoretical question about whether eyewitness memory development keeps pace with mental-age (Henry & Gudjonsson, 2003) and to address the inconsistencies within the literature regarding the developmental versus difference perspective debate. The developmental-difference debate is a controversy which arose from different ideas about the way in which we
understand intellectual disability. The difference perspective contends that all intellectual disability originates from underlying organic dysfunctions which result in specific cognitive deficits (Bennett-Gates & Zigler, 1998). Contrasted to this is the developmental theory, which posits that individuals with cultural-familial cognitive impairments are only discernible from typically developing children in two main ways; (i) CWID pass through cognitive developmental stages at a slower rate than typically developing children, and (ii) CWID attain a lower upper limit of development relative to typically developing children (Bennett-Gates & Zigler, 1998; Weiss, Weisz & Bromfield, 1986; Weiss & Yeates, 1981; Weisz & Zigler, 1979). Resolving the developmental-difference debate and how this relates to eyewitness memory abilities has been proposed to be achieved (albeit in part) by the inclusion of both mainstream comparison groups.

The second limitation of prior work is the methods by which CWID were classified. Children’s classification within the intellectual disability research group has not always been contingent on appropriate standardised testing of intelligence. Rather, some studies assigned children to the intellectual disability group based on; (i) labels assigned to children by teachers and other personnel in the education system (Jens et al., 1990; Michel et al., 2000), (ii) tests such as the British Ability Scale (Henry & Gudjonsson, 2003) which is a broad scale ability test (not strictly an IQ assessment tool) and the Peabody Picture Vocabulary Test (Gordon et al., 1994; Michel et al., 2000) which is a test of verbal intelligence only (Dunn & Dunn, 1981), and (iii) some researchers did not clearly articulate the basis on which children were assigned to the intellectual disability category (Pear
& Wyatt, 1914). The inconsistent use of appropriate control groups and the variable ways in which children were assigned to the intellectual disability group limits the interpretation of such results on children’s performance during investigative interviews.

3.2.2 The Variation in the Use of Leading Question Types

A second methodological limitation of the early research relates to the type of questions used in the recall interview to assess the impact of leading questions. These various leading question types were discussed in detail in Chapter 2 (section 2.1.2). However when reviewing the literature, many of the prior studies either; (i) only used misleading questions (Gordon et al., 1994; Milne & Bull, 1998), (ii) used predominantly misleading questions (Henry & Gudjonsson, 1999, 2003), or (iii) lacked clear definitions or lists of the questions used (though examples provided indicate the use of misleading questions; Jens et al., 1990; Michel et al., 2000; Pear & Wyatt, 1914). The heavy reliance on misleading questions does not allow for an in-depth analysis of the types of errors that might be made by children in response to different types of leading questions. Misleading questions do not encourage elaborate memory retrieval; rather they restrict the range of response options and simply imply that one of the options is correct (Powell & Roberts, 2002). When different types of leading questions have been included in studies, the impact of leading questions on children’s recall has been found to be greater in response to misleading questions compared to leading cued-recall questions when a repeated event design is employed (Powell & Roberts, 2002). Therefore, only utilising misleading questions in
the recall interview may artificially elevate the impact leading questions may have on a child’s recall.

Given the current understanding that there are many ways in which an interviewer can lead an interviewee in the form of various question types, it is imperative that the research begins to reflect the heterogeneity of leading question definitions. Focusing on one type of leading question limits the applicability of the findings and does little to further develop and expand our understanding of the impact of leading questions on children’s investigative interview performance.

3.3 Recent Research Developments

One of the most recent, carefully controlled and comprehensive studies to investigate the impact of leading questions on CWID was conducted by Agnew and Powell (2004). This study (which addressed some of the limitations of prior research) represents the most significant work in the area to date and made several unique contributions to the area. The study consisted of 80 children aged 9 to 12 years with a mild or moderate intellectual disability and included both MAM and CAM control children. The children participated in a staged ‘magic show’ at their school which involved 21 target items to be remembered. This event was appropriate for all developmental levels and involved active participation from all children.

The unique aspect of this study design was that a separate biasing interview was conducted, that provided (in the form of presumptive cued-recall questions) seven false and seven true suggestions about the event. For example, if the magician made orange juice appear, a false suggestion would be “I heard the magician did a magic trick where she made a glass of
coke appear. Where did the glass of coke come from?” A true suggestion would be “I heard the magician did a magic trick where she made a glass of orange juice appear. Where did the glass of orange juice come from?” The advantage of staging a separate biasing interview is that it heightens the generalisability of the findings and permits the examination of a wide range of errors (e.g., false information previously offered by the interviewer as well as new false details generated by the child; McFarlane & Powell, 2002). The day after the biasing interview a recall interview was conducted according to best-practice guidelines, which was designed to elicit as many target items as possible.

While many of the findings from this study were consistent with past literature, the results of Agnew and Powell’s (2004) work revealed one interesting finding regarding the effect of leading questions on CWID. It was found that CWID were significantly less likely than the two control groups to repeat the false-interviewer suggestions heard in the biasing interview. This finding should be interpreted in light of the fact that repeating an interviewer suggestion requires the ability to encode, store and retrieve the information at a later date (Agnew & Powell, 2004). The poorer memory and receptive language skills of CWID may have reduced the likelihood that these children remembered the suggestions (Fyffe, 1996) and were able to subsequently report them. The authors highlighted the positive aspect of this finding was that CWID appear to be less susceptible to interviewer ‘coaching’ or their memories may be less easily over-written by previous biasing interviews (Loftus, 1975) than mainstream children. Furthermore, this finding may suggest that ground-rule instructions (which
target social, emotional and motivational factors) may provide greater advantages for these children than for their mainstream counterparts.

Unlike the earlier studies which used only misleading questions, Agnew and Powell’s (2004) work used presumptive cued-recall questions to assess the recall of CWID which may explain this finding. It has been shown that CWID are more likely to acquiesce to misleading questions than CAM control children (Henry & Gudjonsson, 1999; Michel et al., 2000; Milne & Bull, 1998; Pear & Wyatt, 1914). The use of presumptive cued-recall questions do not allow for a child to simply acquiesce. Rather, these questions engage children in deeper processing where they are required to encode, store and then retrieve the interviewer’s suggestion at a later date; a process that requires more sophisticated memory and language skills than simply acquiescing to a question (Waterman et al., 2000).

While Agnew and Powell’s (2004) work significantly added to our understanding regarding the impact of different types of leading questions on children’s recall and furthermore, the impact of leading questions on the recall of children of different levels of intellectual disability, there remains one significant limitation to all past research in this area. There are no research studies to date which have investigated the impact of leading questions on children’s recall after experiencing a repeated event and the influence intellectual disability may have on this impact. This is an important gap in the literature, particularly due to the fact that while some children experience just one incident of abuse, in many cases children are victims of repeated offending (i.e., children experience numerous abusive acts perpetrated during the same occurrence or numerous acts perpetrated
over a number of different occurrences; Powell & Roberts, 2002; Powell et al., 1999; Powell et al., 2007; Powell & Thomson, 2002), and CWID are more vulnerable to repeated abuse than mainstream children (Hershkowitz et al., 2007). Given the heightened risk of children experiencing repeated abuse, particularly CWID, understanding the relative impact of leading questions on children’s recall is particularly pertinent in relation to repeated events (Powell & Roberts, 2002; Powell, Roberts & Thomson, 2000). The importance of understanding the impact of leading questions on children’s recall after experiencing a repeated event is further highlighted by the fact that event repetition has a number of unique effects, issues and important influences on children’s ability to recall and report their experiences that are not as pertinent in cases where they experience an isolated event. The impact of event repetition on children’s memories and recall abilities will be discussed in more detail in Chapter 4. Despite the importance of this area, this remains a neglected focus within the literature.

3.4 The Rationale for Exploring the Impact of Leading Questions on Children’s Recall Following a Repeated Event

As previously outlined, the majority of literature regarding the impact of leading questions on children’s recall relates to the experience of a single (one-time) event. There has been limited research investigating the impact of event repetition on the impact of leading questions on children’s performance during an investigative interview, despite evidence to suggest that event repetition has both beneficial and detrimental effects on the impact of leading questions on children’s recall (as compared to a single experience of an event). Repetition leads children to become highly
resistant to leading questions about fixed event details (Connolly & Lindsay, 2001; Powell et al., 1999). However, the evidence is mixed as to the impact that event repetition has on variable details (e.g., details which change between occurrences; Roberts & Powell, 2006). Event repetition has been shown to effect variable details in the following ways; (i) increase the impact of leading questions on children’s recall (Connolly & Lindsay, 2001; Powell & Roberts, 2002), (ii) decrease the impact of leading questions on children’s recall (Powell et al., 2000), and (iii) leading questions have no detectable impact on children’s recall (Powell & Roberts, 2002; Powell et al., 1999). The inconsistent results regarding the impact of leading questions on children’s recall may be accounted for (albeit in part) by the different questioning procedures utilised in the studies to examine this impact (i.e., whether memories were elicited through the use of presumptive cued-recall or misleading questions; as discussed in section 3.2.2; Powell & Roberts, 2002). However, it is important to note that the discrepant results noted above were obtained in examinations of the impact of leading questions on mainstream children’s recall. There has been no study to date that has investigated the impact of leading questions on CWID’s recall in relation to a repeated event.

What is currently known about the impact of leading questions on CWID’s recall is likely to be different when using a repeated event paradigm. For example, Agnew and Powell (2004) found that CWID were less likely to repeat interviewer false suggestions than MAM and CAM control children when recalling a one-time event. For a repeated event however, this may not be the case, especially when the interviewer’s false
suggestion relates to a detail that was experienced but not in the target occurrence (e.g., suggesting the child saw her sister standing in the hallway the last time the abuse occurred when in reality the child’s sister was only present during the first occurrence of abuse; Powell et al., 2007). Whereas rejection of a completely non-experienced detail (e.g., suggesting the child saw her sister standing in the hallway when the child never saw her sister at any point during the series of abusive acts) is largely based on content information (i.e., whether the detail is familiar to the child), a decision to reject an interviewer suggestion of an experienced non-target detail cannot be based on content alone (Powell et al., 2007). Most importantly, recent research has revealed that; (i) a high rate of interviewer suggestions about experienced non-target details (i.e., temporal-leading questions) occur in both field and mock interviews about repeated events, and (ii) there are significantly more questions of this type in interviews about repeated events than in interviews about single events (Guadagno & Powell, 2008, 2013). Therefore, it is important to expand our understanding about the relative impact of leading questions on children’s recall from a single event design to a repeated event design. This would permit the examination of leading questions containing information the child experienced, but not in the target occurrence, which is commonly the case of leading questions in field interviews about a repeated event.

3.5 Summary

In sum, the earlier studies relating to the effect of leading questions on CWID contend that these children are more suggestible than mainstream children. The recent work of Agnew and Powell (2004) expanded on the
previous literature to include a separate biasing interview and different
leading questions and highlighted that the relationship may not be as simple
as previously proposed. To explore in more detail the findings of Agnew
and Powell (2004) and more generally the impact of leading questions on
children’s performance during investigative interviews, it is important to
use unique paradigms neglected in the literature to date. Future work needs
to shift the focus from examining whether CWID are more vulnerable to
leading questions than mainstream children, to instead determine under
what conditions, or in response to which questions they are more or less
vulnerable. The past literature investigating the impact of leading questions
on CWID remains limited by the use of a single event design. The use of a
repeated event paradigm has been an emerging construct in the child
eyewitness literature. Recent work by Agnew and colleagues (2006) utilised
a repeated event paradigm to investigate the differences in questioning
styles used by police and caregivers when interviewing CWID. Although
this work used a repeated event the authors did not specifically use this as a
particular focus of their investigation. The use of a repeated event paradigm
raises questions around any factors, findings or constructs that may be
unique when an event is experienced repeatedly. The following chapter will
discuss the utility of using a repeated event paradigm to investigate the
effect of leading questions on CWID.
CHAPTER 4 – THE IMPACT OF EVENT REPETITION AND LEADING QUESTIONS ON CHILDREN’S RECALL

While some children experience a single incident of abuse, in many cases children are victims of repeated offending (i.e., children experience numerous abusive acts perpetrated during the same occurrence or numerous acts perpetrated over a number of different occurrences; Connolly & Lindsay, 2001; Powell & Roberts, 2002; Powell et al., 1999, 2000, 2007; Powell & Thomson, 2002). Further, research has established that children with an intellectual disability (CWID) are particularly vulnerable to repeated abuse (more so than their mainstream peers; Hershkowitz et al., 2007). The impact of leading questions on children’s recall is particularly pertinent in relation to repeated events (Connolly & Lindsay, 2001; Powell & Roberts, 2002; Powell et al, 1999, 2000, 2007; Roberts & Powell, 2006) because of the impact event repetition has on children’s memory and recall abilities and thus the accuracy and completeness of their accounts. Both event repetition and leading questions have been shown to have important implications for children’s ability to accurately articulate their experiences and therefore is an important area for continued research focus.

Event repetition has been shown to impact children’s ability to recall and report their experiences in both beneficial and detrimental ways (Brubacher, Glisic, Roberts & Powell, 2011; Brubacher, Roberts & Powell, 2012, Connolly & Lindsay, 2001; Powell & McMeekan, 1998; Powell & Thomson, 1996; Price & Connolly, 2007). When a child experiences an event repeatedly, their memories for fixed details (that is details that remain the same across various occurrences) are strengthened (Powell et al., 2007).
In contrast, event repetition impedes a child’s ability to recall specific occurrences, particularly details which varied across event occurrences (Powell et al., 2007). The impact that event repetition has on children’s memories and thus their ability to articulate their experiences in an accurate and comprehensive way significantly affects the quality of reports given by children. While children’s accounts are generally important within environments such as school and home, the accuracy and completeness of their accounts is essential within a legal context.

In most Australian jurisdictions, for an alleged offender to be convicted in relation to a repeated offence, each specific occurrence must be identified with reasonable precision with reference to time, place or some other unique contextual detail and distinguished from other occurrences (S v. R, 1989). Such contextual details may relate to what clothing was worn or what an alleged perpetrator did and/or said during the incident (Powell & McMeekan, 1998; Powell et al., 2000). Particularising an offence in this manner is a difficult task for an adult or child of normal intellectual ability and may be particularly challenging for individuals with an intellectual disability (Powell & McMeekan, 1998). Because of the requirement for particularisation in repeated abuse cases, the focus of the investigative interview must be on identifying and distinguishing between the different acts of abuse. The process of identifying and distinguishing a specific occurrence of a repeated event is difficult task for most children (Connolly & Lindsay, 2001; Hudson, 1990; Powell et al., 1999, 2000, 2007; Powell & Thomson, 1996).
Considering the impact event repetition has on the memory and recall abilities of children, little is known about how this may impact investigative interview practice. Some guidance has been provided to investigative interviewers regarding interviewing a child about possible multiple incidents (Lamb et al., 2008), however this remains an understudied area in the literature. Furthermore, no studies have investigated the impact that intellectual disability may have on interview performance after experiencing a repeated event. Nevertheless, the existing literature offers an important framework for understanding the impact that repeated experiences can have on children’s memories and how this can influence the evidence obtained during investigative interviews. Prior to the review of the literature in this area, a brief description is offered regarding the design and procedure of past research investigating interview performance after a repeated experience.

4.1 Design and Procedure of Prior Research on Children’s Recall of Repeated Events

In the majority of prior research investigating the effect of event repetition and leading questions on children’s memory, a unique innocuous event is repeatedly staged by a researcher in the child’s school which provides the focus of subsequent memory interviews. The main rationale for using an event such as this to assess the research question, rather than examining children’s recall of actual repeated abuse (aside from obvious ethical issues), is that children’s experiences of the repeated event are able to be controlled. Further, without the ability to control children’s experiences and have a detailed record of the event, it would not be possible
to determine whether a detail recalled by a child was in fact an error, and if so, the nature of that error.

The innocuous events that are repeatedly staged have been developed solely for research purposes and generally involve a series of interactive activities. The structure of the event centres on several main activities (e.g., listening to a story, completing a puzzle, having a rest, getting a surprise) and each occurrence of these activities is slightly different. The majority of the research on children’s recall of repeated events has been conducted by Powell and colleagues (Powell et al., 1999, 2000; Powell & Roberts, 2002; Powell & Thomson, 1996; Roberts & Powell, 2001, 2006).

The events include multiple ‘memory items’ that are varied in presentation across the multiple occurrences of the event. The particular variation of the memory item is referred to as an ‘instantiation’ of the memory item. The structure of the innocuous event generally includes memory items repeated in either a ‘fixed’ or ‘variable’ way. ‘Fixed’ details do not differ across occurrences (e.g., in each occurrence the children sat on a garbage bag). All remaining memory items are ‘variable’ and have different instantiations across the occurrences (e.g., the leader of the activities wore a different colour cape during each occurrence). In most of the empirical literature, the assignment of ‘fixed or ‘variable’ items are counterbalanced across occurrences, which is used to reduce the likelihood that any reported effects are due to the allocation of items or instantiations rather than the experimental effect.

After experiencing a series of events, children participate in an interview. Children are asked to recall one occurrence of the event (referred
to as the ‘target occurrence’). Generally, the target occurrence is the final occurrence in the series. Furthermore, most of the prior research has assisted children in the later identification of the target occurrence through the use of a *contextual cue* (e.g., the children wearing a bracelet during the final occurrence) or a *temporal cue* (e.g., referring to the final occurrence as the ‘last time’). Researchers then use this contextual and/or temporal cue when directing the child as to which event to recall (e.g., referring to the target occurrence as “the time you wore the special bracelet”). Each child’s recall of the target occurrence is then examined through the use of a series of questions.

Only recently has research begun to focus on the impact of leading questions on children’s recall in relation to repeated events. The research involves the presentation of leading questions from an interviewer which are either presented during a *memory recall interview* or a *separate basing interview*. The effect of these leading questions on children’s recall is then examined.

Importantly, the majority of the prior research on the impact of leading questions on children’s recall (for both single and repeated events) has focused on the effect of leading questions about *non-experienced* details (i.e., plausible details that did not occur at all in the series of occurrences). Only recently has research acknowledged the importance of examining how children’s recall of a repeated event may be contaminated by leading questions about experienced *non-target* details (i.e., details that were experienced, but not in the target occurrence). Research conducted by Powell and colleagues (2007) investigated this issue and found that
irrespective of the age of children, question type utilised (misleading versus presumptive cued-recall) and the retention interval, interviewer suggestions were more likely to be reported by children if they referred to experienced non-target details than if the suggestion was a completely non-experienced detail. While these results justify the investigation into the impact of leading questions (both suggesting experienced and non-experienced details) on children’s recall following a repeated event, what remains unknown is the effect intellectual disability may have on this issue.

4.2 The Impact of Event Repetition on Children’s Recall

A child’s memory of a repeated event is complex and differs qualitatively from memories of an isolated event (Powell & Thomson, 1996). As previously discussed, event repetition has been shown to have both beneficial and detrimental effects on a child’s memory (Powell & Thomson, 1996, 2002). Event repetition enhances recall of general or ‘fixed’ event details, but impedes memory for ‘variable’ features of the event (Connolly & Lindsay, 2001; Powell et al., 1999, 2007). As such, these fixed details are better remembered over time and more likely to be recalled than are variable details. When an event is experienced repeatedly, fixed details that do not vary across experiences are strengthened in a child’s memory and thus; (i) the child is more resistant to leading questions about these details than is a child who experienced a single occurrence (Connolly & Lindsay, 2001), and (ii) a child recalling a repeated event provides significantly more fixed event details than a child recalling a single event (Powell & Thomson, 1996). One difficulty faced by researchers however, is that when a child reports a fixed detail, there is no way of knowing which
occurrence of the event is being remembered. The child may be recalling the target occurrence, or the child may be referring to the event in general and may not be recalling a specific occurrence.

When considering children’s recall of details that have varied in some way across occurrences (e.g., remembering what clothing was worn, or precisely what someone did and/or said during a specific occurrence of the event), repeated experience has detrimental effects on children’s ability to recall specific occurrences of a repeated event. Research has established that children become highly confused between different occurrences of an event (Powell et al., 1999). In response to questions about variable memory items, children who have experienced a repeated event were significantly more likely to provide less accurate information and make more errors compared to children exposed to a single event (Powell et al., 1999; Powell & Thomson, 1996, 1997b). More specifically, the greater the frequency of event occurrences or the greater number of new item instantiations (i.e., particular instances or variations of an item) across occurrences, the more difficult it is for children to recall a particular occurrence of a repeated event (Lindsay, 1994; Linton, 1982). Furthermore, research has also established that difficulty distinguishing between occurrences is heightened when the occurrences are similar in terms of content or context (Lindsay, Johnson & Kwon, 1991). In these cases where the occurrences are similar, children typically have better recall for the first and last occurrences compared with other occurrences in the series (Berch, 1978; Dewing & Kennealy, 1974; Powell, Thomson & Ceci, 2003). Therefore, although repeated experience of an event has positive effects on children’s recall of
fixed details, it has negative impacts on tasks which require children to provide occurrence specific information.

