The effect of complainant age on outcomes in the criminal justice system:

Case tracking from report to conviction

By

Chelsea Leach

B Psychological Science (Hons)

B Law (Hons)

Submitted in partial fulfilment of the requirements for the degree of

Doctor of Psychology (Forensic)

Deakin University

2015
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Acknowledgements

I wish to acknowledge the support of my supervisor Martine Powell. Professor Powell was instrumental in facilitating my access to every resource required for the thesis and was always available to discuss ideas or review work. I can only hope to have as much dedication and passion in my future work as was shown by Professor Powell. I also wish to acknowledge the support of my secondary supervisor Dr Jeromy Anglim, who provided invaluable statistical guidance. While I appreciated the patient explanations of statistical concepts, the kind and encouraging words of support were just as valuable over the course of my Doctorate.

To ensure the anonymity of the data, the jurisdiction examined and the key supporters of this project are not named. Yet I wish to acknowledge that my thesis would not have been possible without the leadership and support from management in both child protection and police departments. I particularly wish to thank the police Inspector who provided practical support by giving me the space and resources required to extract the data. The support of these leaders demonstrated their passion for collaboration and best practice principles. Along with this, I also wish to acknowledge fellow student Mairi Benson who provided invaluable assistance during the data collection process, including cross-checking and updating the data when I did not have physical access. This assistance was entirely voluntary on Mairi’s behalf and highlights her generosity of spirit and commitment to the research. I also wish to acknowledge Samantha Semmens for proof reading my work.

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To my family, I thank you for your patience and love throughout my many years of exams and assignment deadlines. I hope I make you proud. Finally, I wish to acknowledge the support of David Campbell. You have been my talisman. Sturdy and reassuring to the end. I can only hope to equally return your love and support.
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I designed the methodology of the research project that the article stemmed from. I collected all data for the article and analysed the data. I drafted the manuscript and submitted it for publication following completion

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I conceptualised the article and completed an initial draft with a focus on data collection problems and advice for researchers. Following contributions by the second author and revisions by the third author, I finalised all revisions and submitted for publication.

I declare that the above is an accurate description of my contribution to this paper, and the contributions of other authors are as described below.

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Abstract

In many jurisdictions, there is a large gap between the number of child sexual abuse cases reported to authorities and the number of offenders convicted at court. In order to understand why some cases progress, while others are discontinued, researchers have explored how case outcomes can be predicted by differences in individual case characteristics. Yet, case characteristics are interrelated and there are few studies that have explored how interrelationships between case characteristics may impact on case outcomes. This thesis partially addresses the research gap. Following a thorough literature review, the age of the victim was selected as a key case characteristic to explore. A cohort of 549 cases of child sexual abuse that were reported to police in a single Australian jurisdiction over a 12 month period was tracked through three stages of the criminal justice process: the investigative interview, authorisation of charges, and the court outcome. Each study in the thesis investigated whether victim age was interrelated with other case characteristics and if these interrelationships had an effect on case outcomes at each stage.

Study One explored whether complainant age and other case characteristics significantly predicted a child disclosing abuse in a Forensic Interview. The study used the full cohort of 549 reported cases and used logistic regression to model child disclosures as predicted by complainant age and other case characteristics. After controlling for interrelationships with other case characteristics the results indicated that complainants in middle childhood were more likely to disclose than very young and adolescent complainants. In addition to this, age interacted with several other case characteristics to significantly predict disclosure rates. These interactions suggested that very young children had lower disclosure rates when the abuse was non-
penetrative, intra-familial and occurred over 12 months prior to the report. In contrast, disclosure rates for adolescent complainants were lower when the abuse was extra-familial, occurred within 12 months of the report, and the offender had a history of violence. Overall, the study highlighted that interrelationships between complainant age and case characteristics had an effect on disclosures of abuse in a forensic interview.

Study Two included 440 complainants who had disclosed abuse in the forensic interview. Logistic regression was used to model whether a case was discontinued due to lack of evidence, or whether charges against a suspect were authorised by police. The results found that when other case characteristics and evidence were controlled for, complainants in middle childhood were more likely to have their cases progress than very young and adolescent complainants. There were no significant interactions between complainant age and case characteristics; however, meditational relationships were explored and the effect of complainant age was found to be mediated by the type of abuse and by the suspect’s confessions. Cases with older victims had a higher prevalence of both extra-familial abuse and suspect confessions, and both of these factors significantly predicted that charges against a suspect would be authorised by police.

The final study investigated court outcomes for 288 cases that had charges filed at court. The study used logistic regression to model court outcomes as predicted by complainant age and other case characteristics. Almost two-thirds of cases filed at court resulted in a conviction of the defendant, which is higher than previously found in Australia. The model did not find a significant effect for complainant age, nor were there any significant interactions between complainant age and other case characteristics; however, the results did indicate that defendants were more likely to
be convicted in cases where the abuse was repeated and reported within 12 months of it occurring.

Overall, the studies in this thesis identified that the effect of complainant age on outcomes in the criminal justice system is complex. One reason for this complexity is that the effect of complainant age varied between each stage of the criminal justice process. In addition to this, the effect of complainant age was curvilinear. Finally, interrelationships between complainant age and case characteristics had a significant effect on case outcomes.

The findings of this thesis have made an important contribution to research that explores the link between case characteristics and criminal justice case outcomes. By modelling the curvilinear effects of complainant age, the thesis has contributed to research by highlighting that cases with adolescent complainants may be particularly vulnerable to attrition during investigation. In conjunction with this, the finding that case characteristic interrelationships have a significant effect on case outcomes, has expanded on prior studies of main effects. This finding emphasises the importance of exploring interrelationships between case characteristics in future research to avoid erroneous interpretations of their effects.
Definitions

Attrition:
This term refers to where a reported case of child sexual abuse does not proceed to trial. Attrition can occur at several stages of the investigation, such as prior to the forensic interview of the victim or prior to the interview of the suspect. Attrition may also occur following a suspect being arrested and charged if the victim or prosecution elect not to proceed at trial.

Complainant:
This term is used to refer to children who are the subject of a report of abuse to authorities. This term is used as some of these children may be subjects of inaccurate reports and their abuse has not been proven in court, therefore not all complainants are victims. This term is used in all studies and when discussing literature exploring legal outcomes for child sexual abuse cases.

Defendant:
This term is used to refer to an individual that has been charged with sexual abuse of a child and is used in study three.

Offender:
This term is used to refer to an individual that has been convicted or substantiated of sexually abusing of a child.
Suspect:
This term is used to refer to an individual who has been named as the perpetrator of sexual abuse prior to being charged with the offence. This term is used in study one and two.

Victim:
This term is used to refer to children where it has been generally established that they experienced sexual abuse. This can be differentiated from complainants as not all victims report abuse to police and therefore not all victims are complainants. The term is used in the literature review of disclosure research as this is consistent with the terms used in these studies.

Age descriptors:
The thesis modeled the age of the complainant as a continuous variable in all studies and age plots are provided in the results to detail effects across each year of age. To discuss effects and findings the following general age descriptors have been used for simplicity.

- **Very young:** Refers to complainants aged approximately 3 - 7 years.
- **Middle childhood:** Refers to complainants aged approximately 8 - 12 years.
- **Adolescence:** Refers to complainants aged approximately 13 - 16 years.
CHAPTER 1. RATIONALE AND AIMS OF THE THESIS

It is estimated that up to 16% of male children and 36% of female children in Australia experience sexual abuse (Australian Institute of Family Studies., 2013). Recent international estimates suggest that around 10-75% of these incidents are known to police (Finkelhor, Ormrod, Turner, & Hamby, 2012; London, Bruck, Wright, & Ceci, 2008). After a case is reported to authorities in Australia, studies have found less than 20% of cases result in a conviction (Fitzgerald, 2006; Wundersitz, 2003). By comparison, in Australian and worldwide, more than 65% of non-sexual violent offences reported to police result in a conviction (Australian Institute of Criminology, 2012; Cossins, 2001; Cross, Walsh, Simone, & Jones, 2003). The discrepancy between these rates is concerning and highlights that the criminal justice response to child sexual abuse needs to be improved.

Increasing the conviction rates for child sexual abuse will benefit both victims and the community. For victims, convictions are important to ensure the child is legally protected from ongoing abuse. In addition, a conviction may validate the victim’s experience and be an important aspect of the healing process (Kendall-Tackett, Williams, & Finkelhor, 1993). For the community, the rehabilitation of convicted sexual offenders, may prevent further crimes (Losel & Schmucker, 2005; Reitzel & Carbonell, 2006).

There has been extensive research and law reform over the past 30 years aimed at improving the criminal justice response to all sexual abuse (Daly, 2011). Such reforms have included mandatory reporting of child maltreatment (Australian Institute of Family Studies, 2014), development of best practice protocols for investigative interviewing (Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007).
and re-training of forensic interviewers (Powell, 2008). For cases that proceed to
court, special protections are now available for vulnerable witnesses (Australian Law
Reform Commission, 2010) and the role of expert witnesses in trials is increasingly
recognised (Cossins, 2010a; Daly, 2011).

In spite of the extensive research and reforms over the past three decades,
conviction rates for child sexual abuse continue to be unsatisfactory (McClellan,
2014). There is a critical need for ongoing research to identify reasons for the high
attrition and low conviction rates of child sexual abuse. Once these reasons are
identified, further systemic reforms may be developed and implemented to address
this issue. One method that may be used to identify the reasons for high attrition and
acquittal is case tracking, which follows cases from initial report to the final court
outcome. Case tracking is advantageous as it provides a holistic overview of how
cases proceed through the criminal justice system so that key points of attrition can
be identified. In addition to this, reasons for case attrition and defendant acquittal
can be explored at each key point (Community Development and Justice Standing
Committee, 2008; Criminal Justice Sexual Offence Taskforce, 2005; Ombudsman
New South Wales, 2012).

Prior studies that have explored reasons for case attrition and defendant
acquittal, investigated both systemic and case factors. Research on systemic factors
is aimed at improving the legal outcomes for all complaints. Systemic factors
include interviewing techniques for child victims or suspects (Hagborg, Stromwall,
&Tidefors, 2012; Lamb et al., 2007; Powell, Fischer, & Wright, 2005), or the use of
CCTV and video-recorded evidence at trial (Cashmore & Trimboli, 2006). Research
on case factors is aimed at identifying the cases most vulnerable to being
discontinued. Individual case factors may include victim and offender
demographics, the severity of abuse, the frequency of abuse and the victim-offender relationship (Brewer, Rowe, & Brewer, 1997; Cross, De Vos, & Whitcomb, 1994; Finkelhor, 1983; Stroud, Martens, & Barker, 2000). Identification of vulnerable cases is important because it can inform more targeted interventions that improve outcomes for the most vulnerable complainants. The current thesis contributes to this latter field of research by tracking a cohort of cases from initial report to police through to final court outcome. It aims to identify the case characteristics which predict and explain outcomes at each stage of the justice system.

Chapter 2 reviews and discusses prior research on attrition and acquittal. Its focus is the effect of individual case characteristics on the progression of cases through the legal system. Case characteristics examined include the demographics of the victim and offender, and the nature of the abuse (i.e., severity, frequency, victim-offender relationship). The evidence of sexual abuse in a case is also considered. Possible explanations for the effect of case characteristics on outcomes are considered and gaps in the literature are identified. The review demonstrates that case characteristics are often interrelated and that this may also affect case outcomes; yet the effects of the interrelationships have not been thoroughly explored in research to date. To address this gap, the studies presented in Chapters 5 to 7 focus on complainant age to investigate the effects of this case characteristic on legal outcomes and whether this effect is moderated or mediated by the presence of other case characteristics.

There are several reasons for why the age of the complainant was identified as an important characteristic to focus on. From a legal perspective, the age of the complainant is relevant to the legislative definition of abuse (Australian Institute of Family Studies, 2013) and the complainant’s competence to provide sworn evidence
(Australian Law Reform Commission, 1997). From a practical perspective, the age of the child may impact on their ability and willingness to provide a disclosure to investigators (London, Bruck, Ceci, & Shuman, 2007). Complainant age is also commonly considered by police when deciding to authorise charges against a suspect (Campbell, Menaker, & King, 2015; Powell, Murfett, & Thomson, 2010).

Empirically, research has consistently found that the age of the victim predicts the likelihood that a victim will disclose (DiPietro, Runyan, & Fredrickson, 1997; Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003; Hershkowitz, Horowitz, & Lamb, 2005; Kogan, 2004; Lippert, Cross, Jones, & Walsh, 2009; Smith et al., 2000), and that the suspect will be charged (Bunting, 2007; Fitzgerald, 2006; Stroud et al., 2000; Walsh, Jones, Cross, & Lippert, 2008), prosecuted (Brewer et al., 1997; Cross et al., 1994) and convicted (Nightingale, 1993; Read, Connolly, & Welsh, 2006). Yet how and why complainant age has an effect on case outcomes is unclear. In particular it has not been firmly established that complainant age has a linear effect (Brewer et al., 1997; Cross et al., 1994) or a curvilinear effect (Walsh et al., 2008). A detailed discussion of these gaps is provided in Chapter 2.

Chapter 3 provides an overview of the legal system in the jurisdiction examined. This overview focuses on legal responses to child sexual abuse, including legislation, the process for investigating complaints and rules related to prosecuting cases. Highlighting the unique features of the legal system provides a context for each study and informs the interpretation of the results. In Chapter 4, a description of the general methodology of the thesis is provided. This chapter details how the cases and data were elicited, and the definition and operationalisation of key variables used across studies. It also describes the cohort of cases used in the thesis.
Three original empirical studies are described in Chapter 5 to 7. The study in Chapter 5 includes all cases reported to police over a 12 month period and explores which case factors predict that a child will disclose abuse in a forensic interview. The second study is outlined in Chapter 6. This study includes all cases where a complainant disclosed abuse in a forensic interview, and it investigates case characteristics that predict police authorisation of charges against a suspect. The final study is described in Chapter 7 and considers all cases carried forward to court by prosecutors. In this study, case factors that predict convictions are modeled. The final chapter (Chapter 8) reviews and integrates the findings and discusses the implications of the results and directions for further research.
CHAPTER 2. REVIEW OF THE RELATIONSHIP BETWEEN CASE CHARACTERISTICS AND ATTRITION AND ACQUITTAL OF CASES IN THE CRIMINAL JUSTICE SYSTEM

The current chapter presents a review of empirical research on the relationships between case characteristics and case outcomes in the criminal justice system. Its purpose is to identify areas where further research is needed and where the thesis may make a meaningful and unique contribution. The review both outlines the gaps in the literature and informs the interpretation of study results in Chapters 5 to 7. Throughout this chapter, prior findings are described and possible explanations for relationships are discussed. In addition, discrepancies in results are identified and discussed with consideration of study design differences and methodological limitations.

This chapter is split into four sections. The first section (2.1) contains an overview of studies that have identified key attrition points in the criminal justice system. In addition, this section describes attrition and acquittal rates in Australian and overseas. The following section (2.2) provides a thorough summary of prior research on the relationship between case characteristics and case outcomes. This section is further divided into six sub-sections to systematically explore each case characteristic. These sub-sections include complainant age (2.2.1), complainant gender (2.2.2), suspect age (2.2.3), nature of abuse (2.2.4), frequency of abuse (2.2.5) and the suspect-complainant relationship (2.2.6).

Given the focus of the thesis on the age of the complainant, sub-section 2.2.1 is very detailed. To facilitate the description of this research, the sub-section is further split into three parts. The first part describes research on the relationship
between complainant age and case outcomes. In particular, this part outlines some of
the methodological limitations of previous research. The second part of the section
discusses reasons for the high attrition and acquittal rates of cases with very young
complainants (2.2.1.1). The final part discusses possible explanations for higher
attrition and acquittal rates in cases with adolescent complainants (2.2.1.2).

There are two final sections in this chapter. In the third section (2.3), a
summary of the research is provided and directions for further research are
identified. Finally, in section 2.4, a rationale for the design of the thesis is provided.

2.1 Attrition and Acquittal Rates of Child Sexual Abuse

Two studies of attrition in Australia have been conducted and both studies
found similar patterns of attrition between South Australia (Wundersitz, 2003) and
New South Wales (Fitzgerald, 2006). Both studies found that less than 20% of cases
reported to police led to a conviction (Fitzgerald, 2006; Wundersitz, 2003). Further,
a majority of attrition occurred during the police investigation, with around two-
thirds of cases being discontinued before charges were authorised (Fitzgerald, 2006;
Wundersitz, 2003). Of the suspects that were charged, prosecutors pursued around
two-thirds of cases (Wundersitz, 2003) and just under half of these case resulted in a
conviction (Fitzgerald, 2006; Wundersitz, 2003).

One limitation of both studies was the time frame between the initial report
and when the outcome was measured. In the South Australian study, all cases
reported between 1 July 2000 and 30 June 2001 were tracked until 30 June 2002
when the outcome of each case was recorded (Wundersitz, 2003). This time frame
allowed a minimum of one year and maximum of two years for the complete
investigation and prosecution of the abuse. For cases that that took longer than this
to investigate and prosecute, the outcome was recorded as ‘uncleared.’ Some of these cases may have eventually resulted in a conviction, but this was not captured by the study. This was a major limitation as approximately 40% of cases in the study were uncleared by police at 30 June 2002.

The time frame used in Fitzgerald’s (2006) study was even more restricted. In this study, investigation outcomes were reviewed 180 days after a case was reported. Outcomes for cases that took more than six months to investigate were not captured and a majority of the cases were uncleared after 180 days (70%). While it is beyond the scope of this review to consider how delays in investigation may impact on attrition of cases, these studies highlight that investigation and prosecution of cases may be protracted. When designing research on attrition, sufficient time must be allowed for cases to progress from report through to a final outcome.

Patterns of attrition in the United States were reviewed in a meta-analysis of studies on criminal justice decisions (Cross et al., 2003). This meta-analysis highlighted several differences between the United States and Australia with regards to attrition patterns. Cross and colleagues found a wide variability in the number of cases referred by investigators to prosecutors (40-85%), however variation in these rates may be due to differences in investigation and referral processes. For example, some of the studies used a sample of cases investigated and substantiated by child protection services (Davis & Wells, 1996; Dolan, 1985; as cited in Cross et al., 2003), while another study explored cases reported to and investigated by health and police (C. Rogers, 1982; as cited in Cross et al., 2003). Once a case was referred to prosecutors, then only around one-half of cases were carried forward to trial by prosecutors (Cross et al., 2003), which is lower than the rate found in the South Australian study where around two-thirds of cases were pursued by prosecutors
(Wundersitz, 2003). Of the cases taken to trial by prosecutors in the United States, there was an overall mean of 82% guilty pleas and 94% convictions at trial (Cross et al., 2003). This rate is almost double the conviction rate found in the two Australian studies (Fitzgerald, 2006; Wundersitz, 2003).

In spite of the differences across Australia and the United States, a majority of cases were discontinued prior to going to trial in both jurisdictions. A similar pattern was also found in Northern Ireland, where around 80% of reported cases were discontinued before a suspect was charged (Bunting, 2007). Given the consistently high attrition rate of cases before they go to trial, it is important to identify factors that predict this early attrition.

With the exception of a few case tracking studies (Wundersitz, 2003), case attrition and defendant acquittal have primarily been researched independently. There are two primary reasons for considering them together with case tracking methodology. The first reason is that case attrition filters cases through the criminal justice system so that only a select group of cases are forwarded to trial. This group of cases at trial is unlikely to be representative of the types of cases reported to police. Interpretation of acquittal rates may be inaccurate if researchers lack insight into how cases are filtered prior to trial. For example, it may be found that cases with very young complainants are only forwarded to prosecutors when there is strong evidence corroborating a forensic disclosure by the victim, while cases with complainants in middle childhood are often forwarded based on a forensic disclosure alone. When these cases proceed to court, conviction rates may be higher for cases with very young children because there is strong corroborating evidence. Conversely they may appear lower for children in middle childhood because there is less corroborating evidence. If court outcomes are studied in isolation, then it may be
erroneously concluded that juries are more likely to convict cases with very young victims. Even if the study explored the influence of evidence, it may appear that cases with very young complainants have more evidence. Understanding how a sample was previously filtered, provides a context for more accurate interpretation of court outcomes.

The second reason for considering research on attrition and acquittal together is that acquittal rates may also have an effect on attrition rates. Researchers have found that criminal justice professionals consider the convictability of a case when deciding whether to proceed or discontinue (Frohmann, 1997). In order to determine whether a case is likely to result in a conviction, professionals are likely to consider how the case will be perceived at trial. If certain cases, for example those with adolescent complainants, are known to be regularly acquitted, then police or prosecutors may be more likely to discontinue the case when there is little corroborating evidence. Conversely, they may continue a case with a complainant in middle childhood that has the same amount of evidence, because these cases are known to have a higher conviction rate. In this way, patterns of acquittal may influence decisions of police and prosecutors, therefore knowledge of these patterns may assist interpretation of attrition rates. Given this, patterns of attrition and acquittal may be interdependent, and therefore should be explored together.

2.2 Case Factors That Predict Attrition and Acquittal

The remainder of this chapter considers prior studies on the relationship between case characteristics and the attrition and acquittal of child sexual abuse cases, including possible reasons for this relationship. The case factors discussed include victim and offender demographics, the type and frequency of abuse, and the
relationship between the victim and the offender. Interrelationships between case characteristics are considered, in addition to relationships between case characteristics and evidence factors.

2.2.1 Relationship between complainant age and case outcomes.

There are conflicting findings in the literature regarding the relationship between victim age and the attrition and acquittal of cases. Some researchers have not found an effect for victim age on either prosecutor decisions (Bradshaw & Marks, 1990) or trial outcomes (Blackwell & Seymore, 2014). Conversely, other researchers have found a linear relationship between victim age, and whether a case is forwarded and accepted for prosecution (Brewer et al., 1997; Cross et al., 1994; Fitzgerald, 2006; Stroud et al., 2000) and a defendant conviction (Cashmore, 1995). Finally, some researchers have found a curvilinear relationship between victim age and outcomes, where children in middle childhood were the most likely to have their cases referred for prosecution (Bunting, 2007; Walsh et al., 2008) and convicted (Read et al., 2006).

There may be several explanations for the different results between studies. One explanation may be that victim age has a different effect on each stage of the criminal justice system. Alternatively, differences in findings may stem from variations in how age was modeled. A final explanation may be that the effect of age is mediated or moderated by other variables and these inter-relationships have not been explored fully across studies. Each explanation is considered below.

Studies that have explored the effects of victim age on the outcomes of police investigations have predominantly used a categorical age variable (Bunting, 2007; Stroud et al., 2000; Walsh et al., 2008). Two of these studies found that victims in
middle childhood were more likely to have their cases referred to prosecution than younger and older victims (Bunting, 2007; Walsh et al., 2008), while one study found that the rate of cases forward peaked in middle childhood and then plateaued (Stroud et al., 2000). Walsh and colleagues (2010) conducted the most robust exploration of the effect of victim age on a legal outcome, comparing investigation outcomes for 329 children aged 0-7, 8-11, and 12-17 years. They used a logistic regression to predict the likelihood of charges, with other case characteristics and evidence as predictor variables. Initial bivariate analysis revealed that the proportion of cases charged was lowest among victims age 0-7 (46%) and highest among victims in the middle childhood category (78%). Cases with adolescent victims had a slightly lower rate of charges than cases with victims in middle childhood (73%). After including other case characteristics and evidence in a logistic regression, Walsh et al. found that victims in middle childhood were significantly more likely to have their cases charged than both very young and adolescent victims. The results of this study indicate strong support for the contention that age and legal outcomes may have a non-linear relationship.

Two studies exploring the effect of victim age on prosecutor decisions to accept cases have predominantly modelled age as a continuous variables (Brewer et al., 1997; Cross et al., 1994). Both studies found a significant linear relationship between complainant age and acceptance for prosecution, however neither study reported modeling non-linear effects (Brewer et al., 1997; Cross et al., 1994). In the study by Cross et al. (1994), a continuous age variable was included in a logistic regression - with other case characteristics and evidence - to predict the likelihood that a case would be accepted for prosecution. The study found that the likelihood of a case being prosecuted increased by 13% for each additional year of the victim age.
However, in their initial bivariate analysis, Cross et al. used three categories for victim age and found that the proportion of cases prosecuted was highest for victims in the middle childhood category (7-12 years). Victims in early childhood (4-6 years) only had 34% of cases accepted for prosecution, while victims in middle childhood had 69% of cases prosecuted. The rate of acceptance for victims in adolescence (13-17 years) was marginally lower with 68% of cases prosecuted. This suggests that if the researchers had modelled the quadratic effect of victim age on prosecution, then there may have been a significant quadratic effect. It is possible that victim age predicted a higher rate of prosecution up until middle childhood and then this effect may have plateaued or declined after middle childhood.

Few studies have explored the effect of age on actual court outcomes (Blackwell & Seymore, 2014; Cashmore, 1995; Read et al., 2006), as opposed to mock juror decisions (Gabora, Spanos, & Joab, 1993; Golding, Sanchez, & Sego, 1999; McCauley & Parker, 2001; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014). The studies of real court outcomes have modeled age as both a continuous and categorical variable and the results are somewhat unclear. In an Australian study, Cashmore (1995) found that there was a lower mean victim age for cases that were terminated in the lower courts (8.4 years) than for cases that proceeded to conviction or that were committed to trial in the high courts (11.9 years). The relationship between victim age and court outcome in the higher courts was less clear and the conviction rate for age categories varied broadly. Conviction rates were slightly higher for victims aged 5-9 years (72%) and 12-14 years (71.8%), than victims aged 10-11 (61.5%) years and 15-17 years (59.4%).

A Canadian study explored the effect of victim age on court outcomes in cases of delayed disclosure where an adult victim disclosed historical abuse (Read et
al., 2006). The results indicated that the mean rate of convictions by jury was lower when victims were adolescents at the time of the abuse (Read et al., 2006). This finding was unique as the victims in Read et al.’s study were all adult cases reporting historical abuse. The perceived credibility of adolescent witnesses should not be relevant in this study as “there is no reason to expect that a 30-year-old who describes an event that occurred when she was five will be more honest than a 30-year-old who describes an event that happened when she was 12 years old” (Read et al., 2006, p. 262). The findings by Read and colleagues suggest that the age of the victim at the time of the abuse may be more relevant than the age of the victim at the time of the trial. In support of this suggestion, a New Zealand study of a sample of cases trialed by jury did not find differences in conviction rates for victims aged either below or above 12 years at the time of the trial (Blackwell & Seymore, 2014).

The effect of victim age on real court outcomes is still unclear, however studies of mock juries suggest that adolescent victims are perceived more negatively (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014). Research has identified that mock juror perceptions of child witness credibility broadly involve two constructs; perceptions of the child’s cognitive ability and perceptions of the child’s honesty (Ross, Miller, & Moran, 1987). Mock jurors have been found to perceive older children as more cognitively competent but less honest than younger children (Bottoms & Goodman, 1994; Nightingale, 1993). Interestingly, perceived honesty has been found to be more predictive of a guilty verdict than has cognitive ability (Ross, Jurden, Lindsay, & Leeney, 2003).

There may be several reasons why children in middle childhood are perceived as most credible by mock jurors. Nightingale (1993) suggested that mock jurors may perceive children in middle childhood as “the ideal child witnesses. They
may still be viewed as naive and honest, yet old enough that people have confidence in their memory abilities. Still, they may not be so old as to be blamed for their victimization” (p. 688). Victim blaming may also explain the low conviction rates found in Read et al.’s (2006) study for victims who were adolescents at the time of the abuse. This is supported by a qualitative study of mock jury deliberations that found mock jurors thought the testimony of older victims was less credible because older victims should be more aware that they were being abused and were more able to physically resist the abuse (Tabak & Klettke, 2014).

In summary, it appears that age has a curvilinear effect on police authorisation of charges, a linear effect on prosecutor acceptance of cases and possibly a curvilinear effect on outcomes of cases at trial. While it is possible that the effect of age differs at each stage of the criminal justice system. The different effects found may also be explained by differences in how age was modelled at each stage. The studies that modeled age as a categorical variable were more likely to find the curvilinear effects, while those that used a continuous variable (with no quadratic variable) found a linear effect.

A categorical age variable allows either linear or non-linear patterns to emerge; however, using a categorical age variable also has drawbacks. As age is continuous, a categorical variable may not identify nuances or changes in the relationship with outcomes at specific ages within each category. There may actually be a vast difference in outcomes for victims within a single category, for example victims aged 0-7 years; however, these differences are not identified when all cases are included in one category. In addition, the cut-off ages for each category vary substantially across studies; Walsh and colleagues (2010) used three categories (0-7, 9-11 and 12-17 years), while two other studies have used four categories with
further variations between the studies in how they categorised age (e.g. 0-4, 5-9, 10-14, 15-17 years, Bunting, 2007; 0-4, 5-8, 9-12, 13-17 years, Stroud et al. 2000). The most robust method to model age is to use a continuous variable and simultaneously model quadratic effects. Currently no study has reported using this approach. Further research is needed to model both the linear and quadratic effect of victim age on case outcomes at each stage of the criminal justice process.

Beyond identifying quadratic age effects, further investigation is needed to determine if any factors mediate or moderate the effect of victim age on case outcomes. From an empirical perspective, it is important to include possible moderating factors when exploring curvilinear effects. If moderating factors are not explored, then main effects may appear curvilinear, when they are in fact linear but moderated by other factors (Ganzach, 1997). From a theoretical perspective, moderators and mediators may provide insight into the reason that victim age has an effect on case outcomes. Prior studies have proposed several explanations for the effect of victim age indicating that other case characteristics and evidence may moderate or mediate this effect. These explanations and interrelationships are discussed in more detail below. Explanations for the higher attrition and acquittal rates for very young victims are considered first, followed by explanations for the higher attrition and acquittal rates of adolescent victims.

2.2.1.1 Explanations for higher attrition and acquittal rates of cases with very young complainants.

Researchers have suggested several reasons for the high attrition and acquittal rates of very young complainants. Such cases may be more likely to be discontinued during the police investigation because very young children are more reluctant to
disclose abuse than older victims (DiPietro et al., 1997; Goodman-Brown et al., 2003; Hershkowitz et al., 2005; Kogan, 2004; Lippert et al., 2009; Smith et al., 2000). A review of the empirical literature on disclosure of child abuse found that pre-schoolers are less likely to disclose abuse in a formal interview than school-aged children (London, et al., 2007). Without a disclosure a majority of cases do not progress past the initial report to police (Walsh et al., 2008).

It is also possible that interrelationships between the age of the victim and the victim offender relationship may also have an effect on disclosure rates. Victims of intra-familial abuse have been found to be more reluctant to disclose abuse than victims of extra-familial abuse (Goodman-Brown et al., 2003; Kogan, 2004; Priebe & Svedin, 2008; Smith et al., 2000), however victims of intra-familial abuse have also been found to be significantly younger than extra-familial abuse victims (Fischer & McDonald, 1998; Read et al., 2006). It is possible that young victims are less likely to disclose because the abuse is intra-familial. There may also be an interaction between the age of the victim and the type of abuse where the suppression effect of intra-familial abuse is more salient for very young victims. This is supported by a study by Pipe et al. (2007) that found an interaction between victim age and victim-offender relationship where children 4-5 years were less likely than children 6-13 years to disclose sexual abuse when the offender was a close family member, but not where the offender was extended family, known non-related person or a stranger.

The findings above highlight the complexity of the relationship between victim age and cases outcome. First, it appears that victim age may have an effect on disclosure rates, which subsequently affects the likelihood of charges. In addition, there may be an interaction between victim age and the victim-offender relationship
that has an impact on disclosure rates, which then affects the likelihood of charges. In this way, the relationship between victim age and case outcomes may be moderated by the victim-offender relationship and mediated by disclosure rates. While the explanation for the relationship is complex, such detailed understanding of age effects is worthy of further research to facilitate targeted interventions. For example the above findings may suggest that the most effective way of improving investigation outcomes for very young victims is to focus on improving disclosure rates in cases for intra-familial abuse.

For cases forwarded to prosecutors, there are several possible explanations for why very young children are less likely to have their cases accepted for prosecution. One explanation is that very young children may be more confused or intimidated by the legal system and this may impact on their ability to participate in the prosecution of their case (Stroud, et al., 2000). If this hypothesis is accurate and addressed with better victim support, then there should be better prosecution rates. Support for this has been somewhat demonstrated by the introduction of Child Advocacy Centres (CAC), which are used in many jurisdictions in the United States and are partly aimed at improving victim support and advocacy. One study demonstrated a correlation between a jurisdiction increasing their use of CACs and an increase in prosecution rates, while a comparison jurisdiction used CACs at a consistent rate and maintained a consistent rate of prosecution (Miller & Rubin, 2009). Another study found that children aged 4-6 years who were assessed at a CAC were more likely to have their cases prosecuted than children in that age group who were not assessed at a CAC (Joa & Edelson, 2004). The CACs also conducted forensic interviews of children so it is not clear if the improved prosecution rates is due to the increased victim support or the different forensic interviewing techniques.
Another explanation for the lower prosecution rate for very young children may be that they are abused for a shorter period of time before it is identified, so the abuse is less severe or there is less evidence available. This has been summed up in the hypothesis that the effect of victim age on case outcomes is mediated by the duration of abuse and the evidence available in the case. In opposition to this, Brewer and colleagues (1997), reported that the effect of victim age on prosecutor case acceptance was not affected when controlling for the seriousness of the abuse or available medical evidence.

Finally, the high attrition rate for very young victims may be related to how credible they appear as witnesses. Disclosures by 55 victims of sex abuse (aged 2-17 years) were rated with the Child Abuse Interview Interaction Coding System and it was found that preschool children were more likely to be rated as inattentive, off-task and less likely to give detailed abuse-related disclosures, when compared to school aged children (Wood, Orsak, Murphy, & Cross, 1996). When video tapes of these interviews were watched by law enforcement and child protection personnel, the disclosures made by pre-school children were rated as less credible than the disclosures made by school aged children (Wood, et al., 1996). Similarly, mock jurors have indicated that young victims may be perceived as less cognitively competent, but more honest, than older victims (Bottoms & Goodman, 1994; Nightingale, 1993). These studies suggest that, in the event that victims disclose abuse, cases with young victims may still be discontinued by police and prosecutors or acquitted at trial because the disclosure perceived as less credible.
2.2.1.2. Explaining higher attrition and acquittal rates of cases with adolescent complainants.

In the event that there is a curvilinear relationship between victim age and case attrition or acquittal, then there are several possible explanations for why cases with adolescent victims may have poorer legal outcomes than victims in middle childhood. First, adolescent victims may have a low disclosure rate in forensic interviews than children in middle childhood. A small study \((n = 30)\) of 7-12 year old victims of extra-familial abuse found that 7-9 year old children were more likely to disclose promptly than the 10-12 year old children in the sample (Hershkowitz, Lanes and Lamb, 2007). In a larger study \((n = 263)\) of unwanted sexual experiences reported by adolescents, Kogan (2004) found that victims aged 11-13 years at the time of the abuse were more likely to disclose immediately than victims aged 14-17 years. Retrospective studies of child sexual abuse have also demonstrated that disclosures of abuse by adolescent victims are more commonly made to peers than to parents or other adults (Lamb & Edgar-Smith, 1994).

London et al. (2007) suggests that there may be a curvilinear relationship for disclosures to parents and formal authorities, where young children and adolescents are less likely to disclose than children in middle-childhood. The researchers hypothesised that adolescents may be reluctant to disclose to parents and authorities as they have insight into the potential impact. This theory has been supported in a recent study that found victim age predicted an increase in the consideration of personal consequences of disclosure and these consequences predicted delays in disclosing abuse (Malloy, Brubacher, & Lamb, 2011).

Adolescent victims may also be perceived as less credible witnesses than victims in middle childhood. A recent qualitative study indicated that police
perceived adolescent victims as less credible than victims around 11 years and younger (Campbell et al., 2015). Due to this perception, the police appeared to require a higher level of detail and consistency in the statements by adolescent victims, in order to establish credibility (Campbell et al., 2015). This is consistent with the results of mock jury studies (discussed above) where adolescent victims were perceived as less credible than younger victims (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014). This suggests that perceptions of victim credibility may also mediate the relationship between victim age and case outcomes.

### 2.2.2 Relationships between complainant gender and case outcomes.

Studies exploring the effect of a victim’s gender on legal outcomes have mixed results. Two studies found that cases with female victims (as opposed to male victims) were more likely to be referred to prosecutors (Edelson & Joa, 2010; Stroud, et al., 2000), while one study found cases with male victims may be more likely to be accepted by prosecutors (MacMurray, 1989). These findings have not been consistently replicated across studies, with some studies finding no gender effects on the proportion of cases referred to prosecutors (Walsh et al., 2008), accepted by prosecutors (Brewer, et al., 1997; Cross, et al., 1994) or convicted (Read et al., 2006). Likewise a study has found no gender effects on mock juror perceptions of victim credibility (Bottoms & Goodman, 1994).

A frequent limitation in studies that explore the effect of gender on case outcomes is that male victims account for less than one quarter of their sample (Bradshaw & Marks, 1990; Brewer, et al., 1997; Cross, et al., 1994; Edelson & Joa, 2010; Walsh, et al., 2010). This has two implications. First, studies can only
consider relationships broadly and may not be able to explore interactions between
gender and other case characteristics. Second, the studies may lack sufficient power
to identify differences. In the studies that have not found effects for gender, it is
possible that effects exist but the study did not have sufficient power due to the
limited number of male victims. The exception to this is studies of mock jurors,
where gender variables can be manipulated.

In the event that cases with male victims do have higher attrition and
acquittal rates, several explanations may be offered. Research demonstrates that
male victims of sexual assault are perceived more negatively for not resisting abuse
than female victims (see review by Davies & Rogers, 2006). While a majority of
this research was based on perceptions of adult victims, the findings have been
generalised to male child and adolescent victims where the perpetrator is female (see
review by Davies & Rogers, 2006). Notwithstanding this potential bias against male
victims, a mock jury study on the perception of victim’s credibility found that the
gender of the victim did not affect juror’s perception of the child’s credibility
(Bottoms & Goodman, 1994). Victim blaming may explain a bias against child male
victims who are abused by female perpetrators, however it does not explain bias
against child male victims of male perpetrators.