The confusion and difficulty experienced by children when attempting to distinguish between similar occurrences of a repeated event has been highlighted in the following ways. Children have been found to be less accurate, less certain, and less consistent in their reports of a repeated event compared to a single event (Roberts & Powell, 2005; Powell et al., 1999; Powell & Thomson, 1996, 1997b). Second, children’s reports of an occurrence of a repeated event typically include a high rate of intrusion of details from other experienced non-target occurrences of the event into the occurrence that is being recalled. These errors, referred to as ‘internal intrusion’ errors, are the most common type of error made by children attempting to recall an occurrence of a repeated event (Connolly & Lindsay, 2001; Farrar & Goodman, 1992; Hudson, 1990; Powell & Roberts, 2002; Powell et al., 1999; Powell & Thomson, 1996). In contrast, reporting details that were not experienced by the child during the repeated experience (‘external intrusion’ errors or ‘confabulations’) are uncommon and less likely to be reported by children who experienced a repeated as opposed to a single event (Powell & Thomson, 1996). Further research has shown that external intrusion errors/confabulations are seldom reported by children when reporting an experience of a repeated event unless there have been strong external contaminating influences (e.g., prior misleading interviews; Powell et al., 2000). Even in highly suggestive interviews, the number of internal intrusion errors generally far outweighs the number of external
intrusion errors/confabulations (Powell & Roberts, 2002; Powell et al., 1999; Price & Connolly, 2007).

The high rate of internal intrusion errors arise because recalling an occurrence of a repeated event involves two distinct memory mechanisms; (i) the ability to recall content details, and (ii) the ability to recall the temporal location of the content details (Powell & Roberts, 2002; Powell et al., 2000, 2007; Powell & Thomson, 2002). The first component involves the child being able to recall content details (i.e., which details were experienced in the event per se). The second component is the ability of the child to recall the temporal position of the various content details (i.e., which details were experienced in the target occurrence of the event). Research has demonstrated that although performance on each of these tasks declines over time, the decline is more rapid for recall of the temporal position of the details (Powell & Thomson, 1997a).

4.3 Understanding the Difficulties of Recalling an Occurrence of a Repeated Event

Theoretical frameworks of memory have been proposed to explain the difficulties often faced by children when attempting to recall an occurrence of a repeated event. There are three main theories posited to understand why after a child has experienced a repeated event their recall of a particular occurrence is characterised by an increase in internal intrusion errors, a heightened recall of fixed details, a reduced ability to recall variable details and a difficulty in identifying the temporal source of information. These three theories are; (i) script theory, (ii) fuzzy-trace theory (FTT), and (iii) source-monitoring theory. Each theory will now be discussed in turn.
4.3.1 Script Theory

Script theory (e.g., Fivush, Kuebli, & Clubb, 1992; Hudson, 1990; Nelson, 1986; Schank & Abelson, 1977) posits that when a child experiences a series of similar repeated events, a general event representation is established capturing the characteristics that are common across occurrences and this general event representation is used to structure recall (Hudson, Fivush & Kuebli, 1992). This “script” that is formed contains the general features of the event, that is the details that occur each time and such scripts can be extraordinarily accurate (Schank & Abelson, 1977). In other words, a child can accurately recall general features that do not vary across repeated occurrences (Roberts & Powell, 2001). Variable aspects of a repeated event are represented as a list-like set of options but are not strongly connected to any one instance of a repeated event, creating difficulties linking content information with temporal source (Roberts & Powell, 2007). This difficulty inherent in associating details with their source results in challenges for a child when responding to questions about experienced but non-target (variable) details.

Script theory assists in understanding one unique aspect repeated experiences have on a child’s recall of an occurrence of a repeated event. Script theory explains how a child who has experienced an event repeatedly is accurate when recalling fixed (generic) details and inaccurate when attempting to retrieve variable details (Roberts & Powell, 2007).

4.3.2 Fuzzy-Trace Theory (FTT)

According to FTT (e.g., Brainerd & Reyna, 1990, 1993, 1998, 2002, 2004; Reyna & Brainerd, 1998) memories are dually recorded in two
independently stored mechanisms; *verbatim* representations and *gist* representations (Roberts & Powell, 2001, 2007). Verbatim traces contain memories of the exact and surface form of details of an event (e.g., ‘I wore a bracelet and the leader wore a cape’) and include source information (e.g., ‘the last time’; Brainerd & Reyna, 2002; Brubacher et al., 2011). Gist traces refer to the general meaning or structure of the experience (e.g., ‘we listen to music and the leader wears a cape’; Brainerd & Reyna, 2002; Brubacher et al., 2011; Roberts & Powell, 2007). Verbatim and gist traces are stored independently and verbatim traces decay at a faster rate than gist traces (Roberts & Powell, 2007). Younger children rely more on verbatim than gist processing compared with older children, however verbatim traces also decay at a faster rate for younger children (Roberts & Powell, 2007). With repeated events, a verbatim trace is created during each instance of a repeated event but each instance also activates the same gist trace (Price & Connolly, 2007). Therefore, repetition strengthens the gist trace for variable details, leading to a reliance on gist when interviewed and thus suppression of verbatim based recollection rejection (Roberts & Powell, 2007).

Whether the verbatim or gist trace is activated at retrieval is an important consideration for investigative interviews because only the verbatim trace is useful when attempting to recall incident-specific details of one occurrence of a repeated event (Brubacher et al., 2012) and attempting to particularise occurrences. Verbatim memory is facilitative of the recall of particular instance details while gist memory is less so (Price & Connolly, 2007). If the verbatim trace is activated during retrieval, recall of
specific instance details is more likely and the rejection of misinformation should be heightened, referred to as ‘recollection rejection’ (Price & Connolly, 2007). However, if the gist trace is activated during recall, recall of non-target details, acceptance of gist-consistent suggestions, and reduced reporting of accurate target details is more likely to result (Price & Connolly, 2007).

While FTT provides some explanation regarding the different memory mechanisms involved in encoding a repeated event, it does not provide an explanation of how children are able to accurately attribute details to occurrences in the absence of intact verbatim traces (Brubacher et al., 2012).

4.3.3 Source-Monitoring Theory

Source-monitoring theory (e.g., Johnson et al., 1993; Johnson & Raye, 1981) suggests that when recalling an occurrence of a repeated event, children often accurately recall the details they had experienced but have difficulties remembering details as occurring in the target incident (Roberts & Powell, 2001). Children are often quite capable of remembering the content details of repeated events, however the problem lies in their ability to accurately tag the specific detail to the correct occurrence in a series of events (Powell & Thomson, 1996; Powell et al., 1999). Such errors, referred to as “source-monitoring errors” reflect that details from different experiences are remembered but the memories are not tagged to the correct source or experience (Johnson et al., 1993; Roberts & Blades, 2000).

Memory for content details of experiences appears to be more durable over time than the ability to accurately tag a memory to its source (Powell
& Thomson, 1997a; Schacter, Harbluck & McLachlan, 1984). Source misattributions are likely to occur when memories of the misled details contain similar characteristics as that of the original information (Roberts & Powell, 2007).

While these three theories assist our understanding about the difficulties a child may experience when recalling an occurrence of a repeated event, no one theory in isolation is comprehensive enough to guide predictions about children’s memories for repeated events (Brubacher et al., 2012). Script theory explains script development and structure; FTT clarifies the circumstances under which children will confuse details within occurrences; and the source-monitoring framework describes the difficulties of connecting details to their sources (Brubacher et al., 2012). When considered together, however, these theories can guide researchers’ expectations of children’s memory and recall.

The many difficulties faced by children during investigative interviews when attempting to recall an occurrence of a repeated event have been highlighted within the literature. Discriminating between occurrences of a repeated event is a difficult task for any witness however, these challenges are especially relevant for child witnesses and even more so for CWID. However, this is the requirement of our legal system to ensure the accuracy and detail of children’s accounts to increase the chance of a successful prosecution. The difficulties faced by children are compounded by the unique memory processes needed to perform this task and the high-risk of internal intrusion errors (i.e., the migration of details from one occurrence of the event into the target occurrence). Recent research has
further highlighted the unique challenges that repeated experiences cause for children attempting to recall a specific occurrence of a repeated experience. Specifically, the unique ways in which an interviewer can lead an interviewee have been identified. Unlike single events, interviewers can lead interviewees in terms of the content and the temporal location of details.

### 4.4 Event Repetition and Leading Questions

The risk of an interviewer contaminating a child’s account of an event through the use of leading questions may be heightened when conducting an interview about a repeated event. Researchers contend that during interviews regarding repeated events, questions can be leading in terms of content as well as when the details occurred in the series of occurrences (Guadagno & Powell, 2013). These leading questions, which suggest the temporal source of particular details, have been suggested to be particularly high when interviewing a child about a repeated event and provide further credence for investigating the effect of leading questions within a repeated event paradigm. As previously discussed, while research has suggested that leading questions tend to represent a relatively small proportion of all questions asked throughout an interview (Cederborg et al., 2000; Davies et al., 2000; Hershkowitz et al., 1997; Hughes-Scholes & Powell, 2008; Lamb et al., 1996, 2000; Lamb, Sternberg, Orbach, Esplin et al., 2002; Lamb, Sternberg, Orbach, Hershkowitz et al., 2002; Orbach et al., 2000; Powell et al., 2012; Sternberg et al., 1996, 2001; Warren et al., 1999), the incidence of various types of leading questions within interviews remains unknown (Hughes-Scholes & Powell, 2008).
It has been proposed that estimates as to the proportion of leading questions during investigative interviews have underestimated how often they are used due to restricted definitions (Guadagno & Powell, 2013). Many of the past studies have used a single broad category of leading questions to include many different types and variations of how an interviewer can lead an interviewee (Powell et al., 2005). Only one recent study acknowledged the heterogeneity of leading questions and attempted to broaden the definition to include different subtypes (Hughes-Scholes & Powell, 2008). The authors separated leading questions into subgroups pertaining to the use of non-specific information, specific information, and the presumption of specific information not previously disclosed by the child (discussed in section 2.1.2). Despite broadening the definition of leading questions in the work by Hughes-Scholes and Powell (2008), like much of the prior literature in this area, past estimates of leading questions have been based on single rather than repeated events. A repeated event is likely to contain more leading questions as the questions can be leading in terms of both content and temporal details. Leading questions which include temporal information are significantly less frequent in single events (Guadagno & Powell, 2013). Therefore, past studies have failed to differentiate between temporal- and content-leading questions which are particularly relevant when interviewing a child about a repeated event.

Content-leading questions are questions that raise specific details (i.e., actions, objects, persons) that occurred within the experienced event (Guadagno & Powell, 2013). In contrast, temporal-leading questions suggest or presume the time or temporal source of various content details
(Guadagno & Powell, 2013). These two categories are not necessarily mutually inclusive or exclusive. For example the question “Your uncle touched your breasts the last time you went to ballet class, didn’t he?” when the child had not previously mentioned being touched on the breasts. In this sense the question is leading in terms of content (suggesting she was touched on the breasts) but also leading in terms of temporal detail, because it makes reference to the time in which the act was alleged to have occurred (the child may not have been touched on the breasts the last time she went to ballet class). Temporal-leading questions can relate both to single and repeated events, however they are particularly likely to occur when questioning a child about a repeated event (Guadagno & Powell, 2013). Due to the legal requirement of particularisation in repeated occurrences of abuse, the focus of the interview is on identifying and distinguishing between the different acts of abuse. Therefore, the risk of the interviewer presuming or suggesting how particular details occurred within one event or across events is particularly high when interviewing about repeated events.

If the occurrence of leading questions has been underestimated in past studies due to restricted definitions, is the occurrence of such questions particularly detrimental to CWID? These questions may impact more negatively on CWID as they may have more difficulties correctly sequencing an event and monitoring the source of their experiences than mainstream children or adults.

4.5 Summary

The impact event repetition has on a child’s memory and their ability to provide detailed and accurate accounts of their experiences pose many
unique challenges for interviewers. The strengthened memory for fixed details and impeded memory for variable details following repeated experience of an event pose difficulties for the investigation of repeated abuse. Many cases of repeated abuse contain fixed details (e.g., the same act occurred each time) and variable details (e.g., the act may have occurred at a different location each time). What is required in the child’s testimony in these cases is a clear narrative of what took place each time the abuse occurred, including unique details particular to each time so the various acts/occurrences of abuse can be distinguished from one another. Further, the process of remembering a specific occurrence of a repeated event is complex and involves two phases. First, a witness must identify a particular occurrence within the series of occurrences (Powell & Thomson, 1996). Second, once a single occurrence is isolated the witness must distinguish this occurrence from other similar occurrences within the repeated event (Powell & Thomson, 1996). Most witnesses usually remember fixed details that remained the same across different occurrences however, the act of isolating a single occurrence of a repeated event and distinguishing it from other extremely similar occurrences is a very challenging task (Powell et al., 2007). The task of identifying and distinguishing an occurrence of a repeated event is especially difficult for children, whose knowledge and understanding of time is not as well developed as adults (Friedman, 1993).

Further complicating the impact event repetition has on a child’s memory and their performance during investigative interviews is the increased ways an interviewer can lead an interviewee. Not only can the interviewer lead a child in terms of content details, they can also lead a
child as to the temporal location of particular content detail. This poses significant difficulties considering the purpose of investigative interviews following a repeated event is to identify and distinguish each occurrence within a series of occurrences. Little is currently known about the impact that these different leading questions may have on a child’s recall of an occurrence of a repeated event or the influence of intellectual disability on this impact.
CHAPTER 5 – HOW DO LEADING QUESTIONS IMPACT THE RECALL OF CHILDREN WITH AN INTELLECTUAL DISABILITY AND MAINSTREAM CHILDREN (STUDY 1)?

This chapter presents the first empirical study of this thesis. The primary aim was to investigate the impact of leading questions on the accuracy and detail of the recall of children with an intellectual disability (CWID; relative to mental-age match [MAM] and chronological-age match [CAM] control children) when recalling an innocuous event that was repeatedly experienced.

While research has shown that leading questions represent a low proportion of questions asked during investigative interviews with children (Cederborg, et al., 2000; Davies et al., 2000; Hershkowitz et al., 1997; Hughes-Scholes & Powell, 2008; Lamb et al., 1996, 2000; Lamb, Sternberg, Orbach, Esplin et al., 2002; Lamb, Sternberg, Orbach, Hershkowitz et al., 2002; Orbach et al., 2000; Powell et al., 2012; Sternberg et al., 1996, 2001; Warren et al., 1999), the impact of various types of leading questions on children’s recall has remained a neglected area of the research. Understanding the relative impact of different types of leading questions on children’s recall is important for a number of reasons. First, while the frequency of leading questions during investigative interviews with children is low, leading questions do feature at least once in the majority of these interviews (Hughes-Scholes & Powell, 2008). Second, there are times when the use of leading questions is considered appropriate during a forensic interview. For example, when a disclosure is not forthcoming and there is other evidence to suggest that an event has occurred (e.g., another person witnessed the event), or when all other question types have been exhausted.
and more event specific details are still required (Home Office, 2007; Lyon, 1995; Ministry of Justice, 2011a; Poole & Lamb, 1998; Wilson & Powell, 2001). Third, children participating in investigative interviews have often been part of intervening interviews or conversations with other professionals or adults (e.g., teachers, caregivers), which have been found to contain a larger proportion of leading questions and more direct, controlling and coercive interview style (e.g., criticising a child, using bribery) compared to interviews with police (Agnew et al., 2006). For these reasons, it is important to understand the relative impact of different types of leading questions so that recommendations can be made to guide their use by practitioners when they are required.

While literature has explored the impact of open-ended versus specific questions on the recall of CWID, less research has been devoted to the impact of leading questions on these children relative to their mainstream counterparts. Further, the research that has been conducted has produced variable findings. Early research identified that CWID are more likely to acquiesce to misleading questions than CAM control children (Henry & Gudjonsson, 1999; Michel et al., 2000; Milne & Bull, 1998; Pear & Wyatt, 1914), but studies examining the comparative performance of CWID and MAM control children found mixed results (Agnew & Powell, 2004; Gordon et al., 1994; Henry & Gudjonsson, 1999; Jens et al., 1990; Michel et al., 2000). Some studies have shown few differences between CWID and their MAM controls (Henry & Gudjonsson, 1999; Michel et al., 2000), while others found differences in performance (Gordon et al., 1994).
The variability in research findings has been attributed (albeit in part) to differences in the use of comparison groups and the types of leading questions employed across studies. Early research often compared CWID to one control group only; CWID were compared with either MAM or CAM controls, but not both (Gordon et al., 1994; Jens et al., 1990; Milne & Bull, 1998; Pear & Wyatt, 1914). Including just one comparison group limits the scope of the conclusions that can be drawn from the results. The importance of utilising both MAM and CAM controls has been discussed in the literature and is now deemed the most appropriate comparison because it allows for a comprehensive evaluation of the recall abilities of CWID and how these compare with their MAM or CAM counterparts. Further, the inclusion of two mainstream control groups permits the testing of alternative hypotheses; whether the abilities of CWID keep pace with their MAM peers (developmental perspective; Bennett-Gates & Zigler, 1998; Weiss et al., 1986; Weiss & Yeates, 1981; Weisz & Zigler, 1979) or fall behind their MAM peers (difference perspective; Bennett-Gates & Zigler, 1998).

A further methodological variation contributing to mixed findings is the differences in the definition of leading questions used across studies. While research has traditionally only utilised misleading questions to assess the impact of leading questions, more recent research has expanded the definition of leading questions. As interviewers have begun to understand the heterogeneity of leading questions, research has also acknowledged the variation in the types of leading questions.
Research has identified three broad types of leading questions; (i) misleading questions (i.e., questions that raise information not previously mentioned by the child and require only a ‘yes’ or ‘no’ response; e.g., “Was the lady wearing a yellow coat?” when the child had not previously mentioned what the lady was wearing), (ii) suggestive questions (i.e., questions that raise information not previously mentioned by the child and the desired response to the question is made clear to the child; e.g., “The lady wore a yellow coat, didn’t she?”), and (iii) presumptive questions (i.e., questions which presume information not previously mentioned by the child is correct and cues the child to comment on the presumed information; e.g., “Tell me about the yellow coat that the lady wore?”). More recently, researchers have identified subtypes of both misleading and presumptive questions (Hughes-Scholes & Powell, 2008). Some misleading questions raise limited information not previously reported by the child (e.g., “Was the lady wearing a yellow coat?”) while others raise highly specific information not previously reported by the child (e.g., “Was the lady wearing a yellow coat with red buttons?”). Likewise, presumptive questions can be phrased as cued-recall questions (i.e., questions requiring brief one or two word responses; e.g., “What did the yellow coat look like that the lady wore?”) or as open-ended questions (i.e., questions inviting elaborate responses; e.g., “Tell me everything you can remember about the yellow coat the lady wore”).

The definition of leading questions has also been expanded by the recent recognition that these questions can be leading in terms of both content and temporal details. The risk of a child being led by temporal
information is heightened when the child has experienced a repeated event, as the interviewer can suggest a content detail that occurred in an occurrence of the repeated event however not in the target occurrence (e.g., “[Leader’s name] got the stickers from an envelope the time you wore the special bracelet didn’t she?”, when the stickers were kept in an envelope during another occurrence but not during the time the child wore the special bracelet; Guadagno & Powell, 2013).

With the expansion of the definition of leading questions, research is yet to examine in a controlled design the impact of different types of leading questions on the recall of CWID (relative to MAM and CAM control children). The current study sought to develop this area of the literature. A ‘mock’ interview paradigm was utilised whereby children participated in a series of four events and were questioned (within a week of the final occurrence) about their experience using a fully scripted interview that contained the different types of leading questions (e.g., content-misleading, content-suggestive, content-presumptive, temporal-misleading, temporal-suggestive, and temporal-presumptive). The reasons for using this design were threefold. First, using a scripted event where the researcher had a record of the event structure enabled analysis of the nature of the children’s errors that arose in response to the various questions (e.g., confabulations or internal intrusion errors). Second, the use of a fully scripted interview allowed for the inclusion of the controlled presentation (e.g., phrasing and order) of the three types of leading questions (e.g., misleading, suggestive, and presumptive) and the subtypes of misleading (limited information and highly specific information) and presumptive
(cued-recall and open-ended) questions. This enabled examination of the impact of different types of leading questions on children’s recall. Third, the repeated staging of the event permitted the first examination of the impact of leading questions in a repeated event design, including the examination of content- and temporal-leading questions. While temporal-leading questions can also occur in single (one-time) events, they are more commonly found in interviews concerning repeated events (Guadagno & Powell, 2013). Finally, comparing the performance of CWID to both MAM and CAM control children allowed a comprehensive evaluation of the recall abilities of CWID compared to their mainstream counterparts.