Gender differences in the nature of abuse may be another reason for the
gender differences in case outcomes. In Edelson and Joa’s (2010) study of 137
female and 34 male victims, significantly more serious charges were filed against
suspects with female victims. This may suggest that the female victims experienced
more serious abuse that increased the likelihood of investigators forwarding the case.
Unfortunately the low sample size of males in the study (n = 34) made it difficult to
explore whether there were interactions, but the study indicated that the effect of
gender may be moderated by the type of abuse. Finally, gender differences in disclosure rates may explain gender differences in case outcomes. This contention is supported by research which demonstrates that more females than males disclose abuse in a forensic interview (Gries, Goh, & Cavanaugh, 1996; Lamb & Edgar-Smith, 1994; Lippert et al., 2009).

2.2.3 Relationship between suspect age and case outcomes.

Many studies have explored whether the age of a suspect may predict case outcomes (Brewer, et al., 1997; Cross, et al., 1994; Stroud, et al., 2000; Walsh, et al., 2010). Some studies have found that cases involving older offenders were more likely to be referred to prosecutors (Stroud, et al., 2000) and accepted (MacMurray, 1989). In contrast, other studies have found that the age of the offender does not predict referral to prosecutors (Walsh et al., 2008) or acceptance of the case (Brewer et al., 1997; Cross et al., 1994).

One explanation for the differences in results is that other variables may mediate the effect of offender age. Older offenders may be more likely to have a prior criminal history than younger offenders and this has been associated with increased likelihood of prosecution (Finkelhor, 1983). This indicates that criminal history may mediate the relationship between offender age and outcome. Conversely, younger offenders have been found more likely to confess (Beauregard, Deslauriers-Varin, & St-Yves, 2010; Beauregard & Mieczkowsi, 2012; Faller, Birdsall, Henry, Vandervort, & Silverschanz, 2001; Lippert, Cross, Jones, & Walsh, 2010) and confessions are a powerful predictor of cases being referred and accepted for prosecution (Cross et al., 1994; Walsh et al., 2008). Therefore, confessions may also mediate the effect of offender age on case outcomes.
In order to identify the unique effect of suspect age, the factors of criminal history and confession should be controlled. It may also be worthwhile to explore mediational models to further understand the relationships. To date, no published study that has explored the effect of suspect age on case outcomes has controlled for both suspect criminal history and suspect confession (Brewer et al., 1997; Cross et al., 1994; Walsh et al., 2008).

2.2.4 Relationship between type of child sexual abuse and case outcomes.

Similar to other case characteristics, the relationship between abuse type and case outcomes is unclear. In a chi-square analysis of 651 cases, no association was found between a case being forwarded by investigators to prosecutors and abuse that was exhibitionist, non-genital fondling, genital fondling, oral sex or penetration (Stroud, et al., 2000). Conversely, Walsh et al (2010) compared penetrative and non-penetrative abuse and found that cases were more likely to be forwarded to prosecutors when the abuse was penetrative. This finding was sustained after controlling for the age of the child and the range of evidence available in the case, including disclosure, confession, corroborating witnesses and additional reports of abuse against the offender (Walsh, et al., 2010).

In a study of cases accepted for prosecution, Brewer et al. (1997) found that penetrative abuse predicted a case would be accepted for prosecution. Conversely Cross et al. (1994) compared 417 cases and found that the acceptance of a case by prosecutors was not related to whether the abuse was digital-vaginal penetration, penile penetration or a non-penetrative offence, although oral-genital contact predicted acceptance for prosecution. This was robust after controlling for other predictive case characteristics, such as the age of the victim, the use of force and the
duration of the abuse (Cross, et al., 1994). Finally, penetrative abuse has predicted convictions for cases tried by a judge (Read et al., 2006) but not a jury (Blackwell & Seymore, 2014; Read et al., 2006).

One reason for differences between study results may be due to variations in how studies categorised abuse types. Cross et al. (1994) differentiated between penile and digital penetration, while Stroud et al. (2000) differentiated between types of contact offences. Conversely, both Brewer et al. (1997) and Walsh et al. (2010) simply compared penetration with non-penetration. This makes comparison of the results of these studies difficult as the Cross et al. (1994) and Stroud et al. (2000) study may have lost power by including more abuse categories. Penetration may have been associated with prosecution if a two-category abuse type was used as in the Walsh et al. (2010) and Brewer et al. (1997) study.

Another reason for the conflicting results may be that the type of abuse has an effect on evidence, and this mediates the case outcome. Support for this mediation hypothesis may be derived from Walsh et al.’s (2010) study which found that abuse involving penetration (when compared with non-penetration) was more likely to have several pieces of evidence; particularly, a corroborating witness, physical evidence and medical evidence. Notwithstanding this finding, penetrative abuse may also give rise to an expectation that medical and forensic evidence will be available (see Cross, et al., 1994; Stroud, et al., 2000). In cases of penetrative abuse where there is not corroborating evidence, the absence of such evidence may detract from the cogency of the case.

The absence of supporting evidence may explain Cross et al.’s (1994) finding that cases with only oral-genital contact were more likely to be prosecuted. Medical evidence would not be expected in these cases, so a lack of evidence would not
detract from the victim’s credibility. Furthermore, an expectation of evidence may explain why juries do not have higher conviction rates in cases with penetrative abuse (Blackwell & Seymore, 2014; Read et al., 2006) as they may view a lack of evidence in these cases more critically. In contrast, Read et al.’s (2006) finding that judges are more likely to convict in cases involving penetrative abuse may be partly explained by judges being more aware that forensic and medical evidence is often unavailable or inconclusive in cases of child sexual abuse (see De Jong, 1998). If this hypothesis is true, then judges may not expect such evidence in cases of penetrative abuse. Although this explanation gives insight into possible reasons for the differences between judge and juror verdicts, it does not explain why judges are more likely to convict in cases of penetrative abuse. Given the conflicting results and competing explanations, evidence should be explored as a mediator between the type of abuse and case outcomes.

2.2.5 Relationship between frequency of abuse and case outcomes.

Prior research has found a weak link between the frequency and duration of abuse and case outcomes. Stroud et al. (2000) did not find an association between abuse duration and referral to prosecutors. When exploring duration as a categorical variable, bivariate relationships have been found between cases with longer duration of abuse and acceptance for prosecution (Brewer et al., 1997; Cross et al., 1994). Again, studies differ in how duration of abuse is categorised, with some comparing less than one month with more than one month (Brewer, et al., 1997; Cross, et al., 1994) and another comparing five categories of duration which included one incident, less than six months, six months to two years, two to five years and more than five years (MacMurray, 1989). Therefore it is difficult to ascertain the critical
point at which the duration of the abuse increased the likelihood of a case being accepted for prosecution (Brewer, et al., 1997; Cross, et al., 1994; MacMurray, 1989).

In addition to differences in how duration is categorised, the effect of duration on a case being accepted for prosecution is not significant after controlling for other case characteristics (Brewer et al., 1997; Cross et al., 1994). Brewer et al., (1997) found duration was not significant after controlling for the number of victims. Cross et al. (1994) found it was not significant after controlling for other case characteristics including victim age, abuse severity and the use of force. The duration of abuse also failed to predict convictions in historical cases trialed by judges or juries (Read et al., 2006).

The frequency of the abuse has been found to be positively associated with cases being accepted for prosecution (Brewer, et al., 1997). As was found with the duration of the abuse, the frequency of the abuse did not predict case acceptance after the number of victims was controlled. Unsurprisingly, Brewer et al. also found that duration and frequency were so highly correlated that they may be part of an underlying construct.

The relationship between the frequency and duration of the abuse and case outcomes appears weak and is non-significant when additional factors are controlled. This suggests that other factors may mediate the relationship. One possible mediating factor may be evidence. Abuse which lasts for longer or occurs more frequently may result in more evidence available, such as supporting medical evidence, corroborating witness or eye-witness testimony. Brewer et al.’s (1997) finding that frequency and duration are not associated with prosecution when the
number of victims is controlled for, may be because the other victims provided corroborating evidence of the abuse.

### 2.2.6 Effect of victim-offender relationship on case outcomes.

There are inconsistent findings regarding the effect of the victim-offender relationship on case outcomes. Some studies have found that the victim-offender relationship does not have an effect on the proportion of cases referred or accepted for prosecution (Bradshaw & Marks, 1990; Walsh et al., 2008). Other studies found that abuse by a stranger weakly predicted a case being referred or accepted for prosecution (Brewer, et al., 1997; Stroud, et al., 2000). When only comparing intra-familial offenders, Cross et al. (1994) found that cases with biological fathers and mother’s boyfriends were less likely to be accepted for prosecution than stepfathers and other relatives. Conversely MacMurray (1989) found fathers, stepfathers and uncles were all more likely to be prosecuted than brothers and other family acquaintances. Finally, in cases of historical child sexual abuse, intra-familial offenders were more likely to be convicted than extra-familial offenders in both judge and jury trials (Read et al., 2006).

A barrier to understanding the findings above, is that each study varies in how it categorises the suspect-victim relationship. Some studies consider perpetrators who are part of the biological nuclear family together (Bradshaw & Marks, 1990; Brewer, et al., 1997), while other studies consider fathers and brothers separately (Edelson & Joa, 2010; MacMurray, 1989; Read et al., 2006; Stroud et al., 2000). Similarly one study has considered parents and step parents in the same category (Stroud, et al., 2000), while other studies have separated biological fathers from step fathers (Bradshaw & Marks, 1990; Brewer, et al., 1997; Cross, et al., 1994;
Edelson & Joa, 2010; MacMurray, 1989). Nevertheless, it appears that the closer the victim-offender relationship, the more likely it is that the case will be discontinued prior to trial.

There are several reasons for the effect of victim-offender relationship on case attrition. First, the victim-offender relationship may have an effect on evidence. Support for this is demonstrated in studies which found that once evidence factors are controlled for, the effect of the suspect-victim relationship on case outcomes disappears (Cross, et al., 1994; Walsh, et al., 2010). Cross et al. (1994) found that the association between prosecution and the victim-offender relationship was not significant after the ‘strongest evidence available’ was controlled for. Additionally, Walsh et al.’s (2010) study found that intra-familial offenders were less likely to have a strong level of evidence, such as eye-witness testimony or corroborating witnesses. This may be explained by the finding that intra-familial offenders use less physical force and more instructions “not to tell” (Fischer & McDonald, 1998).

Subsequently there may be less physical evidence, as well as lower disclosures by children who have been instructed not to tell anyone.

A related explanation is that a victim who has a close pre-existing relationship with an offender may be less likely to disclose than victims who do not know their perpetrator (Arata, 1998; Collings, Griffiths, & Kumalo, 2005; DiPietro, Runyan, & Fredrickson, 1997; Stroud, et al., 2000). Further, where there is a disclosure, it is more likely to be delayed (Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003; Ma, Yau, Ng, & Tong, 2004). Victims of intra-familial abuse may be less likely to disclose due to fear that it will lead to negative consequences for the perpetrator or family members who the perpetrator may have threatened. This has been supported in a path analysis which demonstrated that the
association between delayed disclosure and the suspect-victim relationship is partially mediated by the victim’s fear of negative consequences to others (Goodman-Brown, et al., 2003). However, it is not yet clear if victims fear the negative consequences for the offender or for other family members, or both.

A final possible explanation for the effect of the victim-suspect relationship on case outcomes is that the relationship between the victim and suspect may affect the suspect’s decision to confess. While this explanation is plausible, research has not established a robust association between the suspect-victim relationship and offender confession. While research on sex offender confessions has demonstrated that strangers are more likely to confess (Beauregard, et al., 2010; Beauregard & Mieczkowsi, 2012), this has not been consistently supported in the context of child sex offenders (Beauregard & Mieczkowsi, 2012; Faller, et al., 2001; Lippert, et al., 2010). The association between the suspect-victim relationship and confession also loses significance when additional variables are controlled for. When controlling for evidence, such as victim disclosure and corroborating witnesses, the association between confession and suspect-victim relationship was not significant (Lippert, et al., 2010).

2.3 Summary and Directions for Future Research

This review has highlighted that individual case characteristics predict case attrition and acquittal; however, there are few empirically supported explanations for these relationships. A brief summary of the literature is provided below and this is followed by a discussion of directions for future research. In particular, the need for further research on the interrelationships between case characteristics and evidence is highlighted.
It appears that the age of the victim may have a curvilinear effect on case outcomes, whereby cases with victims in middle childhood are more likely to progress to a conviction. This is possibly due to higher disclosure rates by this age group, as well as the fact that victims in middle childhood may appear more credible than younger and older victims. One limitation of previous studies in this area is that curvilinear effects for age have not been adequately modelled and interrelationships with other case characteristics have not been explored in depth.

Studies exploring the effect of victim gender have been limited by the small sample sizes for males. Where gender effects have been found, explanations are also limited by the small sample sizes as researchers cannot investigate interrelationships between variables. Notwithstanding these limitations, there is an indication in the literature that cases involving male victims may be less likely to progress to conviction.

The age of the suspect has been linked to case outcomes, although the findings are conflicting. One possible reason for the conflict in findings is that the relationship between suspect age and case outcomes may be mediated by evidence. For example, young suspects may be more likely to confess which leads to higher conviction rates. Conversely, older suspects may be more likely to have a criminal history which may also lead to higher conviction rates. Given this, understanding and controlling for mediating variables is important.

Understanding the relationship between the nature of the abuse and case outcomes is made complex by the different ways of categorising the nature of the abuse. Penetrative abuse appears to be more predictive of a case proceeding than non-penetrative abuse. The most likely explanation is that the abuse is perceived as more severe. With regards to the frequency and duration of the abuse, these case
characteristics are weak predictors of outcomes and it appears that they are mediated by evidence. Finally, it appears that the closer the relationship between the victim and the offender, the less likely the offender will be charged. The most likely explanation for this appears to be that victims have lower disclosure rates when they have close relationships with the offender.

The brief summary above highlights that the relationships between case characteristics and case outcomes are complex. Relationships may be impacted by the presence or absence of other case characteristics and evidence. Further, some case characteristics may only have relationships with case outcomes in certain stages of the criminal justice process, for example during the investigation or at trial. Exploring the effect of case characteristics on attrition and acquittal within an overarching case tracking design would provide valuable insight into these complex relationships.

The cross-sectional studies described above used multivariate models to identify which case characteristics were most salient to outcomes during either an investigation or trial. One limitation of these studies is that they are unable to account for how prior attrition may have filtered their sample. In addition to this, the results of these studies cannot be generalised to other stages of the criminal justice process. Case characteristics that have a great effect in early stages may have a weaker or opposite effect at later stages. To understand the impact of case characteristics on outcomes across the system, multivariate models predicting case outcomes should be embedded within a case tracking design. This would enable a richer interpretation of results. Multivariate models in the earlier stages of the criminal justice process can explain how cases are filtered, which in turn informs the interpretation of multivariate models in later stages.
Due to the heterogeneity of child sexual abuse, it is beyond the scope of the current thesis to explore all interrelationships between case characteristics and the effects of these relationships on evidence and outcomes at each stage of the criminal justice process. A more pragmatic approach is to focus on a single case characteristics and conduct an in-depth analysis of the interrelationships with other case characteristics and evidence to predict case outcomes throughout the criminal justice system. From the literature review, victim age has emerged as an important variable to focus on for several reasons. From a legal perspective, the age of the complainant is relevant to the legislative definition of abuse (Australian Institute of Family Studies, 2013) and to the complainant’s competence to provide sworn evidence (Australian Law Reform Commission, 1997). From a practical perspective, the age of the child may impact on their ability and willingness to provide a disclosure to investigators (London et al., 2007) and is frequently considered by police when deciding to authorise charges against a suspect (Campbell et al., 2015; Parkinson, Shrimpton, Swanston, O'Toole, & Oastes, 2002; Powell et al., 2010).

There is also a strong empirical rationale for focusing on complainant age. While the age of a victim predicts the likelihood that they will disclose (DiPietro et al., 1997; Goodman-Brown et al., 2003; Hershkowitz et al., 2005; Kogan, 2004; Lippert et al., 2009; Smith et al., 2000), and that a suspect will be charged (Bunting, 2007; Fitzgerald, 2006; Stroud et al., 2000; Walsh et al., 2008), prosecuted (Brewer et al., 1997; Cross et al., 1994) and convicted (Nightingale, 1993; Read et al., 2006), it is not yet clear whether complainant age has a linear or curvilinear effect on these outcomes. Related to this, one methodological limitation of all prior studies on victim age is that they have not reported modelling quadratic effects of complainant age on case outcomes. Furthermore, few studies have explored how the effect of
complainant age may be mediated or moderated by the presence of other case characteristics and evidence.

2.4 Conclusion and Rationale for Thesis Design

Research on the attrition and acquittal of child sexual abuse cases has found that few reports result in a conviction. This is primarily due to a high proportion of cases being discontinued during the police investigation. It has been consistently found that very young complainants are the most vulnerable to attrition, and this is likely due to lower disclose rates and poorer perceived credibility. It is also emerging that cases with adolescent complainants may be more vulnerable to attrition and acquittal when compared to complainants in middle childhood. This may be explained by lower disclosure rates for adolescent victims or poor perceptions of the credibility of adolescent disclosures. Notwithstanding this emerging trend, studies are yet to thoroughly explore whether age has a curvilinear effect on case outcomes and whether other case characteristics may be interrelated with age effects.

Further research is needed to model both the linear and curvilinear effects for age on case outcomes. In addition to this, research is required to explore interrelationships between complainant age, other case factors and evidence, and the effect of these interrelationships on case outcomes. Chapters 5 to 7 report studies that undertake this proposed research.

For a case to progress from report to police charges, a victim disclosure is usually required. Only very few cases progress without a disclosure. Given this, the first study explored the effect of complainant age on disclosures of child sexual abuse in a forensic interview. This study modeled both linear and curvilinear effects
for age and explored interrelationships with other case factors that may predict forensic disclosures. Interactions between complainant age and other case characteristics were explored in order to identify possible moderation effects. Mediation effects were also considered during analysis by reviewing the effect of age on disclosure rates when additional variables were added to the model.

The second study considered all cases in which a victim disclosed sexual abuse and compared cases that were charged with cases that were discontinued due to lack of evidence. Given that all cases involved a disclosure and few cases had corroborating evidence, a decision to discontinue due to lack of evidence may be influenced by case factors. This study modeled the linear and curvilinear effect of complainant age on police authorisation of charges and explored how this effect may be related to other case characteristics. Possible moderation and mediation were considered and explored in the analysis.

Following authorisation of charges, cases are forwarded to prosecutors who may decide to discontinue the case or proceed to court. In the jurisdiction examined, 98% of cases referred to prosecutors were pursued, therefore it was unnecessary to explore the effect of case factors on prosecutors’ decision to accept a case. The final study explored court outcomes for all cases that prosecutors pursued. Due to limitations in the data available, the final study focused on exploring the effect of case factors - but not evidence - on court outcomes. Interrelationships between case factors were also explored in the final study with consideration to both mediation and moderation.
CHAPTER 3. CRIMINAL JUSTICE RESPONSE TO CHILD SEXUAL ABUSE

The aim of the current chapter is to provide an overview of the criminal justice response to reports of child sexual abuse in the jurisdiction under examination. The chapter establishes the background and context of each study, and provides a basis for interpreting the results. The key features of the criminal justice system are presented under the following subheadings: Child Sexual Offences, Mandatory Reporting, Investigation Process and Prosecution of Child Sexual Abuse. Section 1 outlines the legislation regarding child sexual offences, section 2 describes the process for reporting abuse, and section 3 provides an outline of the police investigation process. Finally, the chapter concludes with a section that outlines the process for prosecuting child sexual abuse. This includes details regarding court processes, protections for vulnerable witnesses, rules of evidence and warnings to the jury.