Overall, in line with past research, it was expected that CWID would agree with (assent to) misleading and suggestive questions at a higher rate than CAM control children (Agnew & Powell, 2004; Feltis et al., 2010; Guadagno & Powell, 2008; Henry & Gudjonsson, 1999; Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Lamb et al., 2008; Michel et al., 2000; Milne & Bull, 1998; Orbach & Lamb, 2007; Pear & Wyatt, 1914; Powell et al., 2005; Roberts & Powell, 2001). Further, it was anticipated that all children would report a higher number of details in response to presumptive questions than misleading and suggestive questions. Although there was limited guidance available to direct hypotheses regarding content- and temporal-leading questions, it was possible that children would have a higher assent rate to temporal- than content-leading questions. This was postulated given the impact of repeated experience on children’s memory and the higher repetition of experienced
non-target information in leading questions that has been observed in prior work (Powell et al., 2007).

Method

Design

Children’s participation in this research involved them taking part in three main activities. First, a 30-minute innocuous event (referred to as the ‘Deakin Activities’ event) was staged four times over a two week period within the children’s classroom. All children in the classes selected by the school principal participated in the staged occurrences of the Deakin Activities events. Second, children participated in an interview where they were asked a series of scripted leading questions by a researcher about the final occurrence of the Deakin Activities events. Finally, children were administered the two subtest version (Vocabulary and Matrix Reasoning subtests) of the Wechsler Abbreviated Scale of Intelligence (WASI-II; Wechsler, 1999) to assess their intellectual ability.

Participants

The principals of 10 primary schools (five special schools/special development schools and five mainstream schools) within metropolitan Melbourne permitted their school to participate in this research. Principals selected classes of children to participate (within the appropriate age range)

---

3 Ethics approval allowed the principals of each school to consent for all selected children to participate in the Deakin Activities events. Parents/guardians consent was only sought for children’s participation in the later research activities. As a result, many more children participated in the Deakin Activities events than were ultimately included in the research.

4 The term special/special development school in Victoria defines schools that cater specifically for the needs of CWID.

5 A total of 34 schools were approached to participate in this research and the principals at 10 schools agreed to their school’s participation.
and agreed to disseminate the plain language statement and consent form to parents/guardians.

The final sample of participants consisted of 126 children aged 6 to 12 years. Participants included 46 CWID, 40 MAM control children and 40 CAM control children. The Deakin Activities events were staged to a total of 314 children (88 from special schools and 226 from mainstream schools), consent was received to participate in the interview for 185 children (64 from Special Schools and 121 from mainstream schools), 59 of these children had to be excluded from the research as they were not present for all four occurrences of the activity (due to absence from class) or their involvement was precluded given their significant auditory or visual impairment. This high attrition rate (32%) is consistent with past research using a repeated event design (Powell et al., 1999; Powell & Thomson, 1997a, 1997b).

**Group 1: CWID**

The 46 children in the CWID group (37 males and 9 females), ranged in age from 6.71 to 12.58 years ($M_{age} = 10.53$ years, $SD = 1.5$). Within a month of completing the interview about the final occurrence of the Deakin Activities events, each child was individually administered the WASI-II to assess his/her intellectual ability. Children’s Full Scale Intelligence

---

6 Collapsing across this large age range may have masked other age related effects,

7 A power analysis was conducted prior to data collection to determine the minimum participant numbers for each group with the expectation of a small effect size. It was calculated that a minimum of $n = 30$ participants per group were required.

8 In line with the aims of the study, the principals and the classroom teachers were consulted to determine whether there were any children who had significant auditory or visual impairments that would significantly impact their participation in an interview. Principals and teachers identified any children and these children were not included as participants in the study.
Quotient (FSIQ) scores ranged between 55 and 91 ($M = 67.93, SD = 9.91$) with a mean mental-age of 6.78 years ($SD = 1.04$).

**Control Groups**

Two control groups were included in this study. The participants in Group 1 (CWID) were recruited prior to participants for the control groups to allow for mental- and chronological-age matching.

All children with parent/guardian consent who were present for all four occurrences of the Deakin Activities events were placed into a pool of ‘potential participants’ ($N = 90$). Control groups were matched using a method used in previous research (Agnew & Powell, 2004) that involved equating each participant group on both mean age and standard deviation (in months). Initially, participants’ ages (chronological or mental) were matched on a case-by-case basis. When no more control children of precisely the same age were available, participants were matched to the next most appropriate child until mean and standard deviations of the control groups were not significantly different from the CWID group.

**Group 2: MAM control children.**

Children anticipated to be appropriate for the MAM control group were administered the WASI-II to determine their intellectual functioning. The final MAM control group consisted of 40 children (20 males and 20 females) aged between 6.15 and 10.83 years ($M$ age = 7.21 years, $SD = .98$) who had a FSIQ score between 73 and 123 ($M = 97.36, SD = 14.18$) and a mean mental-age of 7.21 years ($SD = .10$). The final Group 2 (MAM) sample was not significantly different in mental-age to Group 1 (CWID); $t(84) = 1.93, p > .05$. 
**Group 3: CAM control children.**

The final CAM control group consisted of 40 children (17 males and 23 females), aged between 7.45 and 12.07 years ($M_{age} = 9.85, SD = 1.7$). A subsample of the CAM control group were administered the WASI-II;\(^9\) obtaining a FSIQ score between 71 and 128 ($M = 104.56, SD = 15.24$). There was no significant difference in the chronological-age of Group 1 (CWID) and Group 3 (CAM) participants; $t(84) = 1.97, p > .05$.

**Procedure**

Ethics approval was received from the ethics committee at Deakin University and the Department of Education and Early Childhood Development (DEECD). Children’s participation in this research involved three main activities; (i) the Deakin Activities events, (ii) the interview about the final occurrence of the Deakin Activities events, and (iii) the intellectual assessment. Each of these activities is now described in turn.

**Staged Event**

The Deakin Activities events were a series of four 30-minute events, staged at the children’s school (twice a week for two weeks). This event was used because it is suitable for children of varying developmental levels and has been successfully used in prior studies (e.g., Guadagno & Powell, 2008; Powell & Roberts, 2002; Powell et al., 1999, 2000, 2007; Powell & Thomson, 1996; Roberts & Powell, 2006). A trained female research

---

\(^9\) All children included in Group 1 (CWID) and Group 2 (MAM) were administered the WASI-II. Children recruited for inclusion in the CAM control group, because of their chronological-age did not automatically receive a test of their intellectual functioning. As these children were recruited from mainstream schools, it was assumed that they would be functioning at a mainstream intellectual level. Further, it was not necessary to have an understanding of the intellectual functioning of the CAM group for the purpose of this study. A subsample of children (40%) from the CAM control group were administered the WASI-II to ensure they were of mainstream intelligence.
assistant (and registered primary school teacher) administered all occurrences of the event (she was referred to as the ‘Deakin Activities leader’) using a standard script (a full script of the first occurrence is provided in Appendix A). Each occurrence was administered in the same temporal order and centred around six main activities: meeting a koala, listening to a story, completing a puzzle, having a rest, getting refreshed and receiving a surprise. Each occurrence contained 17 main memory items, some of which were consistent across event repetitions while others had different instantiations across the event occurrences, consistent with repeated abuse scenarios in the field. Table 5.1 presents the full list of memory items and how they were replicated across the four event occurrences. During the final occurrence of the Deakin Activities events, each child was given a ‘special green bracelet’ to wear. The bracelet was incorporated into the final event occurrence to act as a contextual memory cue during the interview.

Only the teacher and the Deakin Activities leader were present in the classroom with the children when the activities were administered. The classroom teacher was instructed not to; (i) talk to the children about the Deakin Activities events, (ii) inform them that the Deakin Activities leader would return to administer subsequent occurrences, and (iii) advise the children that they were to be interviewed about the event at a later date.

**Interview**

Every child individually participated in an interview, which was held in an isolated room (not where the occurrences were staged) at the child’s school.
Table 5.1 Instantiations of the Main Memory Items of the Deakin Activities Events

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Item children sat on</td>
<td>Garbage bag</td>
</tr>
<tr>
<td>2</td>
<td>Colour of leader’s cape</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>Name of koala puppet</td>
<td>Pop</td>
</tr>
<tr>
<td>4</td>
<td>Who kept the koala puppet awake</td>
<td>Kookaburra</td>
</tr>
<tr>
<td>5</td>
<td>Warm up activity</td>
<td>Touch toes</td>
</tr>
<tr>
<td>6</td>
<td>Source of story</td>
<td>Leader’s letterbox</td>
</tr>
<tr>
<td>7</td>
<td>Title of the story</td>
<td>Easter</td>
</tr>
<tr>
<td>8</td>
<td>Child helper</td>
<td>Child C</td>
</tr>
<tr>
<td>9</td>
<td>Item used to write child helper’s name</td>
<td>Chalk</td>
</tr>
<tr>
<td>10</td>
<td>Content of jigsaw puzzle</td>
<td>Clown juggling balls while riding a unicycle</td>
</tr>
<tr>
<td>11</td>
<td>Relaxation music</td>
<td>Birds</td>
</tr>
<tr>
<td>12</td>
<td>Part of their body the leader touched</td>
<td>Legs</td>
</tr>
<tr>
<td>13</td>
<td>Method of getting refreshed</td>
<td>Hand cream</td>
</tr>
<tr>
<td>14</td>
<td>Sticker</td>
<td>Apple</td>
</tr>
<tr>
<td>15</td>
<td>Where stickers came from</td>
<td>Envelope</td>
</tr>
<tr>
<td>16</td>
<td>Who leader was going to visit</td>
<td>Friend in hospital</td>
</tr>
<tr>
<td>17</td>
<td>Badge worn by children</td>
<td>Leaves and bark</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garbage bag</td>
<td>Garbage bag</td>
<td>Garbage bag</td>
<td>Garbage bag</td>
</tr>
<tr>
<td>White</td>
<td>Blue</td>
<td>Yellow</td>
<td>Green</td>
</tr>
<tr>
<td>Pop</td>
<td>Stan</td>
<td>Stan</td>
<td>Stan</td>
</tr>
<tr>
<td>Kookaburra</td>
<td>Kookaburra</td>
<td>Kookaburra</td>
<td>Kookaburra</td>
</tr>
<tr>
<td>Touch toes</td>
<td>Jump</td>
<td>Wiggle fingers</td>
<td>Dance</td>
</tr>
<tr>
<td>Leader’s letterbox</td>
<td>Leader’s letterbox</td>
<td>Leader’s letterbox</td>
<td>Leader’s letterbox</td>
</tr>
<tr>
<td>Easter</td>
<td>Supercat</td>
<td>The sea creatures</td>
<td>Jumbo the elephant</td>
</tr>
<tr>
<td>Child C</td>
<td>Child D</td>
<td>Child C</td>
<td>Child C</td>
</tr>
<tr>
<td>Chalk</td>
<td>Texta</td>
<td>Crayon</td>
<td>Lipstick</td>
</tr>
<tr>
<td>Clown juggling balls while riding a unicycle</td>
<td>Clown juggling balls while riding a unicycle</td>
<td>Clown balancing books on his head</td>
<td>Clown juggling balls while riding a unicycle</td>
</tr>
<tr>
<td>Birds</td>
<td>Birds</td>
<td>Birds</td>
<td>The beach</td>
</tr>
<tr>
<td>Legs</td>
<td>Legs</td>
<td>Legs</td>
<td>Legs</td>
</tr>
<tr>
<td>Hand cream</td>
<td>Face spray</td>
<td>Face spray</td>
<td>Face spray</td>
</tr>
<tr>
<td>Apple</td>
<td>Smiley face</td>
<td>Dinosaur</td>
<td>Flag</td>
</tr>
<tr>
<td>Envelope</td>
<td>Basket</td>
<td>Purse</td>
<td>Jar</td>
</tr>
<tr>
<td>Friend in hospital</td>
<td>Friend in hospital</td>
<td>Friend in hospital</td>
<td>Friend in hospital</td>
</tr>
<tr>
<td>Leaves and bark</td>
<td>Ribbon</td>
<td>Fluffy green</td>
<td>Buttons</td>
</tr>
</tbody>
</table>
It was made clear to each child at the commencement of the interview that participation was voluntary and they were free to terminate the interview at any point. A female interviewer (a postgraduate psychology student) who was previously unknown to the children conducted all interviews which lasted approximately 10 minutes and occurred between one and seven days ($M = 4$ days) after the final occurrence of the event. At the commencement of the interview (and embedded within each question), the children were instructed that questions only related to the final occurrence of the Deakin Activities events when they wore the ‘special green bracelet’ (e.g., “Someone was keeping the koala puppet awake at night. Did a magpie keep the koala awake the time you wore the special bracelet?”). The fully scripted interview was a modification of the interview schedule used by Agnew and Powell (2004). The development of the scripted interview involved a number of stages. First, a pool of possible questions was developed for each of the 17 memory items, totalling 170 possible questions. This pool of questions allowed for each of the 17 memory items to be represented by each of the 10 leading question types (i.e., content-misleading limited-information, content-misleading highly-specific, content-suggestive, content-presumptive cued-recall, content presumptive open-ended, temporal-misleading limited-information, temporal-misleading highly-specific, temporal-suggestive, temporal-presumptive cued-recall, temporal presumptive open-ended). Table 5.2 offers an example of the questions developed for one of the memory items (i.e., the colour of the leader’s cape). Second, a series of 17 versions of the
Table 5.2 Examples of Leading Questions Contained within the Interview

<table>
<thead>
<tr>
<th>Leading question type</th>
<th>Subtype of Leading Question</th>
<th>Content-Leading Example</th>
<th>Temporal-Leading Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misleading</td>
<td>Misleading limited information questions</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. Did she wear a red cape the time you wore the special bracelet?</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. Did she wear a blue cape the time you wore the special bracelet?</td>
</tr>
<tr>
<td>Misleading</td>
<td>Misleading highly specific information questions</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. Did she wear a shiny red cape with glitter all over it the time you wore the special bracelet?</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. Did she wear a bright blue cape with a long ribbon to tie around her neck the time you wore the special bracelet?</td>
</tr>
<tr>
<td>Suggestive</td>
<td>Suggestive questions</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. She wore a red cape the time you wore the special bracelet, didn’t she?</td>
<td>I heard [leader’s name] wore a special cape so everyone knew she was the leader. She wore a blue cape the time you wore the special bracelet, didn’t she?</td>
</tr>
<tr>
<td>Presumptive</td>
<td>Presumptive cued-recall questions</td>
<td>I heard [leader’s name] wore a special red cape so everyone knew she was the leader. What did the red cape look like the time you wore the special bracelet?</td>
<td>I heard [leader’s name] wore a special red cape so everyone knew she was the leader. What did the blue cape look like the time you wore the special bracelet?</td>
</tr>
<tr>
<td>Presumptive</td>
<td>Presumptive open-ended questions</td>
<td>I heard [leader’s name] wore a special red cape so everyone knew she was the leader. Tell me all about the part when [leader’s name] put on the red cape the time you wore the special bracelet.</td>
<td>I heard [leader’s name] wore a special blue cape so everyone knew she was the leader. Tell me all about the part when [leader’s name] wore the blue cape the time you wore the special bracelet.</td>
</tr>
</tbody>
</table>
interview were developed to control for the presentation of question types
across memory items. Each version of the interview contained; (i) 17
questions, (ii) a reference to each memory item once, and (iii) one version
of each of the 10 possible leading questions. The remaining seven questions
were non-leading ‘filler’ questions. The presentation of questions was
fully counterbalanced across item, interview and order of presentation. An
example of a version of the interview is contained in Appendix B.

As can be seen in Table 5.2, all leading information contained in questions
referred to either content that was experienced in another occurrence of the
repeated event or alternative plausible information (e.g., for the leader’s
cape memory item the leading information referred to the ‘blue cape’ which
was an experienced non-target detail and the ‘red cape’ which was a non-
experienced but plausible colour). While prior literature has highlighted the
importance of examining both plausible and implausible details when
assessing the impact of leading questions (Jones & Powell, 2005; Pezdek,
Blandon-Gitlin, Lam, Ellis Hart & Schooler, 2006; Pezdek, Finger, &
Hodge, 1997; Pezdek & Hodge, 1999), given the primary aim of this study
was to investigate the impact of content- (non-experienced but plausible
details) and temporal-leading questions (experienced but non-target details)
it was not possible to include implausible details.

The substantive phase of the interview began with an explanation
about the purpose of the interview and to instruct the child that (s)he should
only recall the final occurrence (the time [s]he wore the ‘special bracelet’).

---

10 Had the interview consisted exclusively of leading questions, children may have
disengaged from the interview due to its repetitive nature and an acquiescing response
set may have resulted.
While providing the child with this instruction, the interviewer showed the child the bracelet (s)he wore. The introduction used with every child is provided below.\textsuperscript{11}

“I heard that [Deakin Activities leader’s name] came to your school and did some activities with your class called the Deakin Activities . . . I wasn’t there when you did the Deakin Activities so I’m going to ask you some questions about what happened. And it’s very important when we talk today that you only tell me about what happened the last time you did the activities, the time when [Deakin Activities leader’s name] gave you a special bracelet like this one to wear.”

Test of Intellectual Functioning

Within a month of the interview (\(M = 21.73\) days, \(SD = 13.03\) days), participants were administered the WASI-II. All assessments were conducted by the author and took approximately 15 minutes to complete.\textsuperscript{12} The WASI-II was administered for several reasons. First, the test is a valid yet brief test of cognitive functioning which has been correlated with the Wechsler Intelligence Scale for Children – IV (WISC-IV; Wechsler, 1999). Second, although the WASI-II does not provide an in-depth examination of performance across a variety of subtests, it produces a FSIQ score which is

\textsuperscript{11} Approximately two minutes was allocated to rapport building with the child prior to commencing the substantive phase of the interview. It was included in recognition of best-practice guidelines which highlight the importance of the rapport building phase. This phase was kept brief considering the innocuous nature of the questions the child was answering, to ensure (s)he remained engaged during the interview and to maximise the child’s attention span.

\textsuperscript{12} The assessor followed the standardised instructions provided in the user manual. The only modification was to acknowledge the children’s prior involvement in the interview. The instruction given to all children was as follows. “Hi, my name is Rachel and I spoke to you a couple of weeks ago about the Deakin Activities you did with [Deakin Activities leader’s name]. Well today we are not going to talk about the Deakin Activities again but I need you to help with me something a bit different. I have two different activities for you to do.”
sufficient for research purposes. Third, the use of the WASI-II minimises problems associated with retesting (e.g., practice effects) because some participants may have been administered the WISC-IV within the previous 12 months. Although the WISC-IV may offer a more complete assessment of children’s cognitive functioning, the WASI-II was considered most appropriate for use in the current research.

The mental-age of the participants was calculated based on test-age equivalent scores of their raw scores (prior to standardisation by age) on the WASI-II (e.g., a raw score of 8 on the matrix reasoning subtest was equivalent to a test-age of 6.2 years). A test-age equivalent score is given for each subtest; participants were assigned two test-age equivalent scores, which were then averaged to determine the participant’s mental-age.

**Coding**

The interviews conducted with each child were audio-taped and transcribed verbatim. A coding protocol used in previous research (Hughes-Scholes & Powell, 2008) was modified to apply to a repeated event design. Only information provided by the child that was relevant to the purpose of the interview was coded (e.g., irrelevant information pertaining to the tape recorder or a school excursion was not coded). All responses to leading questions in the interview were coded. The coding protocol consisted of three coding phases; (i) whether the child agreed with (assented to) the information raised/suggested/presumed in the leading question, (ii) the completeness of the child’s recall, and (iii) the degree of response error.

---

13 These test-age equivalent scores are provided in Table A.7 of the WASI-II manual.
14 Note that the children’s responses to non-leading filler questions were not coded, as the purpose of these questions was merely to maintain the flow of the interview and avoid an acquiescing response set.
A child was judged to have assented to the leading question if (s)he explicitly agreed with the leading information (e.g., said “yes”) or provided information about an activity as if it had happened (e.g., Interviewer: “Tell me about the part when [Deakin Activities leader’s name] wore a blue cape the time you wore the special bracelet?”; Child: “It had a long tie around her neck”). A child’s response was coded as a non-assent when the child disagreed with or corrected the interviewer (e.g., said “no”). Non-assents also included when the child responded by stating “I don’t know”, “I don’t remember”, or where they failed to respond, or avoided answering the question.

The next step was to code the completeness of each child’s response to the leading questions. Response completeness was coded as the total number of details provided by the child in response to each question, irrespective of whether the detail(s) were correctly described. The coding protocol developed by Hughes-Scholes and Powell (2008) was adopted to guide this coding.

E.g., “She (detail) wore (detail) a green (detail) cape (detail)”

Finally, degree of response error was coded. Each detail provided by the child when answering each question was coded as correct or incorrect. Every erroneous detail was further assigned to one of these mutually exclusive categories;

---

15 Presumptive leading questions, do not explicitly ask the child to provide a ‘yes’ or ‘no’ response, therefore a child’s response was coded as an ‘assent’ when (s)he responded with information that would lead the interviewer to believe that their presumption was correct.

16 There were 42 occurrences where children failed to respond or avoided answering a leading question. In each instance, the interviewer immediately repeated the question. If the child failed to respond again the question was not repeated and the interview continued.
i. *Interviewer suggestion* – where the child provided a detail about the false information raised/suggested/presumed within the leading question (e.g., Interviewer: “Did you hear bird sounds the time you wore the special bracelet?” [when the children did not hear birds sounds during the target occurrence], Child: “Yeah they were tweeting and chirping”).

ii. *Linked to interviewer’s presumption* – where the child provided a detail unrelated to the false information raised/suggested/presumed in the leading question, however the detail was reported to have occurred in the context of the misinformation in the question (e.g., Interviewer: “Tell me about the time when [Deakin Activities leader’s name] wore the red cape” [when the leader did not wear a red cape during any occurrence], Child: “Well we sat on a garbage bag and met a puppet”). Whilst the child did sit on a garbage bag and meet a puppet during the target occurrence, these details were incorrect because they were said to have occurred in the context of the interviewer’s presumption – when the Deakin Activities leader wore a red cape.

iii. *Confabulation* – where the child provided a detail that was not raised/suggested/presumed in the leading question and was not included in any occurrence of the Deakin Activity events (e.g., Interviewer: “There was a magpie keeping the koala awake the time you wore the special bracelet, wasn’t there?”, Child: “The koala’s name was Robert”, when the Koala was not called Robert in any occurrence).
iv. *Internal intrusion* – where the child provided a detail that was not previously raised/suggested/presumed in the leading question and was a detail that (s)he experienced during an occurrence, but not the target occurrence, of the Deakin Activities events (e.g., Interviewer: “Did [Deakin Activities leader’s name] write down the helper’s name with a paint brush the time you wore the special bracelet?” [when a paint brush was not used in any occurrence], Child: “No she wrote the helper’s name with a blue crayon” [when a blue crayon was used during the second occurrence, not the target occurrence]).

All transcripts were initially coded (for assent, non-assent, total details reported, total incorrect details reported, and the four error categories) by the author, and an independent person coded 20% of the interviews. Interrater reliability, calculated as agreements / (agreements + disagreements), was at least 95% for all coding categories and any discrepancies were resolved through discussion.

**Results**

The data were analysed using Generalized Estimating Equations (GEE).17 Children’s responses to the various leading questions (6 levels: content-misleading, content-suggestive, content-presumptive, temporal-misleading, temporal-suggestive, temporal-presumptive) were examined in

---

17 GEE analysis was the most appropriate analysis for this study considering the research question and data obtained. As the focus of this study was the examination of children's memory and recall abilities, a wide variety and distribution of raw data were found. Children's memories and recall abilities are a naturally occurring phenomena, so it was considered important to use raw data and a statistical technique which allowed the examination of a variety of distributions (e.g., Binomial and Poisson distributions). The strength of the GEE technique is that it is an extension of the General Linear Model and it allows for dependent variables to conform to other non-normal distributions (Hardin & Hilbe, 2003; Ziegler, 2011).
three stages for differences in; (i) the rate of assent to (agreement with) the
detail raised/suggested/presumed in the question, (ii) the completeness
(measured as total details) and degree of error (measured as total incorrect
details), and (iii) the types of errors that children made. Differences were
examined both within and between groups (3 levels: CWID, MAM control
children, and CAM control children). A conservative alpha level of $p \leq .01$
was adopted for all analyses (Cohen, Cohen, West, & Aiken, 2003).

Assents

A series of Binomial Logit GEE\(^{18}\) were conducted to investigate the
impact of group (3 levels) and leading question type (6 levels) on the
likelihood that children would agree with (assent to) the different leading
questions (see Formula 1.1). Table 5.3 presents the results conducted within
each group across question type.\(^{19}\)

\[
f(x) = \log \left(\frac{x}{1-x}\right) \tag{1.1}
\]

Group 1 Findings: CWID

The GEE model found no effect of leading question (6 levels) on the
likelihood of assent among CWID ($\chi^2 = 10.65$, $p = .06$). Likewise, there
were no significant differences in assent response across the subtypes of (i)
content-misleading questions (limited-information vs. highly-specific
information; $p = .43$), (ii) content-presumptive questions (cued-recall vs.
open-ended; $p = .33$), (iii) temporal-misleading questions (limited-

---

\(^{18}\) A Binomial distribution with a Logit link function was required because of the
binomial distribution of assent data (i.e., assent was coded as a dichotomous variable).

\(^{19}\) For all GEE tables presented within the results section, the blank final row of data
represents the absence of GEE output and does not represent missing data.
Table 5.3 GEE Results for Likelihood of Assent Response to Leading Questions within each Group across Question Type

<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>OR</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>Sig.</th>
<th>OR</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>Sig.</th>
<th>OR</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content-misleading</td>
<td>0.71</td>
<td>-.34</td>
<td>.35</td>
<td>.96</td>
<td>.33</td>
<td>0.29</td>
<td>-1.24</td>
<td>.42</td>
<td>8.74</td>
<td>.00</td>
<td>0.13</td>
<td>-2.06</td>
<td>.53</td>
<td>15.26</td>
<td>.00</td>
</tr>
<tr>
<td>Content-suggestive</td>
<td>2.20</td>
<td>.78</td>
<td>.34</td>
<td>5.31</td>
<td>.02</td>
<td>1.68</td>
<td>.52</td>
<td>.34</td>
<td>2.33</td>
<td>.13</td>
<td>0.85</td>
<td>-.16</td>
<td>.34</td>
<td>.22</td>
<td>.64</td>
</tr>
<tr>
<td>Content-presumptive</td>
<td>1.06</td>
<td>.06</td>
<td>.28</td>
<td>.04</td>
<td>.84</td>
<td>0.95</td>
<td>-.05</td>
<td>.31</td>
<td>.03</td>
<td>.86</td>
<td>1.13</td>
<td>.12</td>
<td>.27</td>
<td>.19</td>
<td>.67</td>
</tr>
<tr>
<td>Temporal-leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporal-misleading</td>
<td>0.06</td>
<td>-.28</td>
<td>.37</td>
<td>.60</td>
<td>.44</td>
<td>0.66</td>
<td>-.42</td>
<td>.32</td>
<td>1.69</td>
<td>.19</td>
<td>0.40</td>
<td>-.92</td>
<td>.34</td>
<td>7.22</td>
<td>.01</td>
</tr>
<tr>
<td>Temporal-suggestive</td>
<td>1.15</td>
<td>.14</td>
<td>.34</td>
<td>.18</td>
<td>.68</td>
<td>1</td>
<td>.00</td>
<td>.36</td>
<td>.00</td>
<td>.99</td>
<td>1.27</td>
<td>.24</td>
<td>.38</td>
<td>.39</td>
<td>.53</td>
</tr>
<tr>
<td>Temporal-presumptive</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
</tbody>
</table>

Note. The procedure models Assent as the response, treating Non-Assent as the reference category. OR= odds ratio; B = beta weight; SE = standard error.
information vs. highly-specific information; \( p = .80 \), and (iv) temporal-presumptive questions (cued-recall vs. open-ended; \( p = .10 \)).

**Group 2 Findings: MAM Control Children**

The GEE model exploring the impact of leading question (6 levels) on the likelihood of assent among MAM control children was significant (\( \chi^2 = 18.54, p < .01 \)). MAM control children were more likely to assent to content-suggestive questions (\( p < .001 \)) and content-presumptive questions (\( p < .01 \)) than content-misleading questions. No significant differences were observed among MAM control children across the subtypes of; (i) content-misleading questions (limited-information vs. highly-specific information; \( p = .85 \)), (ii) content-presumptive questions (cued-recall vs. open-ended; \( p = .41 \)), (iii) temporal-misleading questions (limited-information vs. highly-specific information; \( p = .87 \)), and (iv) temporal-presumptive questions (cued-recall vs. open-ended; \( p = .09 \)).

**Group 3 Findings: CAM Control Children**

The GEE model revealed a significant effect of leading question (6 levels) on the likelihood of assent among CAM control children (\( \chi^2 = 26.09, p < .001 \)). CAM control children were more likely to assent to content-suggestive questions (\( p < .01 \)), content-presumptive questions (\( p < .001 \)) and temporal-misleading questions (\( p < .01 \)) than content-misleading questions. CAM control children were also more likely to assent to temporal-suggestive questions (\( p = .01 \)) and temporal-presumptive questions (\( p = .01 \)) than temporal-misleading questions.
There were no differences in assent response across the subtypes of:

(i) content-misleading questions (limited-information vs. highly-specific information; \( p = .60 \)), (ii) content-presumptive questions (cued-recall vs. open-ended; \( p = .92 \)), (iii) temporal-misleading questions (limited-information vs. highly-specific information; \( p = .91 \)), and (iv) temporal-presumptive questions (cued-recall vs. open-ended; \( p = .75 \)).

**Between Group Comparisons**

A Binomial Logit GEE found a significant effect of group (3 levels) on the likelihood that children would assent to the different leading questions (\( \chi^2 = 8.88, p = .01 \)). CWID were significantly more likely to assent to content-misleading questions than CAM control children (\( p < .001 \)). This higher likelihood of assent to content-misleading questions among CWID was observed irrespective of whether the question contained limited-information (\( p = .01 \)) or highly-specific information (\( p < .001 \)). No other differences were found.

**Nature of Information Recalled**

The completeness (measured as total details the child reported) and degree of error (measured as total incorrect details the child reported)\(^{20}\) within children’s responses to the various leading questions were reviewed in all cases where a child agreed with (assented to) the false information raised/suggested/presumed in the question.

---

\(^{20}\) When assessing the degree of error within recall, only those cases where a child assented to the question and proceeded to report at least one detail were included. All cases where the child reported zero additional details were excluded from the analyses.
A series of Poisson Loglinear GEE21 were conducted to explore the impact of group (3 levels) and leading question (6 levels) on the completeness and degree of error in children’s responses (see Formula 1.2). The results of the GEE for response completeness and degree of response error within each group across question type are presented in Table 5.4 and Table 5.5, respectively.

\[ f(x) = \log(x) \]  

(1.2)

**Group 1 Findings: CWID**

The GEE model revealed a significant effect of leading question (6 levels) on response completeness among CWID ($\chi^2 = 53.34$, $p < .001$). CWID reported more details in response to content-presumptive questions than both content-misleading ($p < .001$) and content-suggestive questions ($p < .001$). Likewise, CWID provided more details to temporal-presumptive questions than both temporal-misleading ($p < .001$) and temporal-suggestive questions ($p < .001$). Further differences were observed in response completeness across the subtypes of presumptive leading questions: CWID reported more details in response to (i) open-ended content-presumptive questions than cued-recall content-presumptive questions ($p < .01$), and (ii) open-ended temporal-presumptive questions than cued-recall temporal-presumptive questions ($p = .01$).

The GEE model showed no effect of leading question (6 levels) on the degree of error in the answers given by CWID ($\chi^2 = 8.27$, $p = .14$).

---

21 A Poisson distribution with Loglinear link function was required given the distribution of the data. Unlike a normal distribution, a Poisson distribution is not symmetrical but rather skews to the left of the median. While there was a large spread of data in this sample, higher values were rare within the sample and the mean was towards the lower values (Devore, 2004; Hardin & Hilbe, 2003).
Table 5.4 GEE Results for Response Completeness (Total Details Reported) within each Group across Question Type

<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>Group 1: CWID</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>Wald</td>
<td>Sig.</td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>Wald</td>
<td>Sig.</td>
<td></td>
</tr>
<tr>
<td>Content-Leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content-misleading</td>
<td>.27</td>
<td>0.11</td>
<td>-2.18</td>
<td>.72</td>
<td>9.12</td>
<td>.002</td>
<td>.25</td>
<td>0.05</td>
<td>-3.01</td>
<td>.81</td>
<td>13.10</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Content-suggestive</td>
<td>.38</td>
<td>0.16</td>
<td>-1.85</td>
<td>.47</td>
<td>15.64</td>
<td>.000</td>
<td>.13</td>
<td>0.03</td>
<td>-3.66</td>
<td>.69</td>
<td>28.36</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Content-presumptive</td>
<td>2.52</td>
<td>1.05</td>
<td>.05</td>
<td>.21</td>
<td>.05</td>
<td>.83</td>
<td>4.76</td>
<td>0.93</td>
<td>-.07</td>
<td>.34</td>
<td>.04</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Temporal-leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporal-misleading</td>
<td>.32</td>
<td>0.13</td>
<td>-2.01</td>
<td>.54</td>
<td>13.74</td>
<td>.000</td>
<td>.04</td>
<td>0.01</td>
<td>-4.92</td>
<td>.97</td>
<td>25.88</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Temporal-suggestive</td>
<td>.40</td>
<td>0.16</td>
<td>-1.80</td>
<td>.70</td>
<td>6.51</td>
<td>.01</td>
<td>.61</td>
<td>0.15</td>
<td>-1.93</td>
<td>.59</td>
<td>10.61</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Temporal-presumptive</td>
<td>2.41</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>5.09</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>5.36</td>
<td>. .</td>
<td></td>
</tr>
</tbody>
</table>

Note: M = mean number of details; OR = odds ratio; B = beta weight; SE = standard error.
Table 5.5 GEE Results for Degree of Response Error (Total Incorrect Details Reported) within each Group across Question Type

<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>Group 1: CWID</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Group 2: MAM</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Group 3: CAM</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>Wald</td>
<td>Sig.</td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>Wald</td>
<td>Sig.</td>
<td>M</td>
<td>OR</td>
</tr>
<tr>
<td>Content-Leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content-misleading</td>
<td>1.50</td>
<td>0.60</td>
<td>-.51</td>
<td>.70</td>
<td>.53</td>
<td>.47</td>
<td>.50</td>
<td>0.10</td>
<td>-.232</td>
<td>.75</td>
<td>9.60</td>
<td>.00</td>
<td>2.00</td>
<td>0.30</td>
</tr>
<tr>
<td>Content-suggestive</td>
<td>1.50</td>
<td>0.60</td>
<td>-.51</td>
<td>.25</td>
<td>4.04</td>
<td>.04</td>
<td>1.00</td>
<td>0.20</td>
<td>1.62</td>
<td>.21</td>
<td>57.60</td>
<td>.00</td>
<td></td>
<td>.00</td>
</tr>
<tr>
<td>Content-presumptive</td>
<td>2.49</td>
<td>1.00</td>
<td>.00</td>
<td>.21</td>
<td></td>
<td>.10</td>
<td>4.61</td>
<td>0.91</td>
<td>.09</td>
<td>.33</td>
<td>.08</td>
<td>.78</td>
<td>4.38</td>
<td>0.85</td>
</tr>
<tr>
<td>Temporal-leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporal-misleading</td>
<td>1.29</td>
<td>0.52</td>
<td>-.66</td>
<td>.46</td>
<td>2.02</td>
<td>.16</td>
<td>.00</td>
<td>1.62</td>
<td>-.2945</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.00</td>
<td>2.28</td>
</tr>
<tr>
<td>Temporal-suggestive</td>
<td>2.50</td>
<td>3.03</td>
<td>.01</td>
<td>.21</td>
<td>.00</td>
<td>.98</td>
<td>3.50</td>
<td>0.69</td>
<td>-.37</td>
<td>.39</td>
<td>.88</td>
<td>.35</td>
<td>.67</td>
<td>0.13</td>
</tr>
<tr>
<td>Temporal-presumptive</td>
<td>2.48</td>
<td></td>
<td>.48</td>
<td>.21</td>
<td>.00</td>
<td></td>
<td>5.06</td>
<td></td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>5.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. M = mean number of details; OR = odds ratio; B = beta weight; SE = standard error.
However, differences were observed in degree of error across the subtypes of presumptive leading questions. CWID reported more incorrect details to open-ended presumptive questions than cued-recall presumptive questions; this pattern was evident for both content-presumptive ($p < .001$) and temporal-presumptive questions ($p = .01$).

**Group 2 Findings: MAM Control Children**

The GEE model exploring the impact of leading question (6 levels) on response completeness among MAM control children was significant ($\chi^2 = 92.45, p < .001$). More details were given in response to content-presumptive questions than both content-misleading questions ($p < .001$) and content-suggestive questions ($p < .001$). MAM control children also provided more details to temporal-presumptive questions than temporal-misleading ($p < .001$) and temporal-suggestive questions ($p < .001$). No significant differences in response completeness were observed across question subtypes.

When analysing the degree of error in responses given by MAM control children, a significant effect of leading question (6 levels) was found ($\chi^2 = 154.85, p < .001$). MAM control children provided more incorrect details in response to content-presumptive questions than content-misleading ($p < .001$) and content-suggestive questions ($p < .01$). They also offered more incorrect details in response to temporal-presumptive questions ($p < .001$) and temporal-suggestive ($p < .01$) than to temporal-misleading questions.

Differences were observed in degree of response error among MAM control children across the subtypes of leading questions. MAM control
children responded with more incorrect details when asked; (i) open-ended content-presumptive questions compared with cued-recall content-presumptive questions \((p = .01)\), (ii) open-ended temporal-presumptive questions compared with cued-recall temporal-presumptive questions \((p = .01)\), and (iii) highly-specific content-misleading questions compared with limited-information content-misleading questions \((p < .001)\) and highly-specific temporal-misleading questions \((p < .001)\).

**Group 3 Findings: CAM Control Children**

The GEE model revealed a significant effect of question (6 levels) on response completeness among CAM control children \((\chi^2 = 56.93, p < .001)\). CAM control children provided more details in response to content-presumptive questions than both content-misleading \((p < .001)\) and content suggestive questions \((p < .001)\). These children also offered more details when asked temporal-presumptive questions than both temporal-misleading \((p < .001)\) and temporal-suggestive \((p < .001)\) questions. Differences were observed in response completeness across question subtypes; CAM control children provided more details when asked; (i) open-ended content-presumptive questions compared with cued-recall content-presumptive questions \((p < .001)\), and (ii) open-ended temporal-presumptive questions compared with cued-recall temporal-presumptive questions \((p < .01)\).

Although there was no significant effect of leading question (6 levels) on degree of response error among CAM control children \((\chi^2 = 7.36, p = .06)\), significant differences were found across the subtypes of leading questions. CAM control children offered more incorrect details in response to open-ended content-presumptive questions than cued-recall content-
presumptive questions \( (p < .001) \). They also gave more incorrect information to open-ended temporal-presumptive questions than cued-recall temporal-presumptive questions \( (p < .001) \).

**Between Group Comparisons**

The GEE did reveal a significant effect of group (3 levels) on response completeness \( (\chi^2 = 20.96, p < .001) \). It was found that; (i) CAM control children reported more details in response to content-presumptive questions than CWID \( (p = .01) \), and (ii) CAM control children provided significantly more details in response to temporal-presumptive questions than CWID \( (p = .01) \). Across leading question subtypes it was found that CAM control children offered more details in response to open-ended temporal-presumptive questions than did CWID \( (p = .01) \).

When examining group difference (3 levels) in degree of response error for the leading questions, the GEE revealed a significant effect \( (\chi^2 = 18.36, p < .001) \). CAM control children offered more incorrect details in response to content-presumptive questions than did CWID \( (p = .01) \). Further group differences in degree of response error for the subtypes of leading questions were observed. CAM control children provided more incorrect details in response to open-ended temporal-presumptive questions than did CWID \( (p = .01) \).