3.1 Child Sexual Offences

In the jurisdiction examined, all criminal offences are codified into legislation (referred to as the ‘Code’). The Code outlines all actions that constitute a sexual offence, including those against children. In the Code there is a differentiation between offences against children under the age of 13 years and against children aged 13-15 years, with more severe penalties being applied when the victim is under 13 years. There is a final category of offences where a child is aged 16 to 18 years and the offence is committed by a person in authority. Longer maximum penalties are applied in cases of penetrative abuse and where a person procured, incited or
encouraged a child to engage in sexual behavior. Lower penalties are applied where the offender indecently dealt with the victim; procured, incited or encouraged the child to perform an indecent act; or made an indecent recording of the child. Where an offender is over the age of 18 years, all sexual offences against a child attract a penalty of between seven to twenty years.

In addition to differences in the maximum penalty, the age of the victim also impacts on the available defenses. For victims under the age of 13 years, there is no defense available for any sexual offence; however where children are aged 13-15 years then the alleged perpetrator may be able to establish a defense if the suspect can prove that at the time of the offence they believed on reasonable grounds that the child was at least 16 years of age, the suspect was not more than three years older than the child and the child consented to the sexual activity.

3.2 Mandatory Reporting

In the jurisdiction examined, there is mandatory reporting legislation for several groups of professionals. The legislation applies to doctors, nurses, midwives, teachers and police officers and focuses exclusively on sexual abuse. The legislation requires these professionals to make a report to child protection services if they form a belief, on reasonable grounds, that a child has been subjected to child sexual abuse. Sexual abuse is defined as any sexual behaviour that the child engages in where the child has been exploited, threatened, coerced or bribed; the child has less power than the other person; or there is a significant difference in the developmental functioning or maturity of the child and perpetrator. Mandatory reporters are not required to have proof of the abuse and are warned against interviewing children for more information. A failure to make a mandatory report may result in a fine of up to
$6,000. The legislation also provides strong protection for the confidentiality of mandatory reporters with a fine of up to $24,000 or 2 years imprisonment for anyone who breaches the confidentiality of reporters.

Training for mandatory reporters in the study jurisdiction is not compulsory, although a guide for mandatory reporters is provided by the department that received the reports. This guide outlines the legislation and process for making a mandatory report. The guide also details possible indicators of child sexual abuse that may be considered in developing a reasonable belief of child sexual abuse. These indicators include developmentally inappropriate sexual behaviour or knowledge; description of abuse through drawings, play or writing; pain or bleeding in genitals with redness or swelling; fear of being alone with a particular person; a child implying they are required to keep a secret; sexually transmitted infection; sudden unexplained fears; and bedwetting or soiling.

In addition to these indicators, it is emphasised in the guide that each situation should be considered on its own merits. Depending on the context, a reasonable belief may be developed in spite of no indicators, or with only one indicator. Mandatory reporters are also encouraged to consider the role of coercion and power in relationships which young people claim to be consensual. In particular, the age, developmental level and nature of the relationship should be considered. The guide emphasises the diverse presentations of children who have been sexually abused and it appears that professional discretion and decision-making are involved in forming a reasonable belief of abuse.
3.3 Investigation Process

Reports of child sexual abuse can be made by any member of the public to either child protection services or the police. Where cases are reported to the police, then the child protection service is immediately provided with a report also. If the child has not previously disclosed the abuse to an adult, then authorised officers from child protection may conduct an assessment interview with the child. This may occur in the community and is not video or audio recorded. If a child provides a disclosure of abuse then the interview is ceased immediately and the case is forwarded to the central child abuse investigation unit (CAIU) to arrange a forensic interview. In cases where the report details that the child has already disclosed the abuse to an adult, the assessment interview with the child is bypassed and the report is forwarded straight to the CAIU for a forensic interview.

The CAIU is designed to be a joint initiative that can coordinate and prioritise the investigations of both child protection services and police with minimal impact on the child and their family. Police and child protection officers are co-located in the CAIU office and work collaboratively to share information, prioritise cases and develop a plan for joint investigations. Both child protection and police officers are trained in forensic interviewing and conduct the interviews with the children.

The majority of the interviews are conducted in the specially built office of CAIU. In regional areas the interview may take place in a police station with trained interviewers. All interviews, regardless of location, are video recorded and the interview may be presented in court as the evidence-in-chief of the victim. For all the cases in the current study, children were interviewed by two interviewers (one who leads the interview) and there was a third person who observed from an external room. Ideally, children were only interviewed once; however, more than one
interview may have been needed, for example if the child became too tired or emotional to continue.

In the event that a child does not disclose abuse during the forensic interview their case may still be investigated by child protection services, however police investigations rarely proceed in these cases unless there is strong corroborating evidence. Therefore a child’s disclosure in a forensic interview is fundamental to the prosecution of child sexual abuse. Where a child discloses abuse in the forensic interview, the CAIU will forward the case to police investigators. For children under the age of 13 years, the investigation is undertaken by a specialist child abuse unit and where the child is 13 years of age or older, then the investigation is undertaken by a sexual assault investigation unit.

During the investigation, officers interview the alleged perpetrator and attempt to collect any relevant evidence. Victims may be requested to undertake a forensic medical examination, and forensic evidence may be sent for analysis. Photos of the alleged crime scene may also be taken and any relevant physical evidence, such as video recordings or mobile phones, may be collected. In some cases, police may request the victim to make a “pre-emptive phone call” to the suspect, where they attempt to record the suspect making admissions to the offence. In the majority of cases police also request the suspect to participate in a Video-Recorded Interview, at which time the police outline the allegations, to which the suspect has the opportunity to respond. Suspects may refuse to take part in the interview or may provide a “no-comment” interview whereby they attend but decline to respond to any questions.

Following the investigation of the allegation, police investigators determine whether there is sufficient evidence to authorise charges against the suspect. The
initial decision is made by the investigating officer and a Sergeant provides oversight to every decision. In making the decision, police may consult with state prosecutors, and cases may be discontinued if the prosecutors advise that the case is unlikely to be pursued if forwarded for prosecution. In the event that the investigating officer decides there is insufficient evidence to charge the suspect, then the case may be closed at this point. Alternatively, if there is sufficient evidence to warrant charges then the suspect is arrested and charged, and a brief of evidence is compiled and forwarded to prosecutors.

3.4 Prosecution of Child Sexual Abuse

Upon receiving a brief of evidence from police, state prosecutors review the brief and determine the charges for prosecution. The circumstances of the abuse and the available evidence may result in prosecutors adding to or removing charges laid by police. The prosecution also has the discretion to discontinue the case altogether. Once prosecutors have finalised the charges, they are required to provide the defendant with: a notice of prosecution; a statement of material fact of charges; a notice disclosing whether the defendant’s criminal record will be presented as evidence at trial; and a statement regarding the existence of confessional material or confession by the accused. Based on this, the defendant can then elect to plead guilty on a fast-track system and obtain a reduction in their sentence.

In the event that the defendant does not elect to plead guilty at this stage, then the prosecution is required to make full disclosure of all available evidence – both supporting and non-supporting – to the defendant, and the process replaces a committal hearing. Following this, the prosecution and defense appear at a Magistrate hearing to confirm that the prosecution has made a full disclosure and the
defendant is provided with another opportunity to plea. There is no hearing of evidence or cross-examination at this stage and the complainant is not required to attend. If the defendant pleads guilty, then the defendant is committed to the higher court for sentencing. If the defendant pleads not-guilty then the case is committed to the higher court for trial.

Once a case is committed for trial, a defendant can elect to have their case tried by a judge or jury, however it is most common for defendants to elect a trial by jury. The evidence that can be adduced at trial must comply with the rules of evidence in the jurisdiction, which are also codified (The Act). Under The Act, a child under the age of 12 years can give sworn evidence if they understand that they are obliged to tell the truth and that giving evidence is a serious matter. In the event that they do not reach this threshold for sworn evidence, a child may still give unsworn evidence if the judge believes that the child can give an intelligible account of events. The Act also includes several sections that are designed to protect vulnerable victims and witnesses. As stated previously, the original forensic interview of the victim can be submitted as the evidence-in-chief. The cross-examination and re-examination of the victim can be taken in a special hearing that is recorded and then presented to the jury. If the child is required to give evidence during the trial, then it is mandatory for CCTV to be used so that the child is not required to be present in the court room. A child is also permitted to have a support person present while giving evidence.

Where a defendant elects a trial by jury, there are several warnings that may be provided. These warnings stem from both The Act and common law, and at times the warnings can appear contradictory. Under common law, children and victims of sexual assault were traditionally perceived as inherently unreliable witnesses
(Australian Law Reform Commission, 2010) and judges were required to warn juries that evidence from children should be treated with care and that their uncorroborated testimony is dangerous to rely on when convicting a defendant (Australian Law Reform Commission, 2010). The Act effectively abolished the warning that children are unreliable witnesses, although judges may still provide warnings to juries that cases with uncorroborated evidence of children should be considered carefully.

Another contentious warning is delivered in cases where there has been a delay between the alleged abuse and the report to police. Under common law, judges are required to warn the jury that when there has been a substantial delay between the time of the alleged offence and the complaint to police, then it would be dangerous to convict on the complainant’s evidence alone unless the jury has scrutinised the complainant’s evidence with great care and is satisfied it is true and accurate ("Longman v The Queen," 1989). The purpose of this warning is to mitigate against the forensic disadvantage suffered by a defendant who was required to establish a defense of an incident that may have occurred many years earlier. The warning has been criticised for two reasons (Australian Law Reform Commission, 2010). First, there is no definition of how long a delay must be before it is considered a “substantial delay.” Second, the warning has been applied in cases where the delay has not necessarily caused a forensic disadvantage to the defendant or where there has been corroborating evidence.

The Longman Warning can be applied in the jurisdiction examined in this thesis. Notwithstanding that the warning is available, The Act stipulates that when the delay of the complaint is raised during the trial, the judge must warn the jury that the delay does not mean the allegation is false and that there may be a good reason for the delay. In spite of this compulsory warning, the High Court has also ruled that
judges may provide an additional, and somewhat contradictory, warning to the jury that a delay in complaint may be used to assess the credibility of the complainant ("Crofts v The Queen," 1996). Taken together, in cases with a delayed complaint, juries may be warned that (a) it is dangerous to convict a defendant on uncorroborated evidence; (b) there may be a good reason why the victim delayed and a delay does not indicate the allegation is false; and (c) the jury can consider the delay in their assessment of the credibility of the complainant. This highlights the complexity of directions that may be given to a jury in cases where the complainant delays reporting.
CHAPTER 4. GENERAL METHODOLOGY

In the current chapter, methodological details that applied to all studies are outlined and discussed. The chapter begins with an extract from a commentary paper that discussed potential challenges when tracking cases through administrative databases (Leach, Baksheev, & Powell, 2015). The challenges encountered are not unique to this thesis, however there was a dearth of literature exploring the issue. The purpose of including the extract in this chapter is to describe some of the methodological difficulties that may be encountered when collecting and analysing administrative data and discuss the possible options for responding to these difficulties. This discussion also provides context for the ensuing sections of the general methodology, which includes a description of: the procedure for accessing and collecting the data, the variables used across the studies and the cohort of cases used in the thesis. Throughout each of these sub-sections, there is a discussion of the methodological challenges encountered and how these were addressed.

4.1 Challenges of Case Tracking with Administrative Data

It has recently been proposed that a viable method to explore the impact and outcomes in child sexual abuse may involve linking administrative databases (Brownell & Jutte, 2013). This methodology is comprised of tracking individual cases across health, justice and other government agencies. Case tracking within the criminal justice system is comprised of two components: the first relates to

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identifying each occasion when an individual has contact with the system, and the second relates to tracking the movement of a case from the point of entry into the system through to its conclusion (Wundersitz, 2003). This methodology has allowed researchers to explore the diverse consequences of child maltreatment. For example, researchers in Australia linked instances of substantiated child sexual abuse to outcomes in both health and justice over a 45-year period (Ogloff, Cutajar, Mann, & Mullen, 2012). Case tracking also allows researchers to evaluate policy and the impact of systemic changes on the rate and outcomes for reported child abuse. For example, researchers have used this methodology to explore the impact of child maltreatment on adolescent offending (Stewart, Livingston, & Dennison, 2008).

Given that sound and reliable evidence is critical in the development and evaluation of policies, programs and services, many agencies are beginning to appreciate the need for case tracking systems (Community Development and Justice Standing Committee, 2008; Ombudsman New South Wales, 2012).

The utility of linking administrative data records for the study of child sexual abuse has been highlighted by Brownell and Jutte (2013). The authors discussed many advantages to this approach, such as overcoming attrition and sampling bias, and allowing researchers to identify all cases in contact with an agency. Utilising officially recorded data also overcomes limitations from recall bias and socially desirable responding, particularly for sensitive issues such as child sexual abuse. The authors also reviewed the many pragmatic advantages to this methodology, such as the ability to obtain large sample sizes, explore a broad range of variables and obtain decades worth of information with minimal impact on research and agency resources. Notwithstanding these important advantages, Brownell and Jutte (2013) emphasised certain limitations with linking administrative data records, such as
constraining research to children who have come to the attention of government services, which is likely to represent only a proportion of sexually abused children. A further limitation highlighted by the authors was that variables are restricted to those collected by the agency and may not include all variables of interest to researchers, such as parental stress, available social supports, parent-child interactions or socio-economic status (Brownell & Jutte, 2013).

While case-tracking with administrative data is emerging as a popular method for longitudinal research, there is limited commentary or recommendations in the literature in regards to the challenges that arise when using this data. Administrative databases are frequently created for functional and operational purposes, such as case management, rather than for the purpose of robust research and evaluation. This can result in data being captured inconsistently, particularly where there are many users who are responsible for inputting data, such as in police, social work and health agencies. In these instances there may be individual variations between users in the type of information they deem relevant to record, as well as how and where it is recorded in the database. This can result in the data being unreliable if researchers do not fully understand the purpose and use of the system. Therefore, researchers need to be attentive to the quality and suitability of the collected data.

In the following section (4.1.1), common challenges that have emerged when utilising administrative databases for research purposes are outlined. This section is divided five sub-sections that each explore a specific challenge including: barriers to identifying relevant cases (4.1.1.1), inconsistencies in data recording (4.1.1.2), non-scientific data collection (4.1.1.3), difficulties with tracking cases (4.1.1.4), and missing data (4.1.15). Following this, in section 4.1.2, a number of recommendations are provided for researchers to enhance the quality of data. These
recommendations are also described in a series of subsections that address: the importance of understanding data recording policy and practice (4.1.2.1), using inter-rater reliability measures (4.1.2.2), and how to deal with missing data (4.1.2.3).

4.1.1 Data quality challenges.

There are several potential problems that researchers may encounter when accessing an administrative database for the purpose of collecting research data. These problems include identification of relevant cases to include in the sample, collecting reliable and consistent data from variables which may not have been recorded in such a manner, limitations in the range of information that is available, difficulty of tracking cases between agencies that do not share common identifiers, and dealing with missing data. Each of these problems are discussed in turn and contextualised with examples from our research projects.

4.1.1.1 Identification of relevant cases.

Ideally, administrative databases provide a readily accessible population from which researchers can easily draw a large sample of cases according to specified research criteria. Brownell and Jutte (2013) made the point that administrative databases are limited to cases which have been reported to agencies, and in cases of child sexual abuse, this may represent only a small proportion of all incidents in the wider community. During the data collection phase for the thesis, recording practices by police also inadvertently influenced which cases are extracted, thereby further limiting the identification of appropriate cases. For instance, there were differences between police locations in regards to whether a case was recorded as child sexual
abuse (CSA). In some locations, the case would be recorded as CSA if there was any suspicion that this had occurred. In other locations, the case would only be recorded as CSA when the child had made a clear disclosure. In the latter locations, the file would be updated as CSA when the child disclosed, however for children who did not disclose then their case was never recorded as CSA. Therefore when the database was searched for all cases of CSA, the search did not identify cases of children who did not disclose in the latter location. Given this, the cases that were identified were potentially biased as it is likely that there was a higher rate of disclosures than would have been found if all reported cases were included.

4.1.1.2 Consistency in data recording.

A further problem that impacts data quality from large datasets is the lack of consistency in recording of the variables collected by agency personnel. The databases which are of interest in child sexual abuse research are particularly susceptible to this for several reasons. One reason is that the databases are used to centrally record information about cases and are contributed to by many individuals involved in the agency. This can result in idiosyncratic recording practices that may reduce the reliability of the data taken at face value. For example, some police may utilise a check-box while other police ignore the check box as the information may be already included in another area. Therefore the data from the check-box cannot be used on face value. Another reason that child sexual abuse databases may be susceptible to inconsistent data recording is due to the layered nature of an investigation which collects successive pieces of information over a protracted period of time. These databases can essentially be a running log of events and as further information in the investigation unfolds, earlier information may become
redundant or inaccurate. For example, a suspect may deny the abuse in the initial investigative interview, but then confess months later or plead guilty before the trial. Alternatively, the details on the nature of the abuse may change as the victim makes further disclosures. Even demographic information may appear to change if the original suspect is not the final perpetrator identified, which may be particularly likely in cases where the offender was a stranger. Therefore there is a real risk to research integrity if researchers accept any one piece of information from the database at face value.

4.1.1.3 Data is collected for agency purposes.

It has been noted that the available data from large datasets is limited according to the needs of a particular agency, not allowing researchers to decide what information they can collect for their project (Brownell & Jutte, 2013). In addition to this, recording practices can change over time within an agency, with different information collected according to the particular needs of an agency or management group. This issue is most likely to arise when ad-hoc data collection systems are developed, such as a spreadsheet. Using a spreadsheet may result in incomplete data when fields are not mandatory and variables of interest may be added or removed over time. This may have an impact on a research project, as it will limit the number of cases available for such variables and the ability to detect meaningful associations.
4.1.1.4 Case tracking.

Tracking cases across the health, justice and other government agencies is increasingly being recognised as an urgent priority (Community Development and Justice Standing Committee, 2008; Ombudsman New South Wales, 2012). Within the sexual abuse domain, tracking outcomes for cases will assist in understanding at what points in the justice system cases drop out and their associated factors, thereby allowing the justice system to improve its response to victims of sexual assault. The Western Australian government sought to understand the reasons for the high attrition of sexual and physical assault cases (Community Development and Justice Standing Committee, 2008), but found that they were unable to do so because of the inability to aggregate information across multiple agencies. They found that each agency, and at times, units within the same agency, utilised unique data systems that inhibited data from being integrated (Community Development and Justice Standing Committee, 2008). This is a challenge that pertains to many police, criminal justice, and health services (Ombudsman New South Wales, 2012; Wundersitz, 2003).

4.1.1.5 Missing data.

One of the most challenging problems for researchers utilising administrative databases is dealing with missing data. This problem arises for information recorded both quantitatively and qualitatively. Databases recording quantitative information usually have a field requesting one piece of information such as the victim’s gender or ethnicity. These fields may be mandatory, forced-choice or a free-text field in which users enter the information. Databases recording qualitative information request users to enter information on a topic into a free-text field. Free-text fields
may be particularly vulnerable to missing data and idiosyncrasies in data recording practices. Most administrative databases combine both types of fields, which provide a wealth of data for researchers, however where data is missing from these fields then complications arise regarding the interpretation of the data which is recorded.

When missing data relates to quantitative variables, there may be too much data missing for the variable to be of value for research purposes. This can be particularly problematic when the variable has important theoretical implications. Alternatively the reason the data is missing may be an issue. The reason may be related to the variable itself, for example ethnicity may be more likely to be missing than age as people may be less willing to state their ethnicity. Alternatively, the reason data is missing may be related to other variables of interest, for example when considering attrition of child sexual abuse cases in the legal system there may be more missing data in cases that dropped out as additional information was not collected in these cases. In both of these instances the data is not ‘missing completely at random,’ which creates significant implications in analysis and interpretation. This is discussed further in the recommendations section below.

Qualitative information may also be incompletely recorded or missing. While it may provide a wealth of contextual information, this data is recorded to aid investigations and not research. The data can be contributed to by many different people both within and between cases, therefore the choice of information to report may be based on idiosyncratic methods of investigation and documenting. This may negatively impact the reliability of the information. For example, police may phone a parent to arrange a meeting and during this conversation the parent may state that they do not believe the child was abused but agree to the meeting time.
individual may record this comment in their summary of the phone call, however another individual may simply note the meeting time. Given that parental support has been found to be associated with child disclosures of sexual abuse (Lippert et al., 2009), this is important data for researchers to collect where possible. As this example highlights it is not always possible to distinguish between missing data and other likely scenarios (e.g., event occurred but was not recorded). This may have a substantial impact on the interpretation of data.

4.1.2 Recommendations for researchers.

The next section is comprised of recommendations to enhance the quality of data extracted from administrative databases for research purposes. Given that the use of administrative databases is unique and is an increasingly viable method of sourcing data, it is critical that researchers are attentive to a number of key aspects when utilising such data. The most critical aspect is that collecting administrative data can be a time consuming task. While the use of administrative databases may be an efficient way to gather longitudinal data, it also requires a significant investment of time to ensure that the most accurate data is obtained. The following recommendations address the reliability of data and methods to deal with missing data.

4.1.2.1 Understand data recording policy and practice.

Understanding the data recording policy and practice will inform researchers of when and why data may be unreliable or missing. Policy and practice can differ greatly, therefore wherever possible it is necessary to work closely with the agencies
where the data is collected from. There are two broad methodological approaches to case tracking across un-linked administrative databases. In the first method, a central spreadsheet of variables is created and each agency contributes to the spreadsheet. Following this, it is de-identified and provided to the researchers. The alternative method is for researchers to directly access the data across the agencies and collate a de-identified database from this. The second approach is more time consuming for researchers with regards to gaining requisite ethical clearances, as well as collecting the data, yet this method should be preferred by researchers for several reasons. First, the earlier approach utilises several agency employees, who may or may not have a background in research and an understanding of the project being undertaken. This may result in inconsistent recording of variables within and between agencies that may not be easily recognised or rectified once the database is de-identified. Allowing the researchers direct access to the original databases may overcome these issues as researchers can ensure that each variable is recorded consistently between agencies and that steps are taken to minimise inaccurate or missing data. Another advantage of the second approach is that researchers may gain insight into the day to day culture of agencies and the personnel who originally recorded the data, which may enhance understanding and interpretation of the data.

4.1.2.2 Inter-rater reliability measures.

Due to idiosyncrasies and time pressures, data recorded for operational purposes can often appear ambiguous, contradictory or incomplete. Therefore, there may be a level of interpretation required to translate the recorded data into the variable of interest. This may require cross-referencing with other areas of the database or consideration of recording practice and policy. Given that this may
introduce an element of discretion from researchers, it is important to take steps to promote objectivity and reliability. Gathering the data from within the agency may allow direct access to the individuals who initially recorded the data or to confer with their colleagues who may be more familiar with the details.

Alternatively, a more robust approach may require the work to be carried out by a research team. Researcher teams can consult internally to gain a second opinion and develop basic rules for collecting and coding ambiguous data, thereby maximise reliability of the data. Statistical inter-rater reliability measures may also be applied on randomly selected cases to ensure the internal reliability of the data collected.

4.1.2.3 Dealing with missing data.

Missing and unreliable data is one of the most difficult issues to overcome when using administrative databases. Even the most meticulous researcher cannot collect data that has not been recorded. In addition to this, the above discussion has provided examples which highlight the difficulty of identifying missing data in administrative databases. Despite this, if the above two recommendations have been followed, then it is likely that researchers will have a good sense of which variables have the most reliable and complete data. Variables that are identified as unreliable may need to be excluded from the analysis or interpreted with caution. The approach for variables which have missing information will depend on the nature of the missing data, as well as the research question.

One approach to overcome missing data is with data imputation. While a full discussion of the various methods of imputation are beyond the scope of this section (see Allison, 2001), the benefits are worth considering. This approach can be used for quantitative data and may be most appropriate when the group is believed to be
homogenous on the variable. In particular, if researchers are using multivariate analysis, then imputing data on one variable may allow more cases to be included in the overall analysis. If the other data points for these cases are reliable and meaningful then it may be important for researchers to take these steps so the cases can be included in the final analysis. Notwithstanding these benefits, there are some important considerations and draw backs of data imputation. Consideration must be given to the amount of data missing, the reason the data is missing and how this may relate to the overall research questions. The drawbacks include that the more simple data imputation methods reduce the variance within the sample, while the more complex methods may be more cumbersome or not appropriate for the planned analysis.

The second approach that can be used to address missing data for categorical variables is to include a ‘missing’ category. As with imputation, it allows more cases to be included in the analysis and the relationship between missing data and other variables can be explored. As discussed above, there may be a meaningful relationship between missing data and other variables of interest. For example there may be more missing data in cases where a child does not disclose abuse because details on the type of abuse or number of times it occurred is not available. The final option is to limit the research question to explore only cases with complete data. If this option is used, then it is necessary to have a thorough understanding of any significant differences between cases with missing data and cases with complete data. These differences may bias the analysis and should be considered when interpreting and generalising the results.
4.2 Procedure

In this section, the procedure for accessing and extracting the data is outlined. Throughout this section, challenges that were encountered are highlighted, along with explanations of how these challenges were addressed. As discussed above, these challenges are not unique to this thesis, however they are outlined to ensure transparency with regards to the thesis methodology, as well as to provide context for the interpretation of results in later chapters.

4.2.1 Accessing data.

Several steps were taken in order to obtain ethical approval for the thesis. First, letters of support for the project were obtained from the Officer in Charge of the police child interview team and the Director of the child protection interview team. An application was then submitted to the Deakin University Human Ethics Research Committee (DUHERC) and ethical approval was granted by this committee. Following this, the letters of support and ethical approval were submitted to the police research unit and the child protection ethics unit. Approval for the research was provided by both agencies and the project was initiated.

In the initial application, the data was to be obtained by a police officer and provided in a de-identified database. Following the ethical approvals, it was identified that the data would not be available from this source within a reasonable timeframe. Modifications were made to the Ethics Applications to allow direct access to collect the data directly from the police internal database. This is a secure system that is the police case management database, used to electronically file all information about a case and record a chronological log of all case notes regarding
the investigation. The system also includes all criminal charges and convictions for any person charged with an offence in the jurisdiction examined. As access to the database was only available to individuals employed by the police agency, it was also necessary to become a civilian contractor in order to access the database.

4.2.2 Extracting data.

Once access to the database was obtained, it was searched to identify all cases of child sexual abuse that were reported between January and December 2011. There were several reasons for choosing this year. One reason was that many significant systemic changes were made in the preceding years. For example, the child protection service was newly created, the joint CAIU was initiated and mandatory reporting was introduced. Further, a change to the process of interviewing complainants was introduced in 2010. Prior to this change, all child complainants of sexual abuse were initially interviewed by child protection officers in a field assessment interview prior to the recorded forensic interview. Following the changes in 2010, only complainants who had not disclosed the abuse to an adult were interview in a field assessment interview. Complainants who had previously disclosed to any adult were requested to attend a recorded forensic interview immediately. By 2011 these systemic changes had been embedded and the responses to reports were consistent across 2011. In addition to the systemic changes, the year was also chosen as it allowed two to three years for cases to progress through the legal system before the outcome was recorded. If more recently reported cases had been included in the database, then it is unlikely that the legal outcomes would have been known or recorded at the time the data was extracted. This is particularly true for cases which proceeded to a trial and appeal.
Cases were identified in two ways. First, a specialist investigation unit identified all cases that were provided as a mandatory report of children with a sexually transmitted disease. Second, the police database was searched using the field “suspected offence” to find any report lodged involving a child sexual offence. Any duplicate reports were identified and removed. The cases elicited from both searches were reviewed to ensure they met the following study criteria:

(a) The complainant was between 3 to 16 years old at the time of the report. The minimum age was chosen to ensure that the complainant was old enough to provide some verbal disclosure (Whitehead, 2010);
(b) The suspect was identified in the case and was at least 10 years old at the time of the offence. This age was chosen as it is the minimum age of criminal responsibility in the study jurisdiction;
(c) The complainant was requested to participate in a video-recorded interview or to provide a written statement. Where the complainant could not be located to request an interview, the case was excluded;
(d) The offence occurred within the jurisdiction examined. Offences that occurred outside of the jurisdiction were excluded as they were prosecuted in external jurisdictions; and
(e) Where there was more than one complainant or suspect in a single case, then one complainant and suspect pair were randomly selected (Lippert et al., 2009).

During the search it was identified that there may be some variation in how police record reports of child sexual abuse that may have affected the search results. The usual process that police officers follow when taking a report is to record the
details of the report in a free text field, nominate the “suspected offence” according to what was alleged in the report and record the details of the suspect and complainant. However, it was revealed that in some districts officers were reluctant to record the suspected offence as child sexual abuse if the child had not disclosed the abuse. In these cases the child was still interviewed by child protection services in a field assessment interview or a CAIU forensic interview. If the child subsequently disclosed the abuse, then the database would be updated with a nominated child sexual offence in the “suspected offence” field and thus would have been identified in the search. For cases where the child did not disclose then the case was closed with no suspected offence listed on the database, therefore these cases were not identified in the database search.

Options were explored to identify the additional cases. A search of the free text field was not possible because the only method to reliably identify these cases was through individually reading all police reports made across the year. As there was in excess of 200,000 reports to police, this was well beyond the resources available for the thesis. While it is not possible to calculate the exact number of these reports, it is likely that their exclusion resulted in the sample having a higher rate of disclosing complainants than may otherwise be expected.

In addition to the difficulties identifying all relevant cases, further issues arose in regards to eliciting reliable data for the variables of interest. The first issue was the amount of missing data. While there were many potential variables of interest, such as whether the parents supported prosecution of the case or whether the police perceived the suspect as believable, information on many of these variables was not consistently recorded or stored. In addition to this, where a child did not disclose abuse then information in relation to the nature of the abuse or the
relationship to the suspect may also be missing. This issue was most salient in the first study that explored all reported cases and is further discussed in chapter 5.

The second barrier to eliciting reliable data stemmed from the system allowing users to record information in many different area. For example information on whether the child disclosed may be obtained from a free-text field, a disclosure check-box or in an attached file with written notes of the interview. To overcome this limitation, an entire case log was produced for each case and read from beginning to end to ensure that the most reliable data was identified and recorded. Precedence was given to information that was the most recently entered. In addition to this, if information in a free-text field contradicted a check-box field, then the free-text was given precedence as it provided more context and support for the information, while a check box may be more likely to be marked in error. Where there was an ambiguity in which information was most reliable, clarification was sought with police officers. Where this was unavailable, colleagues and other researchers (who were not involved in the thesis) were consulted and a consensus was reached regarding the most reliable information.

4.3 Variables

Each of the studies in the thesis explored the effect of complainant age on outcomes, as well as how interrelationships between complainant age and other case characteristics may affect case outcomes. To this end, there were several variables that were consistently explored across all three studies. To avoid repetition, each of these variables are described in detail here.
4.3.1 Complainant demographics.

To assess the linear effect of age, Complainant Age was measured as the age of the complainant at the time of the report. For regression models, the variable was centered at 11 years, which was the mean age of the complainants. To capture quadratic age effects, Complainant Age Squared was calculated by squaring the complainant’s age after centering. Centering reduced the correlation between the linear and quadratic effects and allowed for a clearer interpretation of the intercept. Complainant Gender was coded 0 for female and 1 for male.

4.3.2 Case characteristics.

There were four case characteristics that were explored across all three studies. These include the severity of the abuse, the frequency of the abuse, the complainant-suspect relationship and the length of time between the abuse and the report.

Severity. The first case characteristic variable captured the severity of the alleged abuse by differentiating between abuse that was penetrative and non-penetrative. While there are differences in the literature in regards to how severity is defined, it was decided to differentiate between penetrative and non-penetrative abuse because this mirrors the legislative distinctions. As described above, The Code applies the most severe penalties to penetrative abuse and acts designed to entice a child into engaging in penetrative abuse. There is a lower maximum penalty for non-penetrative contact offences such as indecently dealing with, or indecently recording, children. In all studies, the variable was labelled Penetration and was coded 1 if the case involved allegations of at least one penetrative offence and coded
0 if the alleged offence was a non-penetrative contact offence or a non-contact offence.

**Complainant-Suspect Relationship.** This variable distinguished between intra-familial and extra-familial suspects. Any suspect who was biologically related to the complainant or residing in the complainant’s home was defined as an intra-familial suspect. This included parents, step-parents, siblings, step-siblings, cousins, uncles or aunts and grandparents. Any suspect who was not related to or residing with the complainant, was included in the extra-familial suspect category. This included suspects who were both known and unknown to the complainants, such as neighbours, teachers, peers, strangers and people met on the internet. In all studies, the variable was called *Extra-familial* and was coded 1 when the suspect was extra-familial and 0 when the suspect was intra-familial.

**Frequency.** The third case characteristic explored across all studies was the frequency of the alleged abuse. This was a dichotomous variable called *Repeated* and was coded 1 when the reported abuse was alleged to have occurred on more than one occasion and 0 when the abuse was alleged to have occurred once. It was not possible to use a count variable to record the number of times the abuse was alleged to have occurred as the number of events was not consistently recorded in all cases.

**Timing of report.** The final case characteristic explored in all cases was the timing of the report to police in relation to the last incident of abuse alleged. This was also a dichotomous variable and labelled *Over 12 months.* Where a case was reported more than 12 months after the last incident of alleged abuse then it was coded as 1. Where a case was reported within 12 months of the abuse it was coded as 0.
4.4 Sample

The initial search of the database identified 670 cases that met the study criteria. Of these cases, 121 had data missing on one or more variables of interest. As all three studies used multivariate models to predict outcomes, a case could only be included in the model if it had data recorded on every predictor and outcome variable. Therefore, cases that had data missing could either be deleted listwise or data imputation could be performed. To facilitate this decision, cases with missing data were compared to cases with complete data across all variables.

Table 1 outlines the differences between cases for dichotomous variables. This table highlights that, overall, cases with missing data did not differ significantly from cases with complete data on a majority of case characteristics. There was also no significant difference in the mean age of complainants in cases with missing data \((M = 10.40, \ SD = 4.09)\) and cases with complete data \((M = 10.97, \ SD = 3.72)\), \(t(162.81) = 1.40, p = 0.163.\) Finally there was no significant difference in the mean number of previous violence offence, \(t(659) = -0.57, p = .568,\) or sex offences, \(t(659) = 0.93, p = 0.353.\)
Table 1.

Comparison of Cases with Missing and Complete Data across Case Characteristics

<table>
<thead>
<tr>
<th>Case Characteristics</th>
<th>Percentage of cases with at least one variable missing data</th>
<th>Chi square</th>
<th>p value</th>
<th>Percentage of cases missing data for variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>17.6</td>
<td>0.35</td>
<td>.553</td>
<td>0.0</td>
</tr>
<tr>
<td>Male</td>
<td>19.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Penetrative abuse</td>
<td>18.7</td>
<td>0.29</td>
<td>.592</td>
<td>0.0</td>
</tr>
<tr>
<td>Penetrative abuse</td>
<td>17.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra-familial suspect</td>
<td>17.6</td>
<td>0.61</td>
<td>.436</td>
<td>2.2</td>
</tr>
<tr>
<td>Extra-familial suspect</td>
<td>15.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single abuse</td>
<td>12.5</td>
<td>5.26</td>
<td>.022</td>
<td>8.6</td>
</tr>
<tr>
<td>Repeated abuse</td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report within 12 mth</td>
<td>16.5</td>
<td>0.14</td>
<td>.711</td>
<td>2.0</td>
</tr>
<tr>
<td>Report over 12 mth</td>
<td>15.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juvenile suspect</td>
<td>19.9</td>
<td>0.61</td>
<td>.435</td>
<td>0.0</td>
</tr>
<tr>
<td>Adult suspect</td>
<td>17.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Violence history</td>
<td>16.3</td>
<td>0.57</td>
<td>.450</td>
<td>1.3</td>
</tr>
<tr>
<td>Violence history</td>
<td>19.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No sex offence history</td>
<td>17.2</td>
<td>0.21</td>
<td>.644</td>
<td>1.3</td>
</tr>
<tr>
<td>Sex offence history</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior disclosure</td>
<td>12.3</td>
<td>4.15</td>
<td>.042</td>
<td>13.3</td>
</tr>
<tr>
<td>No prior disclosure</td>
<td>20.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Disclosure</td>
<td>12.4</td>
<td>28.44</td>
<td>&lt;.001</td>
<td>1.2</td>
</tr>
<tr>
<td>No Forensic Disclosure</td>
<td>30.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charged</td>
<td>14.2</td>
<td>6.67</td>
<td>.010</td>
<td>0.0</td>
</tr>
<tr>
<td>Not charged</td>
<td>21.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convicted</td>
<td>13.8</td>
<td>4.03</td>
<td>.045</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Convicted</td>
<td>20.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There was a slightly higher rate of missing data when the reported abuse was a single incident. In addition to this, the frequency of abuse had the highest rate of missing data. Cases in which the complainant did not disclose also had higher rates of missing data than in cases where the complainant disclosed. This is unsurprising as the complainant’s disclosure frequently provided information for the variables, such as the frequency of the abuse, the complainant-suspect relationship and when the abuse occurred. When the complainant does not disclose abuse, then information on case characteristics may be more difficult for police to obtain. Given that cases with missing data were not significantly different to cases with complete data across a majority of the predictor variables, listwise deletion of cases was used for simplicity.