**Types of Errors**

To investigate the types of errors reported by children in response to leading questions, a series of chi-square analyses were conducted on the
children who provided at least one piece of incorrect information. Data were analysed treating each incorrect detail as a separate case. There were 876 incorrect details reported by children in response to leading questions (CWID = 208, MAM control children = 337, CAM control children = 331). The number of children who provided an incorrect detail and the total number of incorrect details reported by children in response to each leading question for CWID, MAM control children and CAM control children are presented in Tables 5.6, 5.7 and 5.8 respectively.

**Group 1 Findings: CWID**

As can be seen in Table 5.6, CWD provided a collective total of 208 incorrect details. In response to content-misleading questions, CWD a collective total of six incorrect details; 83% were linked to presumption errors and the remaining error was a confabulation. There were a total of nine incorrect details reported in response to content-suggestive questions; 89% were linked to presumption errors while the remaining error was an interviewer suggestion error. CWD provided a collective total of 97 incorrect details in response to content-presumptive questions; 80% were linked to presumption errors, 14% were interviewer suggestion errors, and 6% were confabulation errors. A chi-square analysis revealed a significant difference in the types of errors children reported in response to content-presumptive questions ($\chi^2 [2, 97] = 93.55, p < .001$), CWD reported a larger number of linked to presumption errors.

---

22 Due to the low overall number of details provided by children in response to each question, chi-square analyses were only conducted on questions where the lowest expected frequency of each cell was not violated.
<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>Linked to Presumption</th>
<th>Interviewer suggestion</th>
<th>Confabulation</th>
<th>Internal intrusion</th>
<th>Total children</th>
<th>Total incorrect information provided</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content-Leading Questions</strong></td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
</tr>
<tr>
<td>Content-Misleading</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Content-Suggestive</td>
<td>5</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>.</td>
</tr>
<tr>
<td>Content-Presumptive</td>
<td>25</td>
<td>77</td>
<td>2</td>
<td>14</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td><strong>Temporal-Leading Questions</strong></td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
</tr>
<tr>
<td>Temporal-Misleading</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>.</td>
</tr>
<tr>
<td>Temporal-Suggestive</td>
<td>0</td>
<td>.</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Temporal-Presumptive</td>
<td>20</td>
<td>61</td>
<td>4</td>
<td>16</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note: N children = number of children who provided an incorrect detail in response to each question; N errors = number of errors reported by children in response to each question*
Table 5.7 The Number of Incorrect Details Provided in Response to Each Leading Question Classified by Error Type for MAM Control Children

<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>Linked to Presumption</th>
<th>Interviewer suggestion</th>
<th>Confabulation</th>
<th>Internal intrusion</th>
<th>Total incorrect information provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content-Misleading</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>.</td>
<td>0</td>
</tr>
<tr>
<td>Content-Suggestive</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Content-Preuptive</td>
<td>18</td>
<td>135</td>
<td>8</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Temporal-Leading Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporal-Misleading</td>
<td>0</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td>0</td>
</tr>
<tr>
<td>Temporal-Suggestive</td>
<td>3</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Temporal-Presumptive</td>
<td>11</td>
<td>52</td>
<td>16</td>
<td>114</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. N children = number of children who provided an incorrect detail in response to each question; N errors = number of errors reported by children in response to each question.
Table 5.8 The Number of Incorrect Details Provided in Response to Each Leading Question Classified by Error Type for CAM Control Children

<table>
<thead>
<tr>
<th>Content-Leading Questions</th>
<th>Linked to Presumption</th>
<th>Interviewer suggestion</th>
<th>Confabulation</th>
<th>Internal intrusion</th>
<th>Total incorrect information provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Misleading</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>.</td>
<td>0</td>
</tr>
<tr>
<td>Content-Suggestive</td>
<td>0</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td>0</td>
</tr>
<tr>
<td>Content-Presumptive</td>
<td>21</td>
<td>136</td>
<td>8</td>
<td>24</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temporal-Leading Questions</th>
<th>Linked to Presumption</th>
<th>Interviewer suggestion</th>
<th>Confabulation</th>
<th>Internal intrusion</th>
<th>Total incorrect information provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporal-Misleading</td>
<td>0</td>
<td>.</td>
<td>0</td>
<td>.</td>
<td>0</td>
</tr>
<tr>
<td>Temporal-Suggestive</td>
<td>0</td>
<td>.</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Temporal-Presumptive</td>
<td>17</td>
<td>113</td>
<td>9</td>
<td>51</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. N children = number of children who provided an incorrect detail in response to each question; N errors = number of errors reported by children in response to each question.
CWID provided a collective total of nine incorrect details in response to temporal-misleading questions; 78% were linked to presumption errors and 22% were interviewer suggestion errors. A collective total of five incorrect details were offered by these children in response to temporal-suggestive questions; 60% were interviewer suggestion errors and 40% were confabulations. A collective total of 82 incorrect details were made by CWID when asked temporal-presumptive questions; 64% were linked to presumption errors, 20% were interviewer suggestion errors, and 6% were confabulation errors. A chi-square analysis showed a significant difference in the types of errors reported by CWID in response to temporal-presumptive questions ($\chi^2 [2, 82] = 64.42, p < .01$); CWID reported a larger number of linked to presumption errors.

**Group 2 Findings: MAM Control Children**

As displayed in Table 5.7, MAM control children provided a collective total of 337 incorrect details. In response to content-misleading questions, only one child provided one linked to presumption error. There were a total of two errors offered by children in response to content-suggestive questions; one error was a linked to presumption error and the remaining error was an interviewer suggestion error. Children provided a collective total of 152 incorrect details in response to content-presumptive questions; 89% were linked to presumption errors, 9% were interviewer suggestion errors, 1% was confabulation, and 1% was internal intrusion. A chi-square analysis revealed a significant difference between the types of errors reported ($\chi^2 [3, 152] = 332.26, p < .01$), showing the MAM control
children reported a larger number of linked to presumption errors when asked content-presumptive questions.

No MAM control children offered incorrect information to temporal-misleading questions. A collective total of 14 incorrect details were observed for temporal-suggestive questions; 93% were linked to presumption errors and the remaining error was an interviewer suggestion. A chi-square analysis revealed that children reported a larger number of linked to presumption errors in response to temporal-suggestive questions ($\chi^2 = 10.29, p < .01$). MAM control children provided a collective total of 168 incorrect details in response to temporal-presumptive questions; 68% were interviewer suggestion errors, 31% were linked to presumption errors, the remaining two errors were a confabulation and an internal intrusion error. A chi-square analysis showed children reported a significantly larger number of interviewer suggestion and linked to presumption errors in response to temporal-presumptive questions ($\chi^2 [3, 168] = 205.86, p < .01$).

**Group 3 Findings: CAM Control Children**

As can be observed in Table 5.8, CAM control children provided a collective total of 331 incorrect details. In response to content-misleading questions, only one CAM control child provided four linked to presumption errors. There were no children that made any errors when asked content-suggestive questions. CAM control children offered a collective total of 161 errors in response to content-presumptive questions; 84% were linked to presumption errors, 15% were interviewer suggestion errors and the remaining error was an internal intrusion. A chi-square analysis revealed that these children reported a significantly larger number of linked to
presumption errors when asked content-presumptive questions ($\chi^2 [2, 161] = 194.40, p < .01$).

There were no CAM control children that offered incorrect information in response to temporal-misleading questions. Further only one child provided two interviewer suggestion errors in response to temporal-suggestive questions. A collective total of 164 incorrect details were offered by CAM control children when asked temporal-presumptive questions; 69% were linked to presumption errors and 31% were interviewer suggestion errors. A chi-square analysis showed that CAM control children reported a significantly larger number of linked to presumption errors in response to these questions ($\chi^2 [1, 164] = 23.44, p < .01$).

Between Groups Findings

Presumptive leading questions elicited the highest number of children reporting incorrect information (between 26 and 29 children) and the highest number of errors made by children (between 82 and 168 incorrect details reported) for all three groups of children. For content-presumptive questions all children reported a significantly larger number of linked to presumption errors with a collective total of 348 errors made across the three groups; 78% were made by MAM and CAM control children (39% each) and 22% made by CWID. For temporal-presumptive questions, all groups of children reported a significantly larger number of these errors with a collective total of 226 errors made across groups. CAM control
children made 50% of these errors, CWID made 27% and MAM control
children made 23%.23

Discussion

The current study aimed to explore the impact of different types of
leading questions on the responses given by CWID and their typically
performing (MAM and CAM) peers about a repeatedly experienced event.
Overall, it was found that children in all three groups were able (in large
part) to resist assenting to the misinformation included in the leading
questions examined, and often did not go on to provide further inaccurate
information in response to these questions. However, the various types of
leading questions did have a differential impact on children’s responses
across the three groups of children examined in the research. CWID
assented to misleading questions at a higher rate than CAM control
children. However contrary to expectations, this pattern was not found for
suggestive questions, where there were no group differences observed. The
hypothesis that all children would provide more detailed responses to
presumptive questions than to other question types was supported. Each of
these findings will be discussed in turn.

As hypothesised, CWID assented at a higher rate to content-
misleading questions than CAM control children. Further, a greater rate of
acquiescence among CWID (as opposed to CAM control children) was
observed irrespective of the amount of misinformation (limited-information
and or highly-specific) contained within the question. These findings were

23 No comparisons were made between groups for misleading or suggestive questions
due to the number of incorrect details reported by children being near floor (between 1
and 14 errors reported).
expected given prior research has demonstrated that CWID are more likely
to acquiesce to misleading questions than CAM control children (Michel et
al., 2000; Milne & Bull, 1998; Pear & Wyatt, 1914) and research where
relatively few differences have been observed between CWID and MAM
control children in response to misleading questions (Gordon et al., 1994;
Jens et al., 1990; Michel et al., 2000). The detriment of misleading
questions was limited to the initial acceptance of the misleading information
introduced in the question and did not lead CWID to provide detailed
inaccurate accounts, as the number of additional details offered in response
to these questions was near floor for all children. The above findings are
likely explained by the phrasing of these questions. Misleading questions
restrict the child’s response to ‘yes’ or ‘no’ and do not encourage more
elaborate responding. Further, these questions allow children to simply
acquiesce, a response set CWID appear to be more vulnerable to adopting
than CAM controls (Sigelman, Budd, Spaniel & Schoenrock, 1981).

The finding that CWID responded in the same way as MAM but
unlike CAM control children appears to be in line with previous studies
offering support for the developmental perspective of intellectual disability
(Henry & Gudjonsson, 1999; Michel et al., 2000). The specific memory and
recall abilities of CWID needed to successfully resist misleading questions
appears to parallel the development of their MAM peers, and is thus
consistent with what would be expected from the developmental perspective
of intellectual disability. According to this view, when CWID are matched
with children of similar developmental level they are predicted not to differ

It was proposed that CWID would also assent at a higher rate to suggestive questions compared to CAM controls, but this expectation was not supported by the current findings. Rather, children in the three research groups responded similarly to suggestive questions with no group differences observed. While early research found that CWID are more likely to acquiesce in response to suggestive questions than both MAM and CAM controls (Henry & Gudjonsson, 1999; Michel et al., 2000), a later investigation by Henry & Gudjonsson (2003) found that when CWID are distinguished by degree of disability (mild vs. moderate), there are no observable differences between CAM control and the mild intellectual disability group in acceptance of misleading information contained within suggestive questions. The lack of support for this hypothesis may be explained by the level of disability and variation within the CWID group. All children within the CWID group in the current study would be classified as having a mild intellectual disability according to the Diagnostic and Statistical Manual of Mental Disorders – 4th edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000). Only two children in the sample obtained scores that were within the borderline range of disability levels according to the DSM-IV-TR. It was not possible within the scope of the current research to make any distinctions between mild and moderate intellectual disability within the CWID group. Further, the focus of the current research was to explore any differences between CWID and typically developing peers, not to explore differences within the CWID
group. However, for future research there may be merit in controlling for
the variability within the CWID group and including both mild and
moderate intellectual disability groups to explore any differences that may
be apparent within this group.

As expected, all children provided more detailed accounts in response
to presumptive questions, particularly those that invited an open-ended
response. The more detailed responding to presumptive questions was
expected given best-practice guidelines recommend the use of open-ended
questions as these questions elicit detailed responses and do not restrict a
child’s response to ‘yes’ or ‘no’ (Home Office, 2007; Lamb et al., 2008;
Ministry of Justice, 2011a; Poole & Lamb, 1998; Powell & Snow, 2007;
Wright & Powell, 2006). The tendency to provide more information in
response to presumptive questions (as compared with other leading
questions) can be explained by the phrasing of these questions. Both cued-
recall and open-ended presumptive questions result in more elaborate
responses because the questions invite children to generate their own
responses and do not restrict the child to a ‘yes’ or no’ response. Further,
CAM control children were found to provide more detailed accounts than
CWID for presumptive questions, specifically open-ended questions. This
finding might be explained by the higher verbal and communication
abilities of these children. As CAM children were matched on
chronological-age only, CAM children had higher intelligence and thus
verbal and communication abilities that far exceeded the CWID group.
Furthermore, there is some research to suggest that verbal abilities show
strong links with eyewitness performance (e.g., increased recall for general
questions and few errors) for typically developing children (Burgwyn-Bailes, Baker-Ward, Gordon & Ornstein, 2001; Chae & Ceci, 2005; Henry & Gudjonsson, 2007).

While the phrasing of the presumptive open-ended questions permitted children to provide more complete accounts, there was a higher rate of error for all children compared to the cued-recall questions, and CAM children were found to provide more incorrect details than CWID. As previously discussed, best-practice recommendations encourage the use of open-ended questions as these questions promote children to provide the most detailed and elaborate accounts. However, when these questions presume incorrect information, a high number of errors can occur.

The higher error rate for presumptive questions is understood given that children’s errors were most likely to be linked to presumption errors (representing more than 80% of all children’s errors for presumptive questions). These errors occurred when the child raised correct experienced details but these details were incorrect because they were raised in the context of the interviewer’s presumption. When responding to these questions children are faced with a difficult task of having to explicitly refute the presumption in order to avoid these errors. To explicitly correct an interviewer is a difficult task for children. Best-practice recommendations and protocols recommend interviewers explain to children that if the interviewer has said something that is incorrect then the child should tell him or her (Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a). In general, children are co-operative conversational partners who see adults as being competent sources of
information (Garvey, 1984) and thus rarely challenge or correct the interviewer (Ackerman, 1983). As a result, children require help in understanding that their conversational partners may make errors, achieved through the use of ground-rule/conversational instructions (Cordón, Saetermoe, & Goodman, 2005; Mulder & Vrij, 1996).

The current study found few differences between content- and temporal-leading questions for all children. It is unclear why this lack of differentiation was found. Drawing on knowledge regarding the impact of event repetition on children’s memory (as discussed in Chapter 4), it was anticipated that temporal information may be more confusing for children (e.g., suggesting details which have occurred but not during the target occurrence), however this was not the case in the current study. This finding may however be explained by fuzzy-trace theory (FTT). FTT proposes the Recollection Rejection Hypothesis which states that the presentation of false-but-gist-consistent information (e.g., the temporal-leading information from another experienced but non-target occurrence) suppresses the acceptance of that information and operates as a prompt for the true information (Brainerd, Renya, Wright & Mojardin, 2003). The presentation of the false-but-gist consistent information causes correct verbatim traces of the exact details (e.g., details from target occurrence) to be retrieved, allowing children to avoid falsely accepting those details having been experienced in some other context. While a complicated memory process, the authors contend that this process is likely to be available to young children (Brainerd et al., 2003). While this hypothesis may assist in understanding the lack of differentiation between the responses of children...
to content- and temporal-leading questions, there remains a need for further research exploring the underlying mechanisms of acceptance of temporal-leading information.

The findings of the current study have contributed to the growing knowledge about the impact of leading questions on the responses of CWID relative to the performance of MAM and CAM control children. However, one limitation of the current study is the focus on the impact of leading questions on children’s immediate responses to leading questions. While it is important to understand the immediate impact of these questions, it is also important to understand how children’s experience of leading questions may impact their later participation in a best-practice recall interview. When children come to the attention of police and other investigative interviewers regarding an alleged incident that has occurred, they have often participated in multiple conversations/interviews with other adults/professionals prior to their participation in a best-practice interview and throughout the legal process (Crossman & Caron, 2006; Goodman et al., 1992; McGough, 1994). Further, these interviews are often with professionals or adults that have not been trained in an open-ended non-leading interview style and therefore often contain a higher number of leading questions and negative interviewing strategies (Agnew et al., 2006). Thus, it is important to understand the impact of previously experienced leading questions (e.g., a conversation with a teacher/caregiver) on children’s subsequent recall during a best-practice interview.
CHAPTER 6 – HOW DO LEADING QUESTIONS ASKED DURING A BIASING INTERVIEW IMPACT CHILDREN’S LATER RECALL (STUDY 2)?

Study 1 investigated how children with an intellectual disability (CWID) and their typically developing peers (mental-age match [MAM] and chronological-age match [CAM]) responded to different types of leading questions when they encountered them in an interview. Understanding how leading questions impact children’s reports is important because although the proportion of leading questions in field interviews is generally low (Cederborg et al., 2000; Davies et al., 2000; Hershkowitz et al., 1997; Hughes-Scholes & Powell, 2008; Lamb et al., 1996, 2000, Lamb, Sternberg, Orbach, Esplin et al., 2002, Lamb, Sternberg, Orbach, Hershkowitz et al., 2002; Orbach et al., 2000; Powell et al., 2012; Sternberg et al., 1996, 2001; Warren et al., 1999), most field interviews feature at least one leading question (Hughes-Scholes & Powell, 2008). This is the case even when interviewers have been trained to adhere to best-practice interview guidelines and engaged in regular practice opportunities where feedback was provided (Powell & Hughes-Scholes, 2009). Any error that results from just one leading question about a detail of probative value may reduce the likelihood of prosecution and conviction in cases of child abuse.

In addition to understanding the immediate impact of the different types of leading questions, research is needed to understand how each of these questions when experienced in an earlier interview or conversation might impact children’s subsequent recall during a best-practice interview. Alleged child abuse victims regularly converse with professionals and
adults (e.g., teachers, child protection workers, parents) throughout the legal process and before they engage in a formal forensic interview (Crossman & Caron, 2006; Goodman et al., 1992; McGough, 1994). These intervening conversations may contain a high proportion of leading questions, because the adults asking the questions have not received training in the use of best-practice questioning techniques. There is now global acceptance that specialised training is required for adults to master a non-leading, open-ended style of discourse; specific and leading questions are common place in the absence of specialised training (Cederborg et al., 2012; Powell et al., 2005). For example, research by Agnew and colleagues (2006) that directly compared caregivers’ practice with that of trained police officers when interviewing CWID found that caregivers asked a greater proportion of leading questions; on average 19% of the questions asked by caregivers were leading while a mean of just 2% of the police officers’ questions were leading.

The current study aimed to investigate whether leading questions asked during a biasing interview impact children’s later recall in a best-practice interview (hereafter referred to as the ‘recall interview’). More specifically, this study sought to identify whether the impact of the leading questions (if any) on children’s responses during the recall interview differed depending on; (i) the type of leading questions asked during the biasing interview (the same leading questions examined in Study 1 were examined in the current study, including content- and temporal-leading questions), and (ii) the child’s intellectual ability (again as in Study 1, CWID were compared with MAM and CAM control children).
All of the children who took part in Study 1 were re-recruited to participate in a recall interview about the final occurrence of the Deakin Activities event. This time the interview contained open-ended and specific questions. The recall interview took place within a week of the children participating in the interview conducted for Study 1 (hereafter referred to as the ‘biasing interview’). The children’s responses in the recall interview were examined to better understand the impact of the various types of leading questions on their subsequent recall (comparisons were drawn between CWID and their MAM and CAM peers).

Overall, consistent with prior work, it was expected that MAM and CAM children would report more details in their recall than CWID (Agnew & Powell, 2004; Gordon et al., 1994; Henry & Gudjonsson, 1999, 2003, 2007; Henry et al., 2011). It was expected that the overall rate of error in children’s accounts would not differ between the three groups of children, based on the results of previous research (Jens et al., 1990; Michel et al., 2000). Further, based on the work of Agnew and Powell (2004), it was hypothesised that CWID would be less likely to intrude information heard during the biasing interview (compared to their typically developing peers) when recalling the final occurrence of the Deakin Activities event during the recall interview. It was hypothesised that children (in all three groups) would be more likely to intrude information put to them in presumptive leading questions (as compared with misleading and suggestive questions), given that presumptive questions invite children to provide elaborate narrative responses. In doing so, children will likely have developed more elaborate, detailed narrative memories that have been more strongly
encoded and able to be recalled. Given the findings of Study 1, it was unclear what to expect regarding the impact of content- and temporal-leading questions on the recall abilities of children. However considering the research into the impact of leading questions raising experienced non-target versus non-experienced details, it was anticipated that all children would intrude more temporal-leading information from the biasing interview (compared to content-leading information). This was expected given that fuzzy-trace theory (FTT) suggests the faster decay of verbatim memories (which are relied upon to reject experienced but non-target information; Powell et al., 2007; Roberts & Powell, 2007) and the source-monitoring perspective which highlights the difficulty children face when they recall correct details but tag these details to the incorrect source (Johnson et al., 1993; Roberts & Blades, 2000).