In the final sample there were 549 cases with complete data. The mean age of complainants was 10.97 years of age ($SD = 3.71$; range = 3-16) and 80.9% of complainants were female. The majority of the abuse reported was by an extra-familial suspect (60.7%), involved a non-penetrative offence (61.0%) and involved a single incident (59.7%). Suspects were under the age of 18 years in 27.9% of cases. In 16.0% of cases the suspect had previously been charged with a sexual offence, and in 22.6% of cases the suspect had previously been charged with a violent offence. Most reports related to abuse that had occurred within the past 12 months (83.6%) and a majority of complainants had disclosed abuse prior to the forensic interview (87.1%). This entire sample was used in the first study. The second study used a sub-sample of cases where the complainant had disclosed in the forensic interview. The final study used a sub-sample of cases where a suspect had been prosecuted. A description of these samples are provided in the method section of those studies.
To provide an overview of the progression of cases through the system, a case flow analysis is shown in Figure 1. This case flow is based on the outcomes of the 549 cases in the sample. There were 32 cases where the victim refused to be interviewed (23 cases) or did not disclose in the forensic interview (9 cases), however the suspect was charged by police. These cases were included in the sample in study one, however they were excluded in study two as this second study only included cases where the victim provided a disclosure in a forensic interview. As can be seen in this case flow, the large majority of cases that are charged by police are also accepted for prosecution. Given this, it was unnecessary to explore factors that predict a case being accepted for prosecution.

In Figure 2, the outcomes explored in each study are graphed across each complainant age in years. The solid black shading represents the number of cases reported and the checkered shading represents the number of complainants that disclosed. The solid grey shading represents the number of cases that resulted in a suspect being charged and the area with horizontal lines represents that number of cases that resulted in a conviction. From this figure it can be observed that the highest number of reporting relates to complainants aged 11 to 14 years.

Figure 1. Flow of reported cases of child sexual abuse through each stage of the criminal justice system. Each box reflects the percentage of cases that progressed based on all reported cases.
Figure 2. Number of cases that were reported, complainants disclosed, suspects charged and suspects convicted for each complainant age in years.
4.5 Summary of Thesis Methodology

This thesis used a police case management database to track a cohort of child sexual abuse cases from report to court outcome. Individual cases of child sexual abuse were identified by searching the database for all cases of suspected child sexual abuse reported in 2011. Case note logs were then searched to identify case characteristics and outcomes at key stages of the investigation and prosecution. As the database has been developed and used for police operational purposes, rather than research purposes, challenges were encountered when attempting to extract reliable data on each case. These challenges were not unique to the thesis and stem from the nature of administrative data, which is not originally collected for research purposes. Two particular challenges encountered were changing information and missing information. The first challenge was addressed by giving precedence to the most recent and complete information available in a case and consulting with police and colleagues. The second challenge was more difficult to overcome, however after careful consideration of the differences between cases with missing and complete data, cases with missing data were excluded from the final sample. In the following chapters, the impact of these challenges are further discussed when interpreting results.
CHAPTER 5. THE EFFECT OF COMPLAINANT AGE ON DISCLOSURES OF CHILD SEXUAL ABUSE IN A FORENSIC INTERVIEW (STUDY 1)²

This chapter presents the first empirical study in the thesis. The study explored the effect of complainant age and other case characteristics on disclosures of child sexual abuse in a forensic interview. All 549 children in the study were the subject of reports made to police of alleged sexual abuse against the child. Further, all complainants were requested by police to take part in a forensic interview. The study compared cases where children disclosed sexual abuse in a forensic interview with cases where children did not disclose sexual abuse or refused the forensic interview. This study made a unique contribution to previous research by modelling both linear and quadratic effects for age, as well as exploring whether the interrelationships between complainant age and other case characteristics had an effect on case outcomes.

The effect of complainant age on disclosure rates is not yet well understood, and there have been discrepancies between previous studies regarding whether age has a linear or curvilinear effect. Many studies have found that older children are more likely to disclose than younger children (DiPietro et al., 1997; Hershkowitz et al., 2005; Lippert et al., 2009; Pipe et al., 2007), which is likely due to better linguistic, cognitive and social/emotional skills (London et al., 2007). Yet, London et al. (2007) have suggested that there may be an inverted U-shaped effect between victim age and disclosure, where children in middle childhood are more likely to disclose than both younger children and adolescents.

² This study has been submitted for publication and is currently under review with the Journal of Police and Criminal Psychology
The curvilinear effect of victim age on disclosure rates may not have been identified in previous research due to methodological limitations. Some studies have limited their sample to children below 14 years of age (DeVoe & Faller, 1999; Hershkowitz et al., 2005), so the disclosure patterns of older adolescents have not have been explored. Of the studies that have included adolescent victims in their sample (Arata, 1998; DiPietro et al., 1997; Goodman-Brown et al., 2003; Gries et al., 1996; Kogan, 2004; Lippert et al., 2009; Priebé & Svedin, 2008; Smith et al., 2000), no study has reported modelling the curvilinear effects of victim age in a multivariate model. In the event that age does have a curvilinear effect on disclosure rates then this may explain why some researchers failed to find an effect of age when only modelling a linear relationship.

There is some evidence for the curvilinear effect of victim age on disclosure rates in studies where victim age has been explored as a categorical variable. In the study by Lippert et al. (2009) the effect of victim age was explored based on the age of the abuse onset as well as the age of the victim at the interview. Their study found that the age of abuse onset was more predictive of a forensic disclosure than the age of the victim at the interview. Based on the age at abuse onset, victim disclosure rates increased rapidly from 58% for 0-6 year olds to 83% for 7-12 year olds, however there was a much smaller increase for 13-17 year olds with 92% disclosing. While this pattern indicates that there is a linear association between victim age and disclosure rates, it also indicates that there may also be a curvilinear plateauing effect into adolescence.

The effect of victim age may also interact with other case characteristics, although few studies have explored such interactions. One study that has done so found an interaction between victim age and victim-offender relationships that may
have an effect on disclosure rates (Pipe et al., 2007). Pipe et al. found that children of 4-5 years were less likely than children of 6-13 years to disclose sexual abuse when the offender was a close family member, but not where the offender was an extended family, known non-family members or strangers. Further research is required to explore whether complainant age interacts with other case factors to affect disclosure rates.

The current study expanded on previous research by modelling curvilinear effects for age and exploring interactions with other case characteristics to predict disclosures of abuse in a forensic interview. The first hypothesis was that complainant age would have a curvilinear effect on disclosure rates such that disclosure rates would peak in cases with complainants aged in middle childhood. The second hypothesis was that complainant age would interact with several case characteristics to predict disclosure rates. Specifically, complainant age was expected to interact with the complainant-suspect relationship, where younger complainants would be less likely to disclose intra-familial abuse than older complainants.

As the purpose of the thesis was to track all reported case through the criminal justice system, it is not assumed that abuse occurred in all reported cases. Any significant effects in the model are discussed with reference to two alternative assumptions. The first assumption is that inaccurate reports are equally distributed across all cases types, and that significant differences found in reporting rates are attributable to differences in the complainant’s willingness or ability to disclose the abuse. The alternative assumption is that inaccurate reports rates are unequally distributed and some types of cases are more likely to have higher rates of inaccurate
reporting. Explanations for results will be offered based on each of these assumptions.

**Method**

**Variables**

Chapter 4 described seven predictor variables that are used consistently throughout each study in this thesis. The seven variables described are based on the complainant age (Complainant Age and Complainant Age Squared), complainant gender (Complainant Gender), whether the abuse was penetrative (Penetration), the frequency of the abuse (Repeated), the relationship between the complainant and suspect (Extra-familial) and the timing of the report (Over 12 months). In addition to these variables, there were a further six predictor variables and one outcome variable included in the current study. These are described below.

**Additional predictor variables.** *Juvenile* was based on the age of the suspect and had two categories, 10-17 years (coded 1) and 18 years and over (coded 0). *LogViolence* and *LogSexual* were the base 10 logarithm of the count of the suspect’s previous violence or sexual charges respectively. *Violence History* and *Sexual History* were coded so that 1 indicated a suspect had at least one previous charge for a violent and sexual offence respectively and 0 indicated no history of such charges. *Prior Disclosure* was coded 1 where the child had disclosed to at least one person previously.

**Outcome Variable.** A *Forensic Disclosure* was deemed to have occurred (coded 1) if police case notes indicated that the complainant provided a disclosure in a video-recorded forensic interview or statement. In the jurisdiction being examined,
police differentiate between a child disclosing that abuse occurred and a child providing enough details about the abuse to establish the elements of the offence. Forensic disclosure was deemed to have occurred regardless of whether the complainant was able to provide more detailed information on the offence. A forensic disclosure was deemed not to have occurred where the child did not disclose in the interview or refused to be interviewed (coded 0).

Sample

The sample used in this study is described above in Chapter 4.

Data Analytic Approach

The bivariate relationship between complainant age and forensic disclosure was explored with a logistic regression. Complainant Age and Complainant Age Squared were entered as predictor variables, with Forensic Disclosure as the outcome variable. To explore whether the effect of age was robust in a multivariate model with other case characteristics, the bivariate associations between all predictor variables and interactions with age were explored and then combined in a multivariate model.

The bivariate relationships between the complainant’s age and the dichotomous predictor variables were explored with logistic regression. For each logistic regression, the case characteristic was the outcome variable and the predictor variables were Complainant Age and Complainant Age Squared. A series of chi-square analyses were used to explore bivariate relationships between the dichotomous case characteristics and the outcome variable Forensic Disclosure. The
standardised residuals were used to determine which cells had a significantly different proportion of cases than expected. For LogViolence and LogSexual, multiple regression was used to explore the relationships with the complainant’s age and a binary logistic regression was used to explore the relationship with Forensic Disclosure.

A series of logistic regressions were used to explore if the interaction between complainant age and a case characteristic significantly predicted the proportion of cases with a Forensic Disclosure. Logistic regressions were used as the data did not have a normal distribution. The predictor variables entered were Complainant Age, Complainant Age Squared, the case characteristic and the interaction between Complainant Age and the case characteristic. The quadratic interaction between Complainant Age Squared and the case characteristic was also explored as an additional step in the model; however, as it did not improve the significance of any model it was not reported.

To test whether the main effects and interactions were robust, they were included together in a single model. A logistic regression was used with all main effects, with linear interactions used as predictors, and Forensic Disclosure as the outcome. The quadratic interactions between Complainant Age Squared and case characteristics were explored as an additional step; however, as it also failed to improve the predictive ability of the model it was not reported.

**Results**

Overall, 78.1% of complainants in the sample disclosed at least one incident of child sexual abuse in the forensic interview. Forensic disclosures was predicted from the linear and quadratic complainant age variables with a logistic regression
and the model was significant ($\chi^2 = 16.326, p < .001$, Cox & Snell $R^2 = .029$, Nagelkerke $R^2 = .045$). Within the model, the quadratic effect of age was significant ($\text{B(S.E.)} = -0.029 (0.008), p < .001$), but the linear effect was not ($\text{B(S.E)} = -0.025 (0.033), p = .458$; Constant $\text{B(SE)} = 1.710 (0.166), p < .001$). The parameters of the predictor variables indicated that the proportion of cases where a child disclosed increased to middle childhood and then declined or plateaued into adolescence.

**Bivariate Relationships**

Table 2 shows the logistic regression models predicting each case characteristic from linear and quadratic age variables (Complainant Age and Complainant Age Squared). The table highlights that as the age of the complainant increased, there was a decrease in the proportion of cases with male complainants and juvenile suspects. Conversely, as the age of the complainant increased, the proportion of cases with an extra-familial suspects increased. Both linear and quadratic effects of complainant age were significant when predicting penetrative abuse. A plot of this relationship (not shown) revealed that younger and older complainants had higher rates of penetrative abuse than complainants in middle childhood, with the older complainants having the highest proportion of cases involving penetrative abuse. Finally, there was an inverted-U relationship between complainant age and abuse reported over 12 months later, indicating that delayed reports of abuse increased into middle-childhood and then plateaued or declined into adolescence.
Table 2.

Logistic Regression Models Predicting Case Characteristics from Complainant Age

<table>
<thead>
<tr>
<th></th>
<th>Male Complainant</th>
<th>Penetrative Abuse</th>
<th>Repeated</th>
<th>Extra-familial Abuse</th>
<th>Juvenile Suspect</th>
<th>Over 12 months</th>
<th>Previous Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.40*</td>
<td>-0.88*</td>
<td>-0.41*</td>
<td>0.57*</td>
<td>-0.86*</td>
<td>-1.38*</td>
<td>2.12</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.14)</td>
<td>(0.13)</td>
<td>(0.13)</td>
<td>(0.14)</td>
<td>(0.17)</td>
<td>(0.20)</td>
</tr>
<tr>
<td>Complainant Age</td>
<td>-0.14*</td>
<td>0.18*</td>
<td>0.04</td>
<td>0.15*</td>
<td>-0.10*</td>
<td>-.022</td>
<td>-0.06</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Complainant Age Squared</td>
<td>-0.01</td>
<td>0.03*</td>
<td>&lt;0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.02*</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
</tr>
</tbody>
</table>

Model χ²: 18.07, 38.60, 2.26, 50.93, 9.65, 7.22, 2.80
Model p value: <.001, <.001, 0.323, <.001, .008, .027, 0.247
Cox & Snell R²: .032, .068, .004, .089, .017, .013, .005
Nagelkerke R²: .051, .092, .006, .120, .025, .022, .009

* p < .05

Note: Numbers in bold highlight where Complainant Age or Complainant Age Squared significantly predicts a Case Characteristic.
To examine the bivariate relationships between each of the case characteristics and a forensic disclosure, a Chi-square analysis was performed. This indicated that only two case characteristics were significantly associated with a forensic disclosure: Over 12 Months ($\chi^2(1) = 7.279, p = 0.007$) and Prior Disclosure ($\chi^2(1) = 52.218, p < 0.001$). Where the abuse occurred more than 12 months prior to the report, 88.9% of complainants disclosed in the forensic interview while only 76.0% of complainants disclosed when the abuse was reported within 12 months.

For children who did not disclose prior to the forensic interview, 45.1% provided a forensic disclosure in the interview, whereas for children who had already disclosed prior to the interview, the forensic disclosure rate was 83.1%. The association between the type of abuse and a forensic disclosure was approaching significance ($\chi^2(1) = 3.453, p = 0.063$), with 82.2% of children who experienced penetrative abuse disclosing, while 75.5% of children who experienced non-penetrative abuse disclosed in the forensic interview.

**Interactions**

A series of logistic regressions were conducted to examine whether interactions between age and each case characteristics significantly predicted forensic disclosures. The results are presented in Table 3. Complainant Age significantly interacted with three case characteristics to predict the proportion of cases with a forensic disclosure. Plots of these three interactions are shown in Figure 3 - 5. The interaction between complainant age squared and each case characteristic was also examined, but did not significantly improve any of the models; thus, only models with linear age interactions are reported.
The interaction between complainant age and penetrative abuse significantly predicted the proportion of cases with a forensic disclosure (Figure 3). The plot of this interaction demonstrates that penetrative abuse increases the likelihood of disclosure for younger but not for adolescent complainants. In addition to this, the relationship between age and forensic disclosure is curvilinear for both penetrative and non-penetrative abuse. There was a second interaction between the age of the complainant and the complainant-suspect relationship to significantly predict the proportion of cases with a Forensic Disclosure. This interaction is plotted in Figure 4 and from this plot it can be observed that younger complainants had a lower proportion of forensic disclosures in cases of intra-familial abuse than in cases of extra-familial abuse. Conversely, for older complainants there was a higher proportion of disclosures in cases with intra-familial abuse than extra-familial abuse.

The final interaction that significantly predicted the proportion of cases with a forensic disclosure was between Complainant Age and Over 12 months. Figure 5 plots this interaction. This figure demonstrates that where a case is reported more than 12 months after the abuse ends, then there is a lower proportion of disclosures for younger complainants than in cases where abuse was reported within 12 months. Conversely, there is a higher proportion of disclosures for older complainants when the abuse is reported after 12 months rather than within 12 months.
### Table 3.

**Logistic Regression Models Predicting Forensic Disclosure from Complainant Age and a Case Characteristic.**

<table>
<thead>
<tr>
<th></th>
<th>Male Complainant</th>
<th>Penetrative Abuse</th>
<th>Repeated Extra-familial Abuse</th>
<th>Juvenile Suspect</th>
<th>Violence Offence History</th>
<th>Sexual Offence History</th>
<th>Over 12 months</th>
<th>Previous Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.74* (0.18)</td>
<td>1.55* (0.18)</td>
<td>1.65* (0.19)</td>
<td>1.98* (0.24)</td>
<td>1.86* (0.19)</td>
<td>1.70* (0.17)</td>
<td>1.75* (0.17)</td>
<td>1.59* (0.17)</td>
</tr>
<tr>
<td>Complainant Age</td>
<td>-0.02 (0.04)</td>
<td>0.02* (0.04)</td>
<td>0.06 (0.05)</td>
<td>-0.002 (0.04)</td>
<td>-0.03 (0.03)</td>
<td>-0.02 (0.04)</td>
<td>0.05 (0.04)</td>
<td>0.11 (0.08)</td>
</tr>
<tr>
<td>Characteristic Age</td>
<td>-0.15 (0.27)</td>
<td>0.57* (0.25)</td>
<td>0.18 (0.22)</td>
<td>-0.40 (0.25)</td>
<td>-0.46* (0.23)</td>
<td>-0.12 (0.28)</td>
<td>0.24 (0.30)</td>
<td>-0.95* (0.41)</td>
</tr>
<tr>
<td>Age* Characteristic</td>
<td>-0.04 (0.06)</td>
<td>-0.16* (0.05)</td>
<td>0.04 (0.06)</td>
<td>-0.11 (0.06)</td>
<td>-0.08 (0.07)</td>
<td>0.02 (0.08)</td>
<td>0.27 (0.11)</td>
<td>-0.15 (0.09)</td>
</tr>
<tr>
<td>Age Squared</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
<td>-0.03* (0.01)</td>
</tr>
<tr>
<td>Model $\chi^2$</td>
<td>16.87</td>
<td>28.96</td>
<td>17.39</td>
<td>22.40</td>
<td>23.08</td>
<td>17.85</td>
<td>17.11</td>
<td>30.34</td>
</tr>
<tr>
<td>$p$ value</td>
<td>.002</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cox&amp;Snel R$^2$</td>
<td>.030</td>
<td>.051</td>
<td>.031</td>
<td>.040</td>
<td>.041</td>
<td>.032</td>
<td>.031</td>
<td>.054</td>
</tr>
<tr>
<td>Nagelkerke R$^2$</td>
<td>.047</td>
<td>.079</td>
<td>.048</td>
<td>.061</td>
<td>.063</td>
<td>.049</td>
<td>.047</td>
<td>.083</td>
</tr>
</tbody>
</table>

$^*$ $p < .05$, Note: Numbers in bold highlight the significant interactions that predicted Forensic Disclosure.
Figure 3. Plots the effect of interaction between complainant age and penetrative abuse on forensic disclosures. Points represent raw proportions and lines represent predictions from logistic regression model.
Figure 4. Plots the effect of interaction between complainant age and complainant-suspect relationship on forensic disclosures. Points represent raw proportions and lines represent predictions from logistic regression model.
Figure 5. Plots the effect of interaction between complainant age and case characteristics on forensic disclosures. Points represent raw proportions and lines represent predictions from logistic regression model.
Multivariate Model

To assess the robustness of the previously observed interactions a logistic regression was performed that included all complainant, case and suspect characteristics as well as their interactions with age (see Table 4). In addition, a model that included interactions between characteristics and age squared was examined; however, as this did not significantly improve the model-fit it is not reported. Interactions between age and penetrative abuse, and age and extra-familial abuse remained present in this multivariate model. Although the interaction between age and the timing of the report was no longer significant yet, it was approaching significance ($p = .073$).