Method

Design

This study employed the same mock interview paradigm and participant groups as Study 1. The recall interview occurred within one week of the biasing interview in Study 1 (range: 3-7 days, $M = 5$ days) and employed a semi-structured best-practice interview protocol designed to elicit from the child as much information as possible about the final occurrence of the Deakin Activities events.

Procedure

The semi-structured interview protocol employed in the current study was developed for research by Agnew and Powell (2004). The protocol was designed to elicit information from children about the final occurrence of
the Deakin Activities events. The protocol incorporated example questions to guide the interviewers question choice and was based on best-practice principles for facilitating narrative accounts in children. The protocol consisted primarily of open-ended questions (e.g., “What happened next?”, “Tell me more about the part where . . .”) and the use of minimal encouragers (e.g., ‘uh-huh’, ‘mmm’, pauses and head nodding). Once an exhaustive free-narrative account was obtained, the interviewer was encouraged to ask more specific questions (e.g., “You said that you saw a puppet, what was the puppet’s name the time you wore the special bracelet?”) to invite the child to offer further information. These more specific questions were included in the protocol in the event that children did not provide all of the event specific information (target details for each memory item) in their free-narrative account. A copy of the protocol is contained in Appendix C.

All recall interviews were conducted by the author who was previously unknown to each of the participants. The interviewer had participated in best-practice interview training prior to commencing the interviews. The interview was approximately 15 minutes in duration and was conducted in an isolated room (not where the occurrences were staged) at the children’s school. It was made clear to the children at the commencement of the interview that participation was voluntary and they were free to terminate the interview at any point. The interviewer also

24 Children spontaneously recalled the majority of the memory items during the recall interview (CWID: \( M \) proportion = .66, \( SD = .13 \); MAM: \( M \) proportion = .73, \( SD = .11 \); CAM: \( M \) proportion = .75, \( SD = .13 \)), with only a small number of memory items requiring an interviewer prompt.
acknowledged that the children had previously participated in the biasing interview. At the commencement of the interview (and embedded within each question), children were instructed to only recall the final occurrence of the Deakin Activities events when they wore the ‘special green bracelet’ (e.g., “Tell me about time you did the Deakin Activities, the time you wore the special bracelet?”). While providing the child with this instruction, the interviewer showed the child the bracelet (s)he wore.

The interviewer informed the child that she needed to write down what (s)he was saying so she could remember the child’s responses.

**Coding**

The interviews conducted with each child were audio-taped and transcribed verbatim. The coding protocol used in Study 1 was adopted in the current study. Information provided by the child during the interview was coded in terms of; (i) the completeness of the child’s recall, and (ii) the degree of error contained in the child’s recall.

The information provided by the child was initially coded for response completeness following the same procedure used in Study 1. Each detail provided by a child was then coded as correct or incorrect. Every erroneous detail was assigned to one of these three mutually exclusive error categories:

i. **Confabulation** – when the child provided a detail that was not included in any of the Deakin Activity events, and was not raised/suggested/presumed within a question asked during the
biasing interview (e.g., “The Koala’s name was Robert” when the Koala was only ever called Stan or Pop during the event occurrences and ‘Robert’ was not raised/suggested/presumed within the biasing interview).

ii. *Internal intrusion* – when the child recalled information (s)he had experienced from within the Deakin Activities events but not during the final occurrence and the information was not contained in any leading questions (s)he was asked during the biasing interview (e.g., “We listened to music from the park” which occurred during the second but not the final occurrence of the Deakin Activities events).

iii. *Biasing interview errors* – where the detail provided by the child was raised/suggested/presumed to the child in a leading question asked during the biasing interview (e.g., “… then we sat on newspaper” when the child experienced a leading question during the biasing interview in which ‘sitting on newspaper’ was raised/suggested/presumed).

The next phase of coding was to further explore the biasing interview errors made by the children. For each biasing interview error, it was noted what type of leading question had been used to raise/suggest/presume the detail during the biasing interview; that is from what leading question did the erroneous detail arise?

All transcripts were initially coded (for completeness of recall, degree of error and error type) by the author, and an independent person coded 20% of the interviews. Inter-rater reliability, calculated as agreements /
(agreements + disagreements), was at least 93% for all coding categories. Discrepancies were resolved through discussion.

Results

As with the analyses conducted in study 1, the data were analysed using a series of Poisson Loglinear Generalized Estimating Equations (GEE) and chi-square analyses. The analyses were conducted in three stages, including an examination of: (i) the completeness of children’s recall (measured as the total number of details recalled), (ii) the degree of error in children’s reports (measured as the total number and proportion of erroneous details reported), and (iii) the types of errors children made. A conservative alpha level of $p \leq .01$ was adopted for all analyses (Cohen et al., 2003).

The Nature of Information Recalled

A series of Poisson Loglinear GEE were conducted to explore the effect of group on the completeness of, and degree of error in, children’s accounts. The results of the GEE for completeness of recall and degree of response error across the three groups are presented in Table 6.1.

The GEE revealed a significant effect of group (CWID vs. MAM control vs. CAM control) on response completeness ($\chi^2 = 54.28, p < .001$). Both MAM ($p < .001$) and CAM ($p < .001$) control children recalled more details than CWID. Further, CAM control children provided more details than MAM control children ($p = .01$).

When examining group differences (CWID vs. MAM control vs. CAM control) in degree of response error, first the number of incorrect details was analysed. The GEE revealed a significant effect ($\chi^2 = 29.08, p <$
Table 6.1 GEE Results for Response Completeness (Total Details Reported) and Degree of Response Error (Total Incorrect Details Reported) Across the Three Groups of Children

<table>
<thead>
<tr>
<th>Group</th>
<th>Total details</th>
<th>Total incorrect details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>OR</td>
</tr>
<tr>
<td>Group 1: CWiD</td>
<td>114.20</td>
<td>0.36</td>
</tr>
<tr>
<td>Group 2: MAM control children</td>
<td>233.23</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Note. M = mean number of details reported; OR = odds ratio; B = beta weight; SE = standard error
showing that both MAM ($p < .001$) and CAM ($p < .001$) control children recalled a higher number of incorrect details than CWID. There was no significant difference in the number of incorrect details reported between control groups ($p = .27$).

Given the differences in the number of details reported across groups, it was also important to analyse the proportion of incorrect details reported (total incorrect details reported / total details reported) to explore whether the three groups of children had a different rate of error. A one-way analysis of variance (ANOVA) revealed that there was no significant difference in the mean proportion of incorrect information reported by children (CWID: $M = .24, SD = .19$; MAM control children: $M = .21, SD = .12$; CAM control children: $M = .18, SD = .20$); $F(2, 123) = 1.85, p = .16$.

The Types of Errors Reported

A series of Poisson Loglinear GEE were conducted to explore the impact of group on the types of errors (confabulations vs. internal intrusions vs. biasing interview errors) made by children during their recall. The results of the GEE within each group across error type are presented in Table 6.2.

Within Group Differences

Analyses were conducted exploring any differences in the types of errors reported (confabulations vs. internal intrusions vs. misinformation from the biasing interview) within each group. There was no significant difference found among CWID ($\chi^2 = 6.48, p = .04$), or MAM control children ($\chi^2 = 3.22, p = .20$). The GEE found a significant effect of error type among CAM control children ($\chi^2 = 50.53, p < .001$). It was found that
Table 6.2 GEE Results within each Group across the Types of Errors Reported by Children during the Recall Interview

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Group 1: CWID</th>
<th></th>
<th></th>
<th></th>
<th>Wald</th>
<th>Sig.</th>
<th></th>
<th></th>
<th></th>
<th>Wald</th>
<th>Sig.</th>
<th></th>
<th></th>
<th></th>
<th>Wald</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>χ²</td>
<td></td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
<td>χ²</td>
<td></td>
<td>M</td>
<td>OR</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Biasing interview</td>
<td>2.94</td>
<td>0.62</td>
<td>-0.48</td>
<td>0.21</td>
<td>5.37</td>
<td>.02</td>
<td>8.97</td>
<td>0.68</td>
<td>-0.38</td>
<td>0.26</td>
<td>2.28</td>
<td>.13</td>
<td>8.34</td>
<td>0.35</td>
<td>-1.04</td>
<td>.18</td>
</tr>
<tr>
<td>Confabulation</td>
<td>4.71</td>
<td>0.99</td>
<td>-0.01</td>
<td>0.14</td>
<td>0.00</td>
<td>.96</td>
<td>9.24</td>
<td>0.70</td>
<td>-0.36</td>
<td>0.26</td>
<td>1.92</td>
<td>.16</td>
<td>6.41</td>
<td>0.27</td>
<td>-1.30</td>
<td>.24</td>
</tr>
<tr>
<td>Internal intrusion</td>
<td>4.74</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>13.21</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>23.49</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
</tbody>
</table>

Note. M = mean number of incorrect details reported by children for each error type; OR = odds ratio; B = beta weight; SE = standard error
CAM control children provided more internal intrusion errors than confabulations errors \( (p < .001) \) and biasing interview errors \( (p = .01) \). No other significant differences were found.

**Between Group Differences**

The GEE found a significant effect of group on the likelihood of making biasing interview errors (i.e., repeating information heard during the biasing interview; \( \chi^2 = 15.08, p = .001 \)). Both MAM \( (p < .01) \) and CAM \( (p < .001) \) control children made more biasing interview errors than did CWID. No differences were observed between control groups \( (p = .79) \). A significant effect of group was also found for internal intrusion errors \( (\chi^2 = 65.75, p < .001) \). Both MAM \( (p < .001) \) and CAM \( (p < .001) \) control children made more internal intrusion errors than did CWID, but there were no differences observed between control groups \( (p = .02) \). No group differences were found for confabulation errors \( (\chi^2 = 6.11, p = .05) \).

**Biasing Interview Errors**

Given biasing interview errors resulted from children repeating information they heard during the biasing interview, it was important to further explore this error type. These errors were analysed to determine whether there was any difference in the types of leading questions (misleading vs. suggestive vs. presumptive) which led children to make biasing interview errors during their later recall. To investigate this, a series of chi-square analyses were conducted, treating each erroneous detail as a separate case. There were 838 biasing interview errors reported by children \( (CWID = 150; MAM = 350; CAM = 338) \). The total number of children and
the total number of biasing interview errors made by children as a result of each type of leading question are presented in Table 6.3.

**Within Group Findings**

For CWID, the chi-square analysis revealed a significant effect of question type on the likelihood of children making biasing interview errors ($\chi^2 = [2, 150] 52.12, p < .001$). CWID repeated more information from the biasing interview in their recall when information was raised/suggested/presumed in both misleading (43% of errors) and presumptive questions (51% of errors) than suggestive questions (6% of errors).

The chi-square analysis also revealed a significant effect of leading question type on MAM control children making biasing interview errors ($\chi^2 [2, 350] = 10.33, p = .01$). These children intruded more biasing information raised/suggested/presumed in presumptive leading questions (41% of errors) than both suggestive (29% of errors) and misleading questions (29% of errors) in their later recall.

For CAM control children, the chi-square revealed a significant effect of leading question type of the likelihood of these children making biasing interview errors ($\chi^2 [2, 338] = 38.74, p < .001$). These children repeated more information from the biasing interview when this information was contained in presumptive questions (49% of errors) compared to both misleading (29% of errors) and suggestive (23% of errors) questions.
Table 6.3 The Number of Biasing Interview Errors made by Children for each Leading Question Type

<table>
<thead>
<tr>
<th>Leading Question Type</th>
<th>Group 1: CWID</th>
<th>Group 2: MAM control children</th>
<th>Group 3: CAM control children</th>
<th>Total children</th>
<th>Total errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
<td></td>
</tr>
<tr>
<td>Misleading</td>
<td>18</td>
<td>64</td>
<td>13</td>
<td>102</td>
<td>11</td>
</tr>
<tr>
<td>Misleading limited-information</td>
<td>9</td>
<td>10</td>
<td>7</td>
<td>50</td>
<td>7</td>
</tr>
<tr>
<td>Misleading highly-specific</td>
<td>11</td>
<td>54</td>
<td>10</td>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td>Suggestive</td>
<td>8</td>
<td>9</td>
<td>11</td>
<td>103</td>
<td>10</td>
</tr>
<tr>
<td>Presumptive</td>
<td>19</td>
<td>77</td>
<td>14</td>
<td>145</td>
<td>13</td>
</tr>
<tr>
<td>Presumptive cued-recall</td>
<td>14</td>
<td>55</td>
<td>9</td>
<td>83</td>
<td>8</td>
</tr>
<tr>
<td>Presumptive open-ended</td>
<td>9</td>
<td>22</td>
<td>7</td>
<td>62</td>
<td>6</td>
</tr>
<tr>
<td>Total errors</td>
<td>150</td>
<td>350</td>
<td>338</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N children = number of children who provided a biasing interview error; N errors = number of biasing interview errors reported.

Note. The number of children making a biasing interview error for the subtypes of leading questions does not necessarily equal the total for the overall category as children could be represented in each subtype.
**Between Group Differences**

For misleading questions, the chi-square analyses conducted revealed a significant effect of group ($\chi^2 [2, 259] = 9.14, p = .01$). Of the 259 biasing interview errors made where the information was raised/suggested/presumed in misleading questions, 36% were made by CAM control children, 39% from MAM control children, and 25% from CWID.

There was also a significant effect of group found for suggestive questions ($\chi^2 [2, 191] = 74.93, p < .001$). Of the 191 biasing interview errors made where the information had originated from suggestive questions, 54% were made by MAM control children, 41% from CAM control children, and 5% from CWID.

Where children repeated biasing information heard from presumptive questions, the chi-square found a significant effect of group ($\chi^2 [2, 388] = 33.47, p < .001$). Of the 388 biasing interview errors from presumptive questions, 43% were made by CAM control children, 37% from MAM control children, and 20% from CWID.

**Content and Temporal Details**

The final stage of the analyses explored the biasing interview errors to determine whether these errors involved children intruding content or temporal information heard during the biasing interview. A series of chi-square analyses were conducted. Each error was analysed as a separate case. Table 6.4 presents the biasing interview errors made by each group of children and whether these errors involved the intrusion of content- or temporal-leading information.
Table 6.4 The Number of Biasing Interview Errors Resulting from the Intrusion of Content Versus Temporal Information

<table>
<thead>
<tr>
<th>Information leading to biasing interview errors</th>
<th>Group 1: CWID</th>
<th>Group 2: MAM</th>
<th>Group 3: CAM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N children</td>
<td>N errors</td>
<td>N children</td>
<td>N errors</td>
</tr>
<tr>
<td>Content information</td>
<td>15</td>
<td>46</td>
<td>11</td>
<td>70</td>
</tr>
<tr>
<td>Temporal information</td>
<td>26</td>
<td>104</td>
<td>23</td>
<td>280</td>
</tr>
<tr>
<td>Total errors</td>
<td>150</td>
<td>350</td>
<td>338</td>
<td>838</td>
</tr>
</tbody>
</table>

Note. N children = number of children who provided a biasing interview error; N errors = number of biasing interview errors reported.
**Within Group Differences**

A chi-square analysis was conducted within each group to see whether the biasing interview errors were more likely to involve the intrusion of content- or temporal-leading information. A significant result was found for each group; CWID ($\chi^2 [1, 150] = 22.43, p < .001$), MAM ($\chi^2 [1, 350] = 126.00, p < .001$), and CAM ($\chi^2 [1, 338] = 176.14, p < .001$). All three groups of children were more likely to intrude temporal- than content-leading information heard during the biasing interview (biasing interview errors resulted from the intrusion of temporal information in 69% of errors made by CWID, 80% of errors made by MAM control children, and 86% of errors made by CAM control children).

**Between Group Differences**

The chi-square analysis did not reveal a significant effect of group for the intrusion of content-leading information from the biasing interview ($\chi^2 [2, 163] = 6.79, p = .03$). However, a significant effect of group was found for the intrusion of temporal-leading information ($\chi^2 [2, 675] = 97.88, p < .001$); of the 675 temporal details that children repeated from the biasing interview, 43% were made by CAM control children, 41% were made by MAM control children, and 15% were made by CWID.

**Discussion**

The current study examined children’s reports about the final occurrence of a repeated event in a best-practice interview after experiencing an intervening biasing interview. Overall, it was found that children in all three groups were able to provide detailed and largely accurate accounts of the last occurrence of a repeated event. Consistent with
expectations and prior research, the reports provided by both mainstream control groups were more detailed than those elicited from CWID (Agnew & Powell, 2004; Gordon et al., 1994; Henry & Gudjonsson, 1999, 2003, 2007; Henry et al., 2011). While mainstream children provided more detailed accounts, they were also found to provide a higher number of incorrect details within their recall compared to CWID. However as hypothesized and consistent with past research (Jens et al., 1990; Michel et al., 2000), there was no difference across the groups in the proportion of error contained in children’s accounts, indicating that all children had a similar rate of error within their recall.

The central aim of the current study was to investigate how leading questions experienced during a biasing interview impact the recall of CWID and their typically developing peers (MAM and CAM control children) during a subsequent best-practice interview. Consistent with the work of Agnew and Powell (2004) the CWID included in the current research were less likely to repeat information heard during the biasing interview than their mainstream peers. As expected, mainstream children were more likely to intrude information heard from presumptive leading questions than misleading and suggestive questions, while CWID had a higher rate of intrusion of biasing information from both presumptive and misleading questions rather than suggestive questions. Further, as anticipated all children were more likely to repeat information from the biasing interview when it was included in temporal-leading (as opposed to content-leading) questions.
The more detailed responding by mainstream children (in comparison to CWID) during a best-practice recall interview has been widely replicated in the literature (Agnew & Powell, 2004; Gordon et al., 1994; Henry & Gudjonsson, 1999, 2003, 2007; Henry et al., 2011) and was supported by the current research. This finding has generally been explained by the increased language abilities of mainstream controls (Burgwyn-Bailes et al., 2001; Chae & Ceci, 2005; Henry & Gudjonsson, 2007), but also broader factors (including social, motivational and environmental) have been suggested to affect children’s performance during investigative interviews (Ceci & Bruck, 1993; Dattilo, Hoge, & Malley, 1996; Pipe & Salmon, 2002). Such factors include the desire to please an interviewer, the desire to hide one’s limitations and to appear to be a competent conversational partner (Brennan & Brennan, 1994; Kernan & Sabsay, 1989; Sigelman et al., 1981).

Children of all developmental abilities face difficulties in investigative interview settings as they are required to adapt their conversational skills to an interview context that at times violates social conventions or rules of daily conversations that children typically experience (Cordón et al., 2005; Lamb & Brown, 2006; Mulder & Vrij, 1996). There are a number of differences between the social expectations of daily conversation and those inherent in an interview setting that make it difficult for children to adapt to these situations. For example, in their daily lives children are accustomed to receiving help from the adult with whom they are interacting, however this is not the case within an interview context and this may lead children to expect help from the interviewer during the
interview (Mulder & Vrij, 1996). The ability to adapt conversational skills within a forensic interview may be more difficult for CWID given the conversational patterns they are exposed to in their everyday life. For example, research has shown that during conversations with caregivers, CWID are asked direct and leading questions and are exposed to coercive interview strategies (e.g., criticising the child, bribery, telling the child there is more to tell; Agnew et al., 2006). Thus, it may be logical to conclude that these children would be accustomed to more adult-directed conversation characterised by highly specific questions (rather than attempts to elicit a free-narrative account) and that CWID may have come to understand that when adults ask questions they desire minimal elaboration and detail (Lamb & Brown, 2006; Sternberg et al., 1996).

When looking at the rate of error in children’s responding, results indicated this was similar between groups which is consistent with prior work (Jens et al., 1990; Michel et al., 2000). However, while the overall rate of error was similar, typically developing children made a greater total number of errors. The greater total number of errors reported by typically developing children is understood to be a result of their more detailed responding overall.

When looking specifically at instances where children intruded misinformation from the biasing interview, the hypothesis that CWID would intrude less information (than mainstream children) was supported. While a similar finding was identified in past research (Agnew & Powell, 2004), the current study extended the application of this finding to a repeated event design. The idea that CWID are more resistant to intruding
misinformation presented to them in a previously experienced interview should be interpreted in light of the fact that repeating information heard from an interviewer requires a child to have the ability to store, encode and later retrieve this information (Agnew & Powell, 2004). The poorer memory, receptive and expressive language abilities of CWID (Aldridge & Wood, 1998; Conway, 1994; Miller & Chapman, 1984) may have reduced the likelihood that children remembered the information from the biasing interview (Fyffe, 1996) and subsequently reported fewer of these details. This finding supports the claim that CWID are more resistant to previously experienced false information impacting their later recall than mainstream children.

When children did intrude information previously heard during the biasing interview, all children were more likely to have heard this information in a presumptive leading question (e.g., “What colour was Boo the Koala the last time you did the Deakin Activities?” or “Tell me all about the part where you saw Boo the koala the last time you did the Deakin Activities”, when the koala was not named Boo in the last occurrence of the event). This finding is understood given the memory processes activated at the time these questions are asked. When children are asked questions which dictate a ‘yes’ or ‘no’ response (e.g., misleading or suggestive questions), they engage in shallow memory processing because they simply need to accept or refute the information. Conversely, when asked presumptive questions that encourage more elaborate responding (e.g., they do not dictate a ‘yes’ or ‘no’ response), children are engaged in deeper memory processing where they are required to reconstruct the target
occurrence and retrieve details particular to that occurrence (Roberts & Powell, 2001). The deeper memory processing activated at the time these questions are asked likely assists in the encoding of the details contained in the question and answer, facilitating later reporting of this information.

Unlike the mainstream control children, CWID also had a high rate of intrusion of details from misleading questions asked during the biasing interview. In Study 1 it was found that CWID were particularly vulnerable to accepting leading information when it was put to them in misleading questions. The initial acceptance of this information may have led these children to encode the information in their memory, increasing the likelihood that it would be repeated in their subsequent report. Considering the findings of the current study along with those of Study 1, it seems that misleading questions are problematic for CWID; CWID are more likely than their typically performing peers to accept the misinformation in these questions and then intrude this information in their subsequent reports.

This study also examined differences in the amount of content- and temporal-leading information that children intruded from a biasing interview into their later recall. While content-leading questions included non-experienced details, temporal-leading questions included experienced but non-target details (i.e., details that were experienced in the Deakin Activities events but not the target occurrence). The hypothesis that all children (CWID and their typically developing peers) would intrude more information from temporal-leading as opposed to content-leading questions was supported. This finding can be interpreted in light of past research showing the heightened reporting of experienced non-target details
compared to non-experienced details (Powell et al., 2007) and theories of memory including FTT and source-monitoring perspective. While past research has demonstrated the higher reporting for experienced non-target details (Powell et al., 2007), the current work extended this finding to apply to a sample of CWID.

According to FTT (e.g., Brainerd & Reyna, 1990, 1993, 1998, 2002, 2004; Reyna & Brainerd, 1998), the ability to discriminate between separate occurrences of a repeated event involves consideration of one’s verbatim memories (i.e., the episodic details that are particular to each occurrence), rather than one’s gist representation (which is similar for all occurrences; Powell et al., 2007). Thus when an experienced but non-target detail is introduced in a temporal-leading question, children must rely on their accurate verbatim representation to reject the detail. This is a difficult task considering the quicker decay of verbatim trace memories (Roberts & Powell, 2007).

When children are asked temporal-leading questions they are presented with experienced details that are incorrectly linked to the wrong occurrence. According to the source-monitoring theory (e.g., Johnson et al., 1993; Johnson & Raye, 1981), responding to these questions provides an opportunity for children to rehearse the familiar detail (Powell et al., 2007). This rehearsal likely strengthens encoding of the detail in memory making it more salient (Murdock, 1974; Powell & Thomson, 1997b; Thomson, 1972). When subsequently asked to report what they can remember about the target occurrence, children likely remember the content detail but incorrectly tag it to the target occurrence because memory for the source of
the detail is highly vulnerable to decay over time (Powell & Thomson, 1997a; 1997b). When source information is forgotten, children’s reports are likely made on the basis of the saliency of content details (Guadagno, 2006).

This study investigated the impact of leading questions on children’s subsequent recall during a best-practice interview. Given the results of the current study, it would be beneficial to continue to develop this area of the literature to further understand the impact of different types of leading questions including both content- and temporal-leading questions on children’s recall after experiencing a repeated event. While utilising a controlled mock interview paradigm was important for the current study to ensure that the presentation of questions was consistent across children and to allow for an examination of errors, future research would benefit from utilising field interviews. There are a number of important reasons for expanding this research to the field. First, it would be important for future research to acknowledge the heterogeneity of leading questions and include an examination of the various different types of leading questions interviewers may use when interviewing a child. Second, by recognising the use of both content- and temporal-leading questions, it would be beneficial to continue to expand understanding of the impact and use of these questions within the field. Importantly, future research should incorporate an examination of differences in interviewer practice and child responding across interviews that include children of different developmental abilities, particularly CWID.
CHAPTER 7 – GENERAL DISCUSSION

The aim of this thesis was to examine two broad issues in relation to the impact of different leading questions on the recall abilities of children after experiencing a repeated event. First, what is the impact of leading questions on the responses of children with an intellectual disability (CWID; relative to mental-age match [MAM] and chronological-age match [CAM] control children) when asked leading questions (Study 1)? Second, how do the different types of leading questions previously posed within a biasing interview impact children’s later recall during a best-practice interview (Study 2)? This thesis provided the first investigation into the impact of different types of leading questions on the recall abilities of CWID (relative to mainstream controls) following a repeated event. More specifically, this research offered the first controlled investigation into the impact of content- and temporal-leading questions on the recall abilities of children.

The two studies employed a mock interview paradigm whereby children participated in a series of innocuous events that were staged in the children’s schools. Study 1 (Chapter 5) involved children participating in the events and then engaging in a scripted interview which contained the full range of leading questions identified in prior work. The unique aspect of this research design was that it permitted the investigation of a variety of different leading questions and included the presentation of both content- and temporal-leading questions. Recent research has acknowledged the differentiation between content- and temporal-leading questions and the increased chance of interviewers asking temporal-leading questions when a
child has experienced a repeated event (Guadagno & Powell, 2013).

Children’s responses to all leading questions were explored in terms of whether children accepted the misinformation raised/suggested/presumed within questions and the level of detail and error contained in their responses. Study 2 (Chapter 6) sought to expand the findings of Study 1 by examining the impact of previously experienced leading questions on children’s subsequent participation in a best-practice interview. Specifically, the extent to which the biasing interview impacted children’s performance during the recall interview was explored.

Overall, the results of the current thesis support the idea that children (including CWID) are able to provide detailed and accurate accounts of an occurrence of a repeated event when they participate in interviews. Study 1 demonstrated that children were shown to be resistant to many leading questions by not providing detailed and inaccurate accounts when asked these questions during an initial interview. Misleading questions were identified to be problematic for the acceptance of incorrect information for CWID and presumptive leading questions were identified as difficult for mainstream children to resist. Study 2 demonstrated that while children generally provide detailed and accurate accounts of their experiences during a recall interview, the previously experienced biasing interview did result in children intruding some misinformation into their later recall. However, CWID were found to be less vulnerable to the intrusion of information heard during the biasing interview than mainstream children. The results also demonstrated that when children did repeat information previously heard, the information was more likely to have been contained in a
presumptive leading question. A unique aspect of this thesis was the exploration of both content- and temporal-leading questions. Although children's responses were similar when answering both content- and temporal-leading questions (Study 1), all children were more likely to intrude misinformation put to them in temporal-leading questions (as compared with content-leading questions) in their later recall (Study 2).

Based on the results of the current thesis, a number of practical implications for interviewer practice can be identified. First, broad recommendations can be offered to guide interviewers’ use of leading questions during investigative interviews when it has been determined that leading questions are required. Second, the current work has demonstrated the impact of temporal-leading questions on children’s recall following a repeated event. This is an important issue for interviewers to be aware of given the increased rate of these questions in investigative interviews following a repeated event and the confusion experienced by children when responding to these questions (Guadagno & Powell, 2013). Finally, the results have highlighted the impact an intervening leading interview may have on the quality of evidence obtained from children during a subsequent investigative interview and recommendations to reduce this impact are provided. Each of these practical implications is discussed in turn and recommendations for interviewer practice and future research are offered.

7.1 The Use of Leading Questions in Investigative Interview Practice

While best-practice interview protocols advocate for leading questions to be avoided in investigative interviews with children (Home Office, 2007; Lamb, Orbach, Hershkowitz, Esplin et al., 2007; Ministry of Justice,
2011a), research has demonstrated that there are times where the use of leading questions is considered appropriate. For example, when a disclosure is not forthcoming and there is substantiating evidence to suggest that an event has occurred (e.g., another person witnessed the event), or when all other question types have been exhausted and more event specific details are still required (Home Office, 2007; Lyon, 1995; Ministry of Justice, 2011a; Poole & Lamb, 1998).

Based on the results of this thesis, leading questions were shown to differentially impact CWID and their mainstream counterparts, both in their initial and subsequent responding. Accordingly, different recommendations for the use of leading questions are warranted for CWID and mainstream children. While leading questions should be reserved for use as a last resort, recommendations to guide their use (when appropriate) with mainstream children and CWID are now discussed in turn.

Misleading questions that require a ‘yes’ or ‘no’ response (e.g., “Did you sit on a newspaper the time you wore the special bracelet” when the child did not sit on a newspaper) were found to be the least problematic for mainstream children’s recall for a number of reasons. First, mainstream children accepted significantly less misinformation contained in misleading questions compared to suggestive and presumptive style questions. Second, the detriment of these questions was generally confined to children initially accepting the information. Children did not go on to provide detailed inaccurate accounts in response to these questions; in fact the error rates were near floor for all children. By virtue of the phrasing of these questions the responses given by children in this study were largely restricted to ‘yes’
or ‘no’. Thus, it appears that the risk of eliciting a detailed and inaccurate account from children in response to these questions is low. Third, the misleading information contained in these questions was not found to contaminate mainstream children’s later recall during an investigative interview. On the basis of the current results, it is reasonable to recommend that misleading questions be used with mainstream children when it has been determined that leading questions are warranted and all other best-practice interview techniques have been exhausted.

Although the findings of this thesis support the use of misleading questions with typically developing children, there was less support for their use with CWID. The current work demonstrated that CWID are more vulnerable to initially accepting the incorrect information contained in misleading questions than mainstream children. Furthermore, misleading questions also led CWID to intrude more biasing information into their later recall (along with presumptive leading questions) than suggestive questions.

Thus, providing a recommendation on the basis of the results of the current thesis for the use of leading questions with CWID is more unclear than for mainstream children. Given that misleading questions appear to present some challenges for CWID, it is possible that suggestive questions may be a better choice when considering the results of the current work. CWID did not have significantly higher assent rates to these questions compared with mainstream controls. As discussed previously in this thesis, this finding may be related to the degree of disability within the CWID group. While early research found that CWID are more likely to acquiesce in response to suggestive questions than both MAM and CAM controls
(Henry & Gudjonsson, 1999; Michel et al., 2000), a later investigation found that when CWID are distinguished by degree of disability (mild vs. moderate), there are no observable differences between CAM control and the mild intellectual disability group in acceptance of misleading information contained within suggestive questions (Henry & Gudjonsson, 2003). Suggestive questions were also shown to lead to the least number of intrusions compared to both misleading and presumptive leading questions during CWID’s later recall.

Based on the results of the current thesis, it seems that suggestive questions may be a better choice for interviewers if it has been determined that a leading questioning approach is necessary with CWID. Future replication of this finding is needed to enable researchers to confidently contend that suggestive questions are the least detrimental to CWID compared to other leading questions. Research aimed at replicating this finding would be wise to consider both children’s initial acceptance of misinformation and the likelihood of children intruding information posed to them in suggestive questions during their later recall. Future research should also examine differences (if any) associated with the degree of disability experienced by CWID.

It is important for interviewers to carefully consider the use of leading questions in interviews with children, given the understanding about the detrimental impact of leading questions on children’s recall. The broad recommendations offered here are based on the results of the current work and are to be utilised by interviewers within the context of best-practice guidelines. It is recommended that leading questions only be used when it is
appropriate and deemed necessary to gain further details from children and after a free-narrative account has been exhausted. While the results of the current work have enabled broad recommendations for interviewer practice, it is suggested that future research focus on further understanding the use of leading questions by investigative interviewers to continue to develop this area of the literature. Future research replicating these findings would lend further support in making more specific recommendations for investigative interview practice.

7.1.2 Avoiding the Use of Presumptive Questions

This thesis also elucidated the detrimental impact of presumptive leading questions (e.g., when an interviewer incorrectly presumes information to be correct and asks a child to comment on this incorrect presumption) on children’s recall compared to other leading question types. The current thesis demonstrated that presumptive leading questions (e.g., “What colour was Boo the Koala?” or “Tell me all about the part where you saw Boo the koala” when the child never encountered a koala called Boo) were detrimental for both children’s initial responses to these questions and their later recall.

Given the results of this thesis, it is recommended that interviewers avoid the use of presumptive leading questions (both cued-recall and open-ended) with all children, regardless of their intellectual ability. This recommendation is made on the basis of the current research highlighting; (i) the impact presumptive leading questions have on the types of errors children made in both initial responses and subsequent recall, and (ii) the
onus on the child to explicitly refute the misleading information presumed within presumptive questions.

**7.1.2.1 The Types of Errors Elicited by Presumptive Leading Questions**

One of the most concerning impacts of presumptive leading questions identified in this thesis is related to the type of error elicited by these questions. Presumptive leading questions were shown to not only impact the types of errors children made in their initial responses (Study 1), but also the likelihood of children intruding information presumed within these questions into their later recall (Study 2).

In terms of children’s initial responses to presumptive leading questions, a high degree of response error was commonly the result of the interviewer’s incorrect presumption rather than the child generating entirely false details. The vast majority of errors made by all children in response to these questions were linked to presumption errors. When children made these errors they were reporting correct information, however the interviewer’s presumption contained in the question rendered the child’s response as incorrect because the information was tied to the false detail presumed in the question.

In the context of an investigate interview, presumptive leading questions are problematic because children are generating detailed and accurate responses but their responses are nonetheless incorrect due to the presumption made by the interviewer. This is particularly concerning as the elaborate detail children are reporting may be lost simply because the interviewer has made an error in his/her questioning. Consider the situation where an interviewer is interviewing a child about an occurrence of abuse
when the child was inappropriately touched by her brother while watching a movie with her friend. The interviewer falsely presumes the child was watching a movie with her friend Jane (when the child was watching a movie with her friend Sarah) when she was touched by her brother; “Tell me about the time your brother touched you when you were watching a movie with Jane” and the child responds with detailed information about the occurrence however Jane was not present during this occurrence. The problem with this question is that the correct information has been tied an incorrect detail (e.g., that Jane was present). In a forensic context, the benefit of gaining this detailed and relevant account about the abuse is lost because the interviewer’s incorrect presumption has rendered the child’s response incorrect. If the defence is able to prove Jane was not present during this occurrence, the child’s credibility may be called into question and this may impact the prosecution case.

Presumptive leading questions were also shown to impact children’s later participation in a best-practice interview. When children intruded information previously heard during the biasing interview, all children had high rates of intrusion from presumptive leading questions. This is particularly concerning given children often participate in intervening interviews/conversations prior to the formal interview (Crossman & Caron, 2006; Goodman et al., 1992; McGough, 1994). These interviews/conversations often occur with professionals/adults who have not had best-practice training and may use a higher number of leading questions and negative interview strategies when speaking with these children (Agnew et al., 2006; Goodman et al., 1992; McGough, 1994). Intruding
previously heard information into later recall is a particularly concerning impact of presumptive leading questions.

From the results of the current thesis, it appears that the detrimental impact of presumptive leading questions extends beyond children’s initial responses to their later recall of their experiences. The impacts of these questions identified within both studies of this thesis demonstrate the importance of investigative interviewers avoiding the use of presumptive leading questions.

7.1.2.2 Onus on the Child to Explicitly Refute the Incorrect Information Presumed within Presumptive Leading Questions

An additional detriment of presumptive leading questions on children’s recall and responses identified within the current work is that the phrasing of these questions requires the child to explicitly correct the interviewer’s false presumption. The more open phrasing of these questions does not permit children to simply correct the interviewer by stating “no”. Consider the following examples of presumptive leading questions used during the biasing interview;

(a) Interviewer: “You said that you saw a koala, what colour was Boo the koala the time you wore the special bracelet?” (when children never saw Boo the Koala)
Child: “He was grey and white and had a friend called Mrs Kookaburra”

(b) Interviewer: “You said that you read a story, tell me all about the part where you read the Supercat story the time you wore
the special bracelet” (when children did read the Supercat story but not during the time the special bracelet was worn)

Child: “He was an elephant and he wanted to get married”

In both of these examples, the child is not able to simply refute the incorrect presumption and say “no”, as the presumption is that the information is correct. Thus, to avoid making linked to presumption errors, the child has to explicitly correct the interviewer before proceeding to answer the question. In the above examples the children are providing correct information however the information is linked to an incorrect presumption.

The onus on the child to explicitly refute the interviewer’s presumption to avoid the interviewer linking the correct information with the falsely presumed detail is a challenging task. Understandably, correcting an interviewer is difficult for children and potentially more so for CWID. While it is understood that correcting a miscommunication between conversational partners of equal social status is relatively easy, this presents much more difficulty if the communication partner is an authority figure (Powell & Snow, 2007). For a child participating in an investigative interview, (s)he may feel embarrassed or have fears of being reprimanded if (s)he corrected an interviewer/adult when (s)he became aware of a miscommunication (Powell & Snow, 2007).

Given the inherent difficulty in children explicitly correcting an interviewer about a miscommunication, it is particularly concerning that in a 2009 study of 136 Australian field interviews conducted by police officers, none of the officers instructed the child to correct them if they said
something that was incorrect (Powell & Hughes-Scholes, 2009). The onus should always be on the interviewer/adult to avoid miscommunications occurring to reduce errors and prevent a child from being in a position of having to correct an adult/authority figure when an incorrect presumption has been made (Ellis, Powell, Thomson & Jones, 2003).

### 7.1.3 Directions for Future Research and Practice

The results of the current thesis have highlighted the need for interviewers to avoid the use of presumptive leading questions. However, what can be offered in terms of interviewer training to assist interviewers to avoid these leading questions in the future?

It is commonly understood that open-ended questions are the most ideal questions to use during investigative interviews to promote accurate and detailed accounts from children. All prominent interview protocols (Home Office, 2007; Lamb et al., 2008; Ministry of Justice, 2011a) have recommended the primary use of open-ended questions before proceeding to more focused prompts. However, it is now understood that open-ended questions can also be leading if the interviewer makes an incorrect presumption about information that has occurred (Hughes-Scholes & Powell, 2008; Powell & Snow, 2007). For example, “Tell me all about the part where you read a story . . .” when the child had previously mentioned reading a story, is a best-practice open-ended question because the interviewer is asking the child to elaborate on information that (s)he previously provided. Contrast that to “Tell me all about the part where you read a story . . .” when the child had *not* previously mentioned reading a story, which is a *presumptive* open-ended leading question because it
presumes information not previously reported by the child is correct and is phrased in an open-ended way. The findings of the current research, and those of prior work, suggest that open-ended presumptive leading questions can be more detrimental to children’s recall than misleading questions (Greenstock & Pipe, 1996; Powell & Snow, 2007; Roberts et al., 1999). Training is thus required to increase interviewer’s understanding that open-ended questions can also be leading by containing an incorrect presumption. Investigative interviewers would benefit from training focused on identifying the differences between best-practice open-ended questions and presumptive open-ended leading questions to minimise the inappropriate use of these leading questions. Training involving the use of mock interviews where trainees receive feedback about their use of open-ended versus presumptive open-ended leading questions would likely increase trainees’ understanding of the differences between these questions. Further research is needed to identify ways to teach trainees about the difference between non-leading and leading open-ended questions, and to evaluate the effectiveness of any training exercises developed in reducing interviewers’ use of presumptive leading questions. Furthermore, to increase the ecological validity of future research, it would be recommended that the interviewer have little to no understanding about the to-be-recalled event, to mirror more closely the lack of information available to investigative interviewers at the time of an investigative interview.

7.2 Understanding the Impact of Temporal-Leading Questions

A unique contribution of the current work was that it highlighted for the first time the impact of temporal- versus content-leading questions on
children’s recall. While content-leading questions raise/suggest/presume details that have not been previously mentioned by the child, temporal-leading questions refer to the position of such details within a series of occurrences (Guadagno & Powell, 2013).