Assumptions of logistic regression were not breached by the model and a review of the standardised residuals indicated that the model fit the data well as the largest residual was -2.65 and only 4.1% of cases had residuals larger than +/- 1.96. The leverage was reviewed and based on the maximum calculated leverage (Max = 0.115), there were 16 cases that appeared to be influential on the model (range = 0.154 to 0.376). After these cases were reviewed for data entry errors it was revealed that 13 of the cases related to complainants aged three to five years. The model was run with and without the cases and both models remained significant. When the cases were excluded, two interactions became non-significant, although they continued to approach significance. These cases may be more influential as the sample had less complainants in this age range than in other ages, which may be particularly salient when looking at interactions. It was decided to include these cases in the final model because there were fewer complainants in this age group in the sample, the overall model remained significant with and without the cases, and
## Table 4.

*Logistic Regression Predicting Forensic Disclosure From Case Characteristics and Interactions.*

<table>
<thead>
<tr>
<th>Multivariate model predicting Forensic Disclosure</th>
<th>Odds</th>
<th>( p ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B (S.E.)</strong></td>
<td><strong>Ratio</strong></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.239 (0.412)</td>
<td>1.27</td>
</tr>
<tr>
<td>Complainant Age</td>
<td><strong>0.286 (0.116)</strong></td>
<td><strong>1.33</strong></td>
</tr>
<tr>
<td>Complainant Age Squared</td>
<td>-0.028 (0.010)</td>
<td>0.97</td>
</tr>
<tr>
<td>Male</td>
<td>0.045 (0.304)</td>
<td>1.05</td>
</tr>
<tr>
<td>Penetration</td>
<td><strong>0.659 (0.284)</strong></td>
<td><strong>1.93</strong></td>
</tr>
<tr>
<td>Repeated</td>
<td>-0.184 (0.265)</td>
<td>0.83</td>
</tr>
<tr>
<td>Extrafamilial</td>
<td>-0.154 (0.301)</td>
<td>0.86</td>
</tr>
<tr>
<td>Juvenile</td>
<td>-0.527 (0.274)</td>
<td>0.59</td>
</tr>
<tr>
<td>Violence Offence History</td>
<td>-0.315 (0.334)</td>
<td>0.73</td>
</tr>
<tr>
<td>Sexual Offence History</td>
<td>0.161 (0.346)</td>
<td>1.17</td>
</tr>
<tr>
<td>Over 12 months</td>
<td>0.690 (0.458)</td>
<td>1.99</td>
</tr>
<tr>
<td>Previous Disclosure</td>
<td><strong>1.9475 (0.307)</strong></td>
<td><strong>6.99</strong></td>
</tr>
<tr>
<td>Age*Male</td>
<td>-0.043 (0.075)</td>
<td>0.96</td>
</tr>
<tr>
<td>Age*Penetration</td>
<td>-0.181 (0.070)</td>
<td><strong>0.83</strong></td>
</tr>
<tr>
<td>Age*Repeat</td>
<td>-0.027 (0.066)</td>
<td>0.97</td>
</tr>
<tr>
<td>Age*Extrafamilial</td>
<td>-0.159 (0.077)</td>
<td><strong>0.85</strong></td>
</tr>
<tr>
<td>Age*Juvenile</td>
<td>-0.076 (0.068)</td>
<td>0.93</td>
</tr>
<tr>
<td>Age*Violence</td>
<td>-0.162 (0.080)</td>
<td><strong>0.85</strong></td>
</tr>
<tr>
<td>Age*Sexual</td>
<td>0.082 (0.096)</td>
<td>1.09</td>
</tr>
<tr>
<td>Age*Over 12 months</td>
<td>0.214 (0.120)</td>
<td>1.24</td>
</tr>
<tr>
<td>Age*Previous Disclosure</td>
<td>-0.173 (0.088)</td>
<td><strong>0.84</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 109.607 \]
\[ p \text{ value} < .001 \]
\[ \text{Cox & Snell } R^2 = .175 \]
\[ \text{Nagelkerke } R^2 = .269 \]

Note: Numbers in bold highlight significant predictors of Forensic Disclosure.
although two interactions became non-significant they continued to be close to significant.

An additional two interactions also emerged in the final model that were not significant when the interactions were originally explored. It appears that these interactions emerged in the final model because the other main effects and interactions suppressed the overall error, thereby improving the predictive power of these interactions. The first new interaction was between age and previous disclosure (Figure 6). Where complainants had not previously disclosed then the proportion of disclosures in the forensic interview increased with complainant age, however where complainants had previously disclosed, forensic disclosures peaked in middle childhood. The plot in Figure 6 also demonstrates a good fit between the predicted model and the raw proportion of disclosures for complainants that had previously disclosed. Where the complainants had not previously disclosed, there is a very poor fit between the raw proportion of disclosures and the predicted model. This wide variation may be attributable to the smaller sample size for complainants who had not previously disclosed \((n = 71)\).

The second new interaction was between complainant age and the log count of the suspect’s violence history. To aid in interpretation, the plot in Figure 7 uses a two category violence variable to plot the proportion of disclosures for suspects with and without a violence history. While the simplification of the plot allows for easier interpretation, the significant interaction was based on the log count of the history and not the dichotomous violence variable that is plotted. It appears that both the presence of a violence history as well as the number of charges may be relevant. Figure 7 indicates that a violence history may decrease the likelihood of disclosure for older complainants, while it may possibly increase the likelihood of disclosure
Figure 6. Plots the effect of interactions between complainant age and previous disclosure that emerged in the final model as a significant predictor of the proportion forensic disclosure. Points represent raw proportions and lines represent predictions from logistic regression model.
Figure 7. Plots the effect of interactions between complainant age and violence history that emerged in the final model as a significant predictor of the proportion forensic disclosure. Points represent raw proportions and lines represent predictions from logistic regression model.
for younger complainants. As with prior disclosure, the raw proportion and the predicted model fits well for cases where the suspect did not have a history of violence, however there is more discrepancy between the raw proportions and predicted model where the suspect had a history of violence. This may also be attributable to the smaller sample size for this group ($n = 124$).

**Discussion**

This study used a sample of reported cases of child sexual abuse to comprehensively explore the effect of complainant age on disclosures of abuse in a forensic interview. The results highlight a complex relationship between the age of the complainant and the rate of forensic disclosures. First, complainant age interacts with other case characteristics so that the effect of complainant age differs depending on these other characteristics. Specifically, complainant age was found to interact with the complainant-suspect relationship, the type of abuse, the violence history of the suspect and whether there was a disclosure prior to the interview. Second, after controlling for these interactions, the effect of complainant age on disclosure rates is curvilinear with disclosure rates peaking in middle childhood. The following discussion firstly reviews each interaction and discusses possible explanations. Following this, reasons for the curvilinear effect of age are explored. Finally, the limitations and implications of the study are addressed.

**Interaction Between Complainant Age and Complainant-Suspect Relationship**

The first interaction found was between complainant age and the complainant-suspect relationship. This interaction indicated that very young
complainants were less likely to disclose when the abuse was intra-familial, while adolescent complainants were more likely to disclose when the abuse was intra-familial. Many previous studies have found that complainants are less likely to disclose, or more likely to delay disclosure, in cases of intra-familial abuse (Arata, 1998; DiPietro et al., 1997; Goodman-Brown et al., 2003; Smith et al., 2000). This study challenges these findings, to an extent. The results in this study are consistent with Pipe et al. (2007) who found a similar interaction, although they did not include any victims over the age of 13 years. The current study is the first to explore the interaction with a sample of complainants in childhood and adolescence. The results emphasise that disclosure patterns may not be consistent across all age groups and that adolescent complainants may have higher disclosure rates for intra-familial abuse. This finding raises two key issues. First, why do the current results differ from many earlier studies? Second, why are adolescent complainants more likely to disclose intra-familial abuse? Each of these issues are explored, in turn, below.

There are several possible explanations for the differences in results between our study and prior studies. First, prior studies have had a younger mean age in their sample. The mean age of victims in the study by Arata (1998) Goodman-Brown et al. (2003) and DiPietro et al., (1997) was two to four years younger than the mean age of complainants in the current sample. Therefore, their findings that complainants of intra-familial abuse are less likely to disclose or more likely to delay disclosure, are actually consistent with our finding that very young victims are less likely to disclose intra-familial abuse.

A second explanation for the difference in findings may be due to the context of the disclosures. Studies can explore whether children disclose to anyone, or whether they disclose to authorities. In the retrospective study by Smith et al.
The mean age of victims at the time of abuse was 10.9 years, which is similar to the mean age of complainants in our sample. However, their study explored whether victims had disclosed their abuse to anyone, while our study focused on disclosures in the context of a forensic interview. Indeed, only 12% of victims in Smith et al.’s study disclosed to authorities, which indicates that the vast majority of cases in their sample were never reported to authorities. This indicates that our sample of reported cases may be distinctly different from the sample of cases in their study. Furthermore, disclosure patterns may be dependent on the context of the disclosure and our findings may be limited to disclosures in the context of a forensic interview.

An alternative explanation is that a majority of the previous studies (Arata, 1998; DiPietro et al., 1997; Goodman-Brown et al., 2003; Smith et al., 2000) did not explore interactions between complainant age at the time of the abuse and the complainant-suspect relationship. The only other study that has reported exploring interactions also found that victim age interacted with the victim-offender relationship to predict forensic disclosures (Pipe et al., 2007). Taken together, it appears that evidence is emerging of an interaction between these two case characteristics, such that the main effects of each case characteristic may not be interpretable.

An alternate, though unlikely, explanation for the difference between the current results and other studies is that the findings in our study may be attributable to inaccurate reporting. The interaction between complainant age and complainant-suspect relationship may be explained by inaccurate reporting if more inaccurate reports are made in cases with young complainants of intra-familial abuse and in cases with older complainants of extra-familial abuse. A possible reason that this
may occur is that reporters, who may be aware that young complainants are less likely to disclose intra-familial abuse, report suspicions in the absence of any disclosure from the child. Although this explanation is plausible, it is unlikely to completely explain the disclosure rates for young complainants given that the rates are consistent with prior research. In addition, it is less clear why reporters may be more likely to give inaccurate reports for adolescents suspected of being abused by an extra-familial perpetrator than by an intra-familial perpetrator. Therefore, it is unlikely that the interaction can be explained by inaccurate reporting.

The finding that adolescent complainants are more likely to disclose intra-familial abuse and less likely to disclose extra-familial abuse is novel. In a study comparing experiences of unwanted sexual contact in childhood and adolescence Kellog & Hoffman’s (1995) did not find an association between disclosure and victim/offender relationship, but found that adolescent victims of peer abuse were more likely to blame themselves for the abuse than were adolescents who were victimised by other perpetrators. As other studies have linked self-blame to non-disclosure (Goodman-Brown, et al., 2003; Kogan, 2004), it may be hypothesised that adolescent victims may be less likely to disclose where the perpetrator is a peer, because they blame themselves.

Related to this explanation, adolescent complainants may also be less likely to disclose abuse by a peer to authorities if the complainant believes the abuse occurred within a consensual, yet illegal, sexual relationship. This explanation may be partially supported by the positive correlation, in the initial bivariate analysis, between the age of complainants and juvenile suspects. This correlation indicated that adolescent complainants experienced a higher rate of abuse involving juveniles. Notwithstanding this correlation, the age of the suspect did not predict disclosure
rates, so explanations related to peer abuse do not completely explain the low disclosure rates for extra-familial suspects. A related explanation may be that when the suspect is unrelated but known to the complainant, then the complainant and the suspect may have mutual friends whom the complainant fears will find out about the abuse or pressure him/her not to disclose to authorities.

A final explanation for the low disclosure rates for adolescent complainants in cases with extra-familial offenders stems from legal issues. As discussed in Chapter 3, there is an available defence to sexual abuse charges when the victim is 13 years or over. This defence can be established if the suspect can show that the complainant consented to the act, there was less than three years difference in age between the complainant and suspect, or the suspect reasonably believed that the complainant was at least 16 years of age. While not explicitly specified in the legislation, the complainant and suspect cannot be first-degree relatives, as this would give rise to the charge of incest. This defence may create a situation in which adolescent complainants of extra-familial abuse are even more vulnerable to internalising self-blame because they are questioned around consent. In contrast younger complainants and complainants of intra-familial abuse are not questioned on this topic as it is not relevant to establishing a case.

### Interaction Between Complainant Age and the Type of Abuse

The second interaction that significantly predicted forensic disclosures was between complainant age and the type of abuse (penetrative or non-penetrative). This interaction revealed that in cases with very young children, penetrative abuse predicted higher disclosure rates than non-penetrative abuse. Conversely, in cases with adolescent complainants, disclosure rates were similar for both penetrative and
non-penetrative abuse. There has been broad variation in the definition of abuse severity in prior research, which makes it difficult to compare results with the current study. For example, some studies only explored penetrative versus non-penetrative abuse (Kogan, 2004; Lippert, et al., 2009), another study compared penetrative, contact and non-contact abuse (Priebe & Svedin, 2008), while another compared genital penetration, oral-genital contact and fondling (Kellogg & Hoffman, 1995). The two studies that explored penetrative versus non-penetrative abuse (Kogan, 2004; Lippert, et al., 2009) did not find that penetrative abuse had an effect on disclosure rates after controlling for other variables. Conversely, Priebe & Svedin (2008) study of adolescent victims found that disclosure rates were higher in cases of penetrative abuse than the two non-penetrative abuse categories.

The differences in findings between the previous studies and the current results may be attributable to the interaction between age and abuse type. In the bivariate analysis in the Lippert et al., (2009) study, victim age, penetrative abuse and disclosures were all interrelated. Penetrative abuse was positively associated with disclosures, as well as age. This indicated that older victims were more likely to experience penetrative abuse and that victims who experienced penetrative abuse were also more likely to disclose. Victim age and disclosure also had a positive correlation so that older victims were more likely to disclose abuse. Notwithstanding the bivariate analysis finding significant interrelationships, the effects of the interrelationships were not explored. In their final multivariate model, the age of the victim was significant, while the type of abuse (penetrative or non-penetrative) was not significant. It is possible that the age of the victim absorbed the variance for penetrative abuse as the two are related. If Lippert et al. had included interactions
between these two variables in their final model, then it is possible that their results would be similar to the current study.

An alternative explanation for the difference between our results and those of previous studies is that our study may include inaccurate reports. If the interaction between complainant age and the type of abuse is related to inaccurate reporting it would suggest that, in cases with very young complainants, there is a higher rate of inaccurate reporting of non-penetrative abuse than penetrative abuse. One reason that non-penetrative abuse may be inaccurately reported is that it may relate to incidents where the act was ambiguous and unclear. For example, the child may be accidentally exposed to indecent material that was intended for adult consumption only or the child’s privates may be briefly touched (under or over clothes) as an adult provides medical or other assistance. Following an investigation it may then be established that the incident did not constitute a prosecutable offence.

Inaccurate reporting of non-penetrative abuse of very young complainants may also be malicious. One context in which malicious reporting of child maltreatment is known to occur is when parents are separating (Trocme & Bala, 2005). It is possible that in these cases, parents are more likely to allege non-penetrative against very young children (as opposed to penetrative abuse or abuse against older children) for two reasons. First, older complainants may be less likely to be coached into making allegations due to their maturity and may have more input in regards to their own custody. Second, parents may be more likely to allege non-penetrative abuse as their child will not be required to undergo a medical examination, which they may perceive as traumatizing for their child or counterproductive for their case. While this explanation warrants further research, the magnitude of difference in reporting for young complainants of penetrative and
non-penetrative abuse is likely to be too large to be explained solely by inaccurate reporting.

In the event that our results are accurate and very young complainants are more likely to disclose in cases of penetrative abuse, there are several plausible explanations. One reason may be that these victims are more likely to recognise penetrative acts as abusive than non-penetrative acts (Cederborg, Lamb, & Laurell, 2007). The results of this study may provide support for this explanation as the effect of abuse severity was not found for older complainants. Adolescents are more likely to realise they have been victimized when the abuse is non-penetrative due to a better understanding of sexual behaviour. Conversely, the current study has not found support for the explanation that severe abuse may be more likely to be reported due to the seriousness of the consequences of ongoing abuse for the victim (Cederborg et al., 2007). If this explanation were true, it would be expected that older victims of penetrative abuse would also be more likely to disclose than older victims of non-penetrative abuse.

**Interaction Between Complainant Age and Suspect’s Violence History**

The third major finding in the study was that complainant age interacted with the suspect’s violence history to predict disclosures of abuse in the forensic interview. Specifically, cases with younger complainants had a higher rate of forensic disclosures when the suspect had a violence history than when the suspect had no violence history. For cases with older complainants, disclosure rates were lower when the suspect had previous violence charges than when there was no violence history. This interaction has not been explored in previous studies and is a novel finding. As the effect was only found after other factors were controlled for,
and because the magnitude of the effect is small, the finding should be considered tentative and explored in further research. Nevertheless, there are several possible explanations for the finding. In the event that the interaction was due to inaccurate reporting, it may be that third parties are more likely to report suspected abuse for adolescent complainants as a precaution when the suspect is known to also be violent, although it is not clear why this precaution would only be taken when the complaint is older and not for younger complainants as well.

Conversely, if the interaction between complainant age and suspect violence history is not due to inaccurate reporting, then the violence history of the suspect may have an impact on the complainant’s willingness or ability to disclose the abuse. While it is unlikely that the complainants were aware of the suspect’s violence charges, this history may indicate the suspect’s propensity to violence. Where suspects have a potential for violence, it is possible that adolescent complainants are fearful of disclosing abuse to authorities. This is consistent with findings by Kogan (2004) that when victims feared for the safety of their family then they were more likely to delay in disclosing or not disclose at all, although this effect was only trending towards significance in their final model.

If the above explanation is true, it is not clear why a suspect’s potential for violence does not affect younger complainants as well as older complainants. It is possible that adolescent complainants’ higher intellectual functioning makes them more cognisant of the suspect’s potential for violence. Similarly, older complainants may be less mollified by authorities who assure them that they will be safe if they disclose. Research has found that younger children are more compliant with requests made by police officers than with those made by other adults (Powell, Wilson, Gibbons, & Croft, 2008). In addition, adolescents are developmentally focused on
asserting autonomy (Erickson, 1968) so they may be less likely than younger children to comply with a request to “tell me everything that happened,” if they do not believe they are safe to do so. In contrast, a suspect’s propensity for violence may increase the likelihood that younger children will disclose to authorities as they may believe that they will become safer by doing so.

**Interaction Between Complainant Age and Prior Disclosure**

The last interaction that emerged in the final model was between complainant age and a prior disclosure. Where a complainant had previously disclosed, there was a curvilinear effect of age on the proportion of forensic disclosures, whereby complainants in middle childhood had the highest proportion of disclosures. Conversely, where the complainant had not previously disclosed, age appeared to have a linear effect, with the proportion of disclosures steadily increased with the age of the complainant and plateauing or slightly declining as the complainant reached 16 years. It is possible that many of the cases with no prior disclosure were inaccurate reports. If this were true then the linear relationship between complainant age and disclosures may indicate that there is a higher rate of inaccurate reporting for younger complainants.