Although there were few differences between the impact of content- and temporal-leading questions on children’s initial responses (Study 1), the distinction between these questions was more pronounced on children’s later recall (Study 2). When children intruded information from the biasing interview during their subsequent recall, all children were more likely to intrude misinformation presented in temporal-leading questions than content-leading questions. While any error in a child’s report is important as it decreases the contribution of the child’s statement which may impact the outcome of trial (Guadagno & Powell, 2013), intruding information heard from temporal-leading questions is particularly concerning as the child may be providing accurate information but is simply confusing the time or place of the details within a series of similar occurrences.

Questions which raise/suggest/presume temporal-leading information remain an understudied area of the literature and require further exploration. Research has noted that past studies have utilised a relatively narrow definition of leading questions and have commonly not considered questions to be leading which raise temporal-leading information (Guadagno & Powell, 2013). However, research has established that there is an increased likelihood of interviewers using temporal-leading questions when interviewing children about a repeated event (Guadagno & Powell, 2013). The results from the current study also support Guadagno and
Powell’s (2013) claim that these questions cause particular confusion for children and result in children intruding temporal information during their later recall.

Despite the research in this area being relatively new, the current thesis and the work by Guadagno and Powell (2013) highlight the importance of investigative interviewers being aware of the impact of temporal-leading questions on children’s recall. Further, the current thesis has highlighted the need for researchers to continue to explore the use of these questions within the field and their impact on children’s recall. Given the higher likelihood of children intruding temporal-leading information rather than content leading information within their recall, research and training would benefit from focusing on educating investigative interviewers about the definition of temporal-leading questions, the use of these questions within interviews about repeated events, and how to avoid raising/suggesting/presuming temporal-leading information.

7.3 Minimising the Effect of a Leading Intervening Interview on a Subsequent Best-Practice Interview

While the current study has shown that children are capable of providing detailed and accurate accounts of their experiences, the results have also highlighted the detrimental impact of an intervening leading interview on children’s subsequent involvement in a best-practice investigative interview. The results of this study have identified the need for training to extend beyond professionals typically responsible for investigative interviewing to other adults and professionals that may have
conversations/interviews with children prior to their participation in an investigative interview.

Given the delay that may be experienced within the legal process between disclosure, formal forensic interviews, and the trial (Goodman et al., 1992; Quas et al., 2005; Zajac & Hayne, 2003), children may be exposed to multiple conversations/interviews (e.g., with teachers, parents, social workers, police, and legal professionals) prior to the formal interview (Crossman & Caron, 2006; Goodman et al., 1992; McGough, 1994). These intervening conversations/interviews may be conducted by other professionals/adults who have not experienced the training required to adopt an open-ended non-leading conversational approach. Research has demonstrated that the conversations CWID have with caregivers often contain a higher number of leading questions and negative interview strategies compared with trained investigative interviewers (Agnew et al., 2006). Research has also shown that extensive specialised training is required for investigative interviewers to master an open-ended, non-leading style of questioning (Cederborg et al., 2012; Powell et al., 2005). Therefore, children (particularly CWID) may be exposed to interview strategies with untrained adults/professionals that may undermine and negatively impact their subsequent performance in an investigative interview (Agnew et al., 2006).

Given the impact an intervening leading interview can have on a child’s later interview performance, what suggestions can be made for training and research to address this issue? First, it is recommended that training be provided to other professionals who often converse with children
(e.g., teachers, doctors). This training ought to mirror training for investigative interviewers and should reflect best-practice guidelines. That is, these professionals would benefit from training focused on adopting an open-ended questioning style and strategies to encourage the child’s free-narrative to ensure the most accurate information is elicited and the influence of the interviewer on the child’s account is minimal during these conversations.

Given research has identified the negative conversational strategies utilised by caregivers of CWID and the additional difficulties faced by these children in their active participation in an investigative interview, training for caregivers of CWID would also be recommended. Improving the quality of evidence gained from CWID in investigative interviews requires improvements in the type and quality of interaction these children experience with adults within their daily lives (Agnew, 2003). When child interviewees have limited experience in open-ended and child-centred forms of communication, they have few opportunities to develop the skills required for participating in the style of interaction that is needed in an investigative interview (Abbeduto, Weissman & Short-Meyerson, 1999). It has been suggested that teaching children the skills required for active participation in investigative interviews would require educating caregivers (i.e., in the form of early intervention programs) about; (i) the capabilities of the conversational skills of their children, (ii) the impact of adopting direct and coercive styles of interacting with children on a daily basis, (iii) techniques and strategies for interacting in a child-centred way, and (iv) adopting an open-ended conversational approach (Agnew et al., 2006).
7.4 Conclusion

The results of this study are considered to be generalisable at least in part to the broader community and legal setting because many children are required to provide verbal accounts of their experiences to professionals and may have also experienced an intervening leading style interview (e.g., with a parent/carer or teacher) prior to a formal forensic interview. The repeated event that was utilised in this study has been used with children of differing intellectual abilities and its structure was similar to the typical individual’s experience of repeated abuse in that the event contained both fixed details (details that remained the same across occurrences of the event) and variable details (details that changed across occurrences). The benefit of utilising a mock interview paradigm was that the nature and structure of the event was known and thus an investigation could be undertaken as to the accuracy of children’s reports. This was a central aim of the current work and could only be achieved through the use of a mock interview paradigm.

However, as with any mock interview paradigm, concerns can be raised about the ecological validity of the findings (Lamb & Thierry, 2005; Malpass & Devine, 1981). The children participated in an innocuous event and did not experience any traumatic events for clear ethical reasons. Further, while there was benefit in utilising a sample of CWID, the sample of participants were restricted by the age-range chosen (e.g., 6-12 years) and the reflected a global intellectual disability group (e.g., no distinction was made between mild and moderate intellectual disability). Future research would benefit from expanding the age range of children examined and to
explore how degree of disability (e.g., mild vs. moderate intellectual disability) within a sample of CWID might impact results.

Still, the current research produced a number of important findings relevant to interviewer practice. The current thesis has added to the existing body of work exploring the abilities of children to provide accounts of their experiences. While it is important for children to provide information to adults about their experiences in a variety of contexts (e.g., at school), this is of critical importance within a legal setting. When children are required to provide evidence to legal professionals, including the police and for court, the accuracy and detail of their recall is imperative. Further, the inclusion of CWID in the current work expanded knowledge about the abilities of these children to participate in interviews with professionals/adults. The importance of including CWID within the literature is highlighted by the fact that CWID are significantly more likely to be victims of abuse (Aarons, Powell & Browne, 2004; Agnew, 2003) however, are under-represented within the criminal justice system. The dedication to increasing understanding about the abilities of children of different developmental levels is imperative given that in many cases of abuse, the child victim is the only available source of information about the alleged offence (Lamb et al., 1998). Perhaps the most important way to increase prosecution rates in these cases is to enhance the quality of child witness statements (Powell et al., 2007), especially those children who have an intellectual disability.
REFERENCES


*Evidence Act 2008* (VIC)


Guadagno, B.L., & Powell, M.B. (under review). A comparison of the rate of temporal-leading versus content-leading questions in investigative interviews with children about repeated events.


Lindsay, D.S. (1994). Memory source monitoring and eyewitness testimony. In D. Ross, J. Read, & M. Toglia (Eds.), *Adults*
eyewitness testimony: Current trends and developments (pp. 27-55).
London: Cambridge University Press.


Wright, R., & Powell, M.B. (2006). Investigative interviewers’ perceptions of their difficulty in adhering to open-ended questions with child


Appendix A

Script of the First Occurrence of the Deakin Activities Event

Introduction

“Hi my name is [leader’s name] and we are going to do something very special today, it’s called the Deakin Activities. Can you say those words for me?”

“I have brought a poster with me to help you all remember what the name of the activities is. I’m just going to put it up on the wall so that you can see the poster during the Deakin Activities” (Stick the poster on the wall)

Preparing the children for the Deakin Activities

“I have brought with me something special for you all to sit on, who knows what these are? (holding up garbage bag) That's right they are garbage bags. These ones are white with blue handles on them. And what do we use them for? I am going to give you all a garbage bag and I want you to put it on the floor and sit down.” (Teacher sits on a chair)

“To remind you that I am the leader of the Deakin activities, I get to wear a special cloak with a long ribbon to tie around my neck. Today the cloak is white, who else is wearing something that is white? Because I am wearing the cloak and I am the leader of the Deakin Activities, you all have to be very quiet and listen to what I say, and I will tell you what to do.”

“Because I am getting to wear something special, I have also brought something special for you all to wear, so that you can all feel special about getting to see the Deakin Activities. I have brought with me badges, and there is something special on the badges, can you all see (Leaves and Bark
on the badge)…These badges have bark and lots of green and brown leaves on them that I got from the garden”

1. Meeting a koala puppet

“I have brought a special friend with me today and he’s a koala, his name is Pop, because he likes to eat popcorn that makes the sound “pop”. Let’s see whether Pop wants to come out and play with us today. (talk to the koala in bag) O… oh, do you know what has happened? Last night Pop had his friend Mrs Kookaburra stay over at his house and Mrs Kookaburra kept poor Pop awake all night hiccupping. Can you make the sound of hiccupping? I actually have a picture of Mrs Kookaburra to show you, has anyone seen a kookaburra before? (show picture of a kookaburra). See this is a picture of Mrs Kookaburra – she has fluffy brown wings and a big beak. So poor Pop is very tired, but do you want to see if Pop will come out and say hello?”

(Pop comes out and says hello to the children)

2. Listening to a Story

“In a moment I am going to read you a story, but I want to make sure that you are all wide awake for the story, so I need you to do a warm-up activity for me. For the warm-up activity, I want you all to stand up and touch your toes ten times, while I count to ten. Are you all ready, and when we are finished you have to sit down ready for the story. Ready…”

“Today’s story is about Easter.”

“I was worried because I didn’t have a story to read to you today so I searched my whole house but I couldn’t find a story, so I used the telephone
and called someone at Deakin University and they came and put it in my letter box at the front of my house so that I could read it to you today.”

“So I remember who held up the pictures for me today, I am going to write (Child C’s) name with chalk to make a bookmark. And I'm going to get my piece of blue chalk from this special box with “chalk box” written on it – see that (point to ‘chalk box’ label on box). (write child’s name on a piece of card and show it to all the children so that they can see the name written) “Can you all see (Child C’s name) in the chalk?

(Read story)

“Now I am going to ask some questions about the story, I hope that you were all listening very carefully” (ask a few questions)

3. Doing a puzzle

“Now we are going to do a jigsaw puzzle. There’s only one puzzle and you all get to help me put it together. We’ve got to try to put the puzzle together so that it makes a funny clown. See if you can tell me what the clown is doing” (clown is juggling balls while he rides a unicycle)

4. Having a rest

“It’s pretty tiring work putting jigsaw puzzles together, so now we are going to have a little rest so that you aren’t tired for the rest of the day. What I want you all to do, is to lie down on your backs with your legs stretched out straight. I want you all to close your eyes and keep them closed while I put some music on.”

(Turn on the tape labelled birds)
Read the following very slowly and calmly making sure that the children have their eyes closed and are quiet:

“I’d like you to keep your eyes closed and stay very calm and quiet now while we all rest. While we rest I’d like you all to think about being in a big forest filled with beautiful birds. Listen to the birds chirping up in the trees in the forest. Think about how beautiful the songs of the birds sound… As you are resting, think about what it would be like to be a bird making peaceful beautiful songs all day in the forest… And as you think about the beautiful songs of the birds, I want you to try to relax your feet… Think about how relaxed your feet feel when you hear how peaceful those birds sound… As you breathe calmly and slowly, think about how relaxed your feet feel… As the birds sing their songs… think about how warm and restful your feet feel as I come around and gently touch your feet from your ankles all the way down to your toes to see if they are soft and warm.”

Leader walks around to one child at a time touching their feet from their ankles all the way down to their toes saying “Do your feet feel soft and warm?” (encourage children to respond with ‘Yes’)

“Now keep your eyes closed while I count slowly to three. When I get to three, open your eyes and sit up. One… Two… Three…”

5. Getting refreshed

“Now you have had a little rest, we need to do something to make sure that you are all refreshed. It is important to get refreshed after a rest so that you are all awake for the rest of the day and don’t feel sleepy anymore. Today we are going to get refreshed using some hand cream. You will all
get a bit of hand cream and I want you to rub it into your hands like this to
make them nice and soft…” *(demonstrate rubbing hand cream into hands)*

6. Getting a Surprise

“Because you have all been very good today and listened very
carefully I have a surprise for you all. Now the surprise is hidden in here,
who knows what this is? *(bring out an envelope containing apple stickers)*
That’s right, it’s an envelope, what do you use envelopes for? And see this
envelope is white and has a Deakin University picture on it – see here *(point
to Deakin picture)*. Well inside the envelope is your surprise. The surprise is
a sticker and it’s a sticker of something that you can eat that is good for
your teeth.”

“Who thinks they know what the surprise sticker is?” *(let the children
have some guesses)*

When you get the sticker I want you all to put it on your hand, right
here so that I can see that everyone has a sticker”

**Packing up time and going back to classroom area**

“That’s it for the Deakin Activities for today, now I have to pack up,
and I have to be very quick because I have to go and visit my friend. She’s
just **came home from hospital because she broke her leg**. What do you
think I can buy for her on my way to her house to cheer her up?” *(let the
children give some suggestions)*

“Well you’ve given me some good ideas, but I had better hurry… I
need you guys to pack up your garbage bags and give me back your badges
so that I can hurry to the hospital to visit my friend. Thank you for your
help today.”
Appendix B

Version 1 of the Biasing Interview

“Hi [child’s name]. My name is [interviewer’s name]."

“I heard that [leader’s name] came to your school and did some activities with your class called the Deakin Activities. I heard that she had a poster just like this one with the words ‘Deakin Activities’ written on it. Did [leader’s name] come to your school and do the Deakin Activities?

“I heard that you did the Deakin Activities more than one time. Did you do the Deakin Activities more than one time?”

“I wasn’t there when you did the Deakin Activities so I’m going to ask you some questions about what happened. When I ask you questions, it’s important that you only tell me what really happened. If you can’t remember something that’s okay, just say ‘I don’t know’. You can use any words you like to tell me what happened. Okay?”

“And it’s very important when we talk today that you only tell me about what happened the last time you did the activities, the time when [leader’s name] gave you a special bracelet like this one to wear. Do you remember the time that [leader’s name] gave you a special bracelet like this one? Okay, we’re only going to talk about that time that you did the Deakin Activities today. Okay?”

1. What did you sit on the time you wore the special bracelet [at the Deakin Activities]?

2. I heard [leader’s name] wore a special cape so everyone knew she was the leader. Did she wear a red cape the time you wore the special bracelet?
3. I heard that [leader’s name] brought a koala puppet to the Deakin activities. Was the puppet’s name ‘Pop’ the time you wore the special bracelet?

4. Someone was keeping the koala puppet awake at night. Who kept the koala awake the time you wore the special bracelet?

5. Did you have to run on the spot really fast like a scary lion to warm up the time you wore the special bracelet?

6. I heard that [leader’s name] had a storybook that she got from her letterbox the time you wore the special bracelet. Where was the letterbox where she got the book?

7. What was the story about the time you wore the special bracelet?

8. [Leader’s name] needed a helper for the story. What happened when Lucy helped [leader’s name] the time you wore the special bracelet?

9. What did [leader’s name] write down the helper’s name with the time you wore the special bracelet?

10. I heard you put together a puzzle of a clown balancing books on his head the time you wore the special bracelet. Tell me what happened when you put together the puzzle of the clown balancing books on his head.

11. I heard you listened to music when you were rested at the Deakin activities. What sounds did you hear the time you wore the special bracelet?

12. [Leader’s name] touched your legs when you had your rest the time you wore the special bracelet, didn’t she?
13. [Leader’s name] gave you a wet towel to get refreshed after your rest the time you wore the special bracelet, didn’t she?

14. What picture was on the sticker [leader’s name] gave you the time you wore the special bracelet?

15. Where did [leader’s name] get the stickers from the time you wore the special bracelet?

16. Did [leader’s name] go to visit her friend who just came home from hospital when she finished the activities the time you wore the special bracelet?

17. I heard you wore a badge with glitter and smarties on it the time you wore the special bracelet. How many smarties do you think were stuck on the badge?

“[Child’s name] do you have any questions that you want to ask me?

Thank you for talking to me today about the time you wore the special bracelet at the Deakin Activities.”
Appendix C
Memory Recall Interview Protocol

Introduction

“Hi [child’s name]. My name is [interviewer’s name] and my friend [research assistant’s name] spoke to you [date] about the Deakin Activities. Do you remember talking to [research assistant’s name] about the Deakin Activities?”

“Well we really messed up because [research assistant’s name] accidentally taped over all of your answers. So I need to ask you all about the Deakin Activities again. [Leader’s name] came to your school and did the Deakin Activities and she had a poster just like this one, didn’t she?”

“Remember I wasn’t there when you did the Deakin Activities so I’m going to ask you some questions about what happened. When I ask you questions, it’s important that you only tell me what really happened. If you can’t remember something that’s okay, just say ‘I don’t know’. You can use any words you like to tell me what happened. This time the questions that I ask might be a bit different, so just do your best to tell me what you can remember Okay?”

“And I know that you did the Deakin Activities more than one time, didn’t you? It’s very important when we talk today that you only tell me about what happened the last time you did the activities, the time when [leader’s name] gave you a special bracelet like this one to wear. Do you remember the time that [leader’s name] gave you a special bracelet like this one? We’re only going to talk about that time that you did the Deakin Activities today. Okay?”
Useful prompts to facilitate the child’s free-narrative account (may include but not limited to):

**Initial open-ended invitation**

- “I want you to tell me everything that you can remember, even the little things that you don’t think are important. Just do your best to tell me everything that happened in the Deakin Activities the time when you wore the special bracelet. Start at the beginning. What was the first thing that happened?”

**Open-ended breadth questions**

- “What happened then?”
- “What happened next?”
- “And then what happened?”
- “What happened after that?”

**Open-ended depth questions**

- “Tell me more about the part where . . .”
- “What happened when . . .”
- “Tell me everything you remember about . . .”
- “Tell me more about . . .”
- “What else can you tell me about . . . the time when you wore the special bracelet?”
- “You said . . . tell me more about the part where . . .”
- “Tell me everything you remember about the part when . . .”

**Minimal encouragers**

- “Mmm-hmm”
- “Uh huh”
- Nodding head
- “You’re doing a good job thinking about my questions”
Follow-up specific prompts that might be useful (may include but not limited to):

- “You had to sit on something when you did the Deakin Activities. What did you have to sit on the time you wore the special bracelet?”
- “[Leader’s name] wore a special cape so everyone knew she was the leader. What colour was [leader’s name]’s cape the time you wore the special bracelet?”
- “You said [Leader’s name] brought a koala puppet to your class when you did the Deakin activities. What was the koala puppet’s name the time when you wore the special bracelet?”
- “Someone was keeping the koala puppet awake at night. Was it a magpie, a kookaburra, or an owl who kept the koala away the time you wore the special bracelet?”
- “What was the warm up activity that you did the time when you wore the special bracelet?”
- “I heard that [leader’s name] had a storybook. Where did she get the storybook from the time when you wore the special bracelet?”
- “Was the story about a teddy bear (show picture), a Super cat (show picture), or an elephant (show picture) the time when you wore the special bracelet? Point to which one it was.”
- “[Leader’s name] needed someone to help her with the story. What was the helper’s name the time when you wore the special bracelet?”
• “Did [leader’s name] use lipstick, a paint brush, or chalk to write down the helper’s name the time when you wore the special bracelet?”
• “I heard that you put together a puzzle of a clown. What was the clown doing in the puzzle the time when you wore the special bracelet?”
• “I heard that you listened to music while you were resting in the Deakin activities. What sounds did you hear the time when you wore the special bracelet?”
• “Did [leader’s name] touch your stomach (point), your legs (point), or your arms (point) the time when you wore the special bracelet? Point to which one.”
• “[Leader’s name] gave everyone something so that you were all refreshed after your rest. What did [leader’s name] give you to get refreshed the time when you wore the special bracelet?”
• “What picture was on the sticker that [leader’s name] gave you the time you did the Deakin activities when you wore the special bracelet?”
• “[Leader’s name] kept the stickers in a special place. Where did she get the stickers from the time you wore the special bracelet?”
• “[Leader’s name] had to go and visit someone when the Deakin Activities were finished. Did she go and visit her sister, her friend, or her dentist when she finished the activities the time when you wore the special bracelet?”
• “You had to wear a badge when you did the Deakin activities. What was on the badge that you had to wear the time when you wore the special bracelet?”