Alternatively, for victims with no previous disclosures, if the interaction cannot be explained by inaccurate reporting, then the disclosure in the forensic interview is the first the victim has made. The linear effect of age found for these victims is similar to the effect found in studies that explore whether victims disclosed to anyone (Kogan, 2004; Smith et al., 2000). This suggests that complainant age may have a positive effect on the likelihood of disclosing generally; however, once this (non-forensic) disclosure is brought to the attention of authorities and the
complainants are required to disclose in a forensic interview, then the effect of complainant age changes. In this context, adolescent complainants become less likely to disclose than complainants in middle childhood.

There may be several explanations as to why adolescent complainants, who have previously disclosed abuse, may not be willing to disclose to forensic interviewers. One reason may be that when they disclosed previously, the response to their disclosure made them decide not to disclose to authorities (Lievore, 2005). Complainants who are believed and encouraged to report to authorities may be more willing to disclose than complainants who are not believed or who are discouraged from reporting. One study of disclosure responses found that adolescents (when compared with younger victims) reported less social support and more negative reactions when they disclosed their abuse (Feiring, Taska, & Lewis, 1999).

Another explanation for the lower rate of disclosure from adolescents who have already disclosed abuse may be related to the purpose of their disclosures. The disclosures made prior to the interview may have been for the purpose of seeking support or protection, while a disclosure in a forensic interview is for the purpose of prosecuting the suspect. Kogan (2004) found that adolescents were more likely to report abuse to a peer than to an adult and this may indicate that they are disclosing for support and avoiding authority figures. When the disclosure is passed onto authorities, adolescent complainants may be reluctant to give a forensic disclosure because they do not want the offenders prosecuted or do not want to be a witness for prosecution.
Curvilinear Effect of Complainant Age on Disclosures

The final model supported a curvilinear effect of age on disclosure rates in a forensic interview. This finding contrasts with previous studies that show older victims are more likely to disclose in investigative interviews (DiPietro et al., 1997; Lippert et al., 2009). The methodology of the current study improved on the previous studies in two important ways. First, quadratic effects for age were modelled to identify curvilinear effects. Second, interactions between age and other case characteristics were also included in the model. Therefore the results of the current study are more robust than previous studies. They provide strong empirical support for the assertion by London et al (2007) that adolescent victims may be less likely to disclose than victims in middle childhood, at least in forensic interviews.

There are two important qualifiers to this effect, specifically, adolescent disclosure rates were not lower than those of complainants in middle childhood when the abuse was intra-familial and when the complainants had not previously disclosed.

It is possible that the curvilinear effect of age found in this study reflects patterns of inaccurate reporting and that inaccurate reports are higher for younger and older complainants than for complainants in middle childhood. The possible reasons for the higher rates of inaccurate reports has already been discussed. Conversely, if the curvilinear effect cannot be explained by inaccurate reporting alone, then it is also possible that the effect only applies in the context of a forensic interview.

A final possibility is that victim age has a curvilinear effect on all disclosures, but that previous studies have not identified it due to limitations in their methodology. One prior limitation discussed was that previous studies did not model
age as a quadratic function. Another limitation of previous studies was that interactions between age and other case characteristics were not explored, which may give rise to doubts about the main effects found for other case characteristics. If the interactions found in this study have an effect on a complainant’s disclosures generally (rather than just in a forensic interview), then main effects of case characteristics that have been found in previous research may need to be interpreted with caution. Future research in this area is needed to explore whether these findings can be generalised.

**Limitations of Current Study and Implications for Future Research**

There are several limitations in the current study. The study relied exclusively on official records of all reported cases. This means that the results may not be generalised to cases beyond those reported to authorities. Studies exploring prevalence of child sexual abuse have found as few as 4.4% to 12% of cases are reported to authorities (Priebe & Svedin, 2008; Smith et al., 2000), therefore the results may not explain disclosure rates or patterns for a majority of child sexual abuse incidents. Nevertheless, the study does provide valuable insight into disclosure patterns after abuse is reported, which is fundamental to the prosecution of child sexual abuse. The results may provide police and other social services with valuable insight into the disclosure patterns for complainants in reported cases.

Another limitation related to the use of official records is that they are not collected for research purposes and can have large amounts of missing data. After careful consideration of the differences between cases with missing and complete data, it was found that the most salient difference was that cases with missing data had high rates of non-disclosure; therefore it was determined that excluding these
cases would possibly reduce the power of the study (Type 2 error) but it would not increase the risk of false positives (Type 1 error). It was determined that it would be more conservative to reduce the power of the study, rather than increase the risk of Type 1 error.

The most common limitation in case tracking research is the inclusion of both accurate and inaccurate reports of child sexual abuse. As the study included all reports, the explanations are speculative. Further research should explore the effect of age on inaccurate and accurate reporting of child sexual abuse to identify which explanations are most likely. Lyon (2007) also warned that when cases are included in which the complainant has not actually been sexually abused then disclosure rates may appear lower than they really are, however our disclosure rates were consistent with other studies of abuse reported to authorities (Hershkowitz et al., 2005; Lippert et al., 2009). This may indicate that there was a low rate of inaccurate reports.

Another limitation of using a sample of reported cases is that this may also result in the sample suffering from a methodological issues that Lyon (2007) terms ‘suspicion bias.’ Suspicion bias occurs when complainants in the sample are suspected to have been abused because they disclosed the incident or because behaviours or other evidence led to them being questioned about abuse and then they disclosed. This process results in samples including few complainants who do not voluntarily disclose or show overt signs of abuse. The majority of complainants in the current study had previously disclosed abuse, which gave rise to both the suspicion and reporting of the abuse, therefore the sample appears to be affected by this bias. Indeed Lyon states that “suspicion bias is evinced by high rates of prior disclosure” (p. 44). While this is an important limitation of the generalisability of the study, it does not detract from the results as applied to disclosures in the context
of a forensic interview because these cases only come to the attention of authorities when there is a suspicion of sexual abuse.

There are several implications of this study for researchers. From a methodological perspective, the results of this study indicate that interactions between case characteristics may be important and that researchers may not be able to make general interpretations of the association between a case characteristic and disclosure rates. Case characteristics are intricately related to each other and the effect of one case characteristic on disclosure rates should only be described where other case characteristics are held constant. For example, the results in this study indicated that age is associated with increased disclosure rates only when the abuse is intra-familial or the suspect does not have a history of violence. Future research should continue to explore whether the interactions identified are attributable to inaccurate reporting or to the ability and willingness of complainant’s to disclose. In particular, the study highlights the need to conduct this research to understand the pattern of disclosure rates for adolescent complainants and to identify strategies to improve these rates.

Given that the current study cannot conclusively exclude inaccurate reporting as an explanation of low adolescent disclosure rates, it is important that any strategies aimed to improve adolescent disclosure rates do not increase the risk of false allegations. Currently, investigative interview training predominantly focuses on eliciting reliable narrative accounts from young children (Powell, 2008). While these strategies may be equally important for adolescent complainants, these older victims may be choosing not to provide a forensic disclosure. Ongoing research is needed to understand why adolescents may be reluctant to be involved with the legal process and how this reluctance may be addressed.
CHAPTER 6. THE EFFECT OF COMPLAINANT AGE ON POLICE AUTHORISATION OF CHARGED (STUDY 2)\textsuperscript{3}

This chapter presents the second empirical study in the thesis, which has been accepted for publication (Leach, Powell, & Anglim, in print). In this study, the effect of complainant age on police authorisation of charges against an offender is explored. In this section, the rational for the study is outlined and the study design is explained. Following this, the method and results of the study is presented. Finally, this chapter is concluded with a discussion and interpretation of the findings.

The study in this chapter expands on the previous chapter by exploring outcomes of cases where a child disclosed abuse in a forensic interview. Cases that resulted in a charged suspect are compared with cases that were discontinued due to insufficient evidence. The linear and curvilinear effect of victim age on these outcomes is modelled and possible mediators of this effect are explored. This study expands on previous research in two important ways. First, it is the first study to model the quadratic effects of age in a multivariate model controlling for other case factors that may predict police authorisation of charges. Second, it is the first study to explore factors that may mediate, and thus explain, the effects of complainant age on investigation outcomes.

In cases of child sexual abuse, forensic and medical evidence is rare (Cross et al., 1994; Walsh et al., 2008) and cases often rely on the testimony of the complainant (Cossins, 2001). This suggests that there may be some extra-legal variables that also have an effect on whether a case appears to have sufficient

\textsuperscript{3} This study has been accepted for publication. The full reference is Leach, C., Powell, M., & Anglim, J., (in print). The effect of victim age on police authorisation of charges in cases of child sexual abuse. \textit{Psychiatry, Psychology and Law}.
evidence to proceed to prosecution. The age of the complainant is an extra-legal variable that qualitative studies have found is considered by police when authorising charges (Campbell et al., 2015; Powell, 2008). Campbell et al. (2015) suggested that complainant age is considered by police because they have a downstream orientation of justice (Frohmann, 1991), whereby they consider how the case may be perceived downstream i.e., by juries. As complainant age has been found to influence mock juror perceptions of complainant credibility (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014), it is possible that the age of the complainant may also influence police decisions as they consider how a case will be received at trial. This downstream orientation of justice is consistent with the finding that cases with complainants who are perceived as credible and reliable witnesses or have corroborating evidence are more likely to proceed (Powell et al., 2010).

Previous research has found an association between complainant age and police authorisation of charges (Bunting, 2007; Fitzgerald, 2006; Walsh et al., 2008), however it is unclear if there is a linear or curvilinear association. Some studies have found that the age of the complainant is positively associated with case outcomes (Brewer et al., 1997; Cross et al., 1994; Fitzgerald, 2006), while other studies have found cases with complainants in middle childhood have the highest rate of suspects charged (Bunting, 2007; Finkelhor, 1983; Walsh et al., 2008). The current study aims to clarify this by modelling both the linear and curvilinear relationship between complainant age and authorisation of charges. In addition, the current study aims to explore how the relationship between complainant age and charges may be mediated by other case characteristics and evidence.

Based on the literature review in Chapter 2, it was hypothesised in this study that there would be a non-linear effect of complainant age, whereby the proportion of
charged cases would increase to middle childhood and then plateau. In addition to this, the second hypothesis was that the effect of complainant age on charges would be partially mediated by whether the abuse was penetrative, whether the suspect confessed and whether there were corroborating witnesses. Specifically, it was expected that as complainant age increased, so too would the proportion of cases with penetrative abuse, suspect confessions, and corroborating witnesses, and further, that these factors would increase the proportion of cases charged.

Method

Procedure

Each case was reviewed to ensure it met the study criteria, that (a) the complainant made a disclosure of child sexual abuse in either a video recorded interview or written statement; and (b) the case was charged or discontinued due to insufficient evidence or lack of complainant credibility.

Sample

The current sample was a subset of the thesis sample and included 440 cases that met the study criteria, including that the complainant had disclosed and the suspect had been identified. Of these 440 cases, 80.0% of the complainants were female and the mean age was 10.72 (SD = 3.69, range: 3-16). The mean age of perpetrators at the time of the report was 31.22 (SD = 16.45), with 25.0% of the perpetrators being under 18 years.
Variables

Chapter 4 described seven predictor variables that were used in all three studies. The seven variables are based on the complainant age (Complainant Age and Complainant Age Squared), complainant gender (Complainant Gender), whether the abuse was penetrative (Penetration), the frequency of the abuse (Repeated), the relationship between the complainant and suspect (Extra-familial) and the timing of the report (Over 12 months). In addition to these variables, there were four predictor variables related to evidence that were used in the current study. These are described below.

Evidence characteristics. Medical Evidence and Forensic Evidence were coded 1 if there was any relevant evidence collected (despite whether it supported the complainant) and 0 when there was no available evidence. Multiple Witness was created for the number of supporting witnesses in a case, where there was zero or one witness it was coded as 0 and where there was more than one witness it was coded as 1. Cases coded as 1 indicated that, beyond the ‘fresh complaint’ witness, there were witnesses who either corroborated a part of the story or witnessed the abuse. The variable Confession related to the suspect’s response when interviewed. If the suspect confessed or made admissions, the code assigned was 1. Where the suspect refused to be interviewed, made no comments in the interview or denied the allegations, the code assigned was 0.

Outcome variable. Case Outcome was the dependent variable and indicated whether, at the end of the police investigation, charges had been laid or whether the case had been discontinued due to insufficient evidence. All cases that resulted in police charging the suspect with at least one child sex offence were coded as 1. Cases that were discontinued due to lack of evidence were coded as 0.
Data Analytics

Binary logistic regression was used to estimate the effect of complainant age on whether charges were laid. Logistic regressions were again used as the data did not have a normal distribution. To assess the linear and quadratic effect, complainant age and complainant age squared were entered as predictors in model 1. Then in the second step, the case and evidence characteristics that had a significant bivariate association with charges were incorporated into the model. Following this, potential mediators were identified and the variables were then further tested for mediation with the Sobel test (Baron & Kenny, 1986). Corrections were made for using dichotomous mediator and outcome variables by scaling the coefficients (MacKinnon & Dwyer, 1993).

Results

Descriptive Analysis

Overall, the majority of offences were non-penetrative (62.5%), single incidents (58.4%) and by an extra-familial suspect (56.8%). A large majority of cases related to offences that had occurred within the past 12 months (79.5%). Of all suspects, 29.1% made admissions or provided a partial/full confession, while the remaining suspects denied the abuse, refused an interview, or made no admissions during the interview. Across cases, medical (9.5%) and forensic evidence (10.9%) were both uncommon. Regarding evidence that clearly supported the complainant, the prevalence was even lower for both medical (2.3%) and forensic evidence (1.7%). In the few cases that had either type of evidence available (16.8%), a majority of the evidence was either not conclusive of abuse (i.e. there was no
evidence that abuse occurred or the results were ambiguous) (52.6%) or results were pending at the time the police cleared the case (23.0%). In regards to witnesses, 62.3% of cases had more than one witness who provided corroborative evidence.

Overall 66.6% of cases resulted in a charge. For the 147 cases that were not charged there were often multiple reasons recorded for discontinuing. In 85.0% of cases at least one reason for discontinuing was a lack of evidence, while in 31.5% at least one reason was a lack of complainant credibility.

**Bivariate Associations**

A series of logistic regressions were conducted to explore the effect of complainant age on case characteristics and evidence. Each regression included complainant age and complainant age squared as the predictor variable and the outcome variable was the case or evidence characteristic being examined. Table 5 presents each model and highlights that as complainant age increased, so did the proportion of cases with an extra-familial suspect, a penetrative offence, forensic evidence collected, corroborating witnesses, and suspect confessions. Conversely, as complainant age increased, the proportion of cases with male complainants decreased. There was a significant quadratic u-shaped effect for age on the proportion of cases with medical assessments and penetrative abuse, which is plotted in Figure 8. The broken line in Figure 8 demonstrates that the proportion of cases with penetrative abuse was lowest in middle childhood. The unbroken line demonstrates that there was a high proportion of cases with medical assessments for young complainants, however this reduced dramatically and few cases involved medical assessments from middle childhood and onwards.
Table 5.

*Logistic Regression Models Predicting Case Characteristics from Complainant Age*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Predictors</th>
<th>Model Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>Complainant Age</td>
</tr>
<tr>
<td></td>
<td>$B$ (S.E.)</td>
<td>$B$ (S.E.)</td>
</tr>
<tr>
<td>Male complainant</td>
<td>-1.56 (0.17)*</td>
<td>-.10 (.04)*</td>
</tr>
<tr>
<td>Penetration</td>
<td>-1.00 (0.15)</td>
<td>0.18 (0.04)*</td>
</tr>
<tr>
<td>Extra-familial</td>
<td>0.51 (0.14)*</td>
<td>0.10 (0.03)*</td>
</tr>
<tr>
<td>Repeated</td>
<td>-0.34 (0.14)</td>
<td>0.03 (0.03)</td>
</tr>
<tr>
<td>Over 12 Months</td>
<td>-1.15 (0.17)*</td>
<td>0.06 (0.04)</td>
</tr>
<tr>
<td>Medical Evidence</td>
<td>-3.18 (0.29)*</td>
<td>-0.05 (0.06)</td>
</tr>
<tr>
<td>Forensic Evidence</td>
<td>-2.28 (0.24)*</td>
<td>0.13 (0.05)*</td>
</tr>
<tr>
<td>Corroborating Witness</td>
<td>0.50 (0.14)*</td>
<td>0.07 (0.03)</td>
</tr>
<tr>
<td>Confession</td>
<td>-0.94 (0.16)*</td>
<td>0.14 (0.04)*</td>
</tr>
</tbody>
</table>

* $p < .05$
Figure 8. Model of the significant quadratic relationships found between complainant age and penetrative abuse and medical evidence.
The proportion of cases charged by case characteristics and evidence with chi-square significance tests are shown in Table 6. Seven of the nine case characteristics were significantly associated with case outcomes. There was a significant bivariate relationship between case outcome and gender and Over 12 Months, however a review of the standardised residuals indicated that no cell in either analysis was significantly different from the expected rate. Overall it appears that for male complainants the proportion of cases charged was lower than the proportion of cases charged for female complainants; while cases reported within 12 months had a higher proportion of charged cases than cases reported after 12 months. Table 6 also shows that there was a higher than expected proportion of cases with insufficient evidence when the abuse was intra-familial or the suspect denied the abuse. Conversely, the proportion of cases with insufficient evidence was lower than expected when the abuse involved penetration, it was an extra-familial suspect, the abuse was repeated, there was forensic evidence collected and the suspect confessed.

**Model to Predict Charges**

A hierarchical binary logistic regression was used to explore the effect of complainant age on the proportion of cases charged. Table 7 outlines the results of these models and Figure 9 provides a graphical depiction of each model. In Figure 9, the dotted line presents the effect of complainant age on the proportion of cases charged as found in model 1, and the unbroken line presents the effect of complainant age when the additional covariates were included in the model. Both models were significant and the second model significantly improved the predictive ability of the first model.
Table 6.

*Chi-square Analysis of Case Characteristics, Availability of Evidence and Charged*

<table>
<thead>
<tr>
<th></th>
<th>Charged</th>
<th></th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>352</td>
<td>69.0</td>
<td>4.72*</td>
</tr>
<tr>
<td>Male</td>
<td>88</td>
<td>56.8</td>
<td></td>
</tr>
<tr>
<td>Penetration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No penetration</td>
<td>275</td>
<td>61.5</td>
<td>8.70*</td>
</tr>
<tr>
<td>Penetration</td>
<td>165</td>
<td>75.2</td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra-familial</td>
<td>190</td>
<td>57.9</td>
<td>11.37*</td>
</tr>
<tr>
<td>Extra-familial</td>
<td>250</td>
<td>73.2</td>
<td></td>
</tr>
<tr>
<td>Frequency of abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single event</td>
<td>263</td>
<td>60.7</td>
<td>9.64*</td>
</tr>
<tr>
<td>Repeated abuse</td>
<td>188</td>
<td>74.9</td>
<td></td>
</tr>
<tr>
<td>Reporting of abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 12 months</td>
<td>350</td>
<td>68.9</td>
<td>3.95*</td>
</tr>
<tr>
<td>Over 12 months</td>
<td>90</td>
<td>57.8</td>
<td></td>
</tr>
<tr>
<td>Medical evidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td>42</td>
<td>59.5</td>
<td>1.09</td>
</tr>
<tr>
<td>No assessment</td>
<td>392</td>
<td>67.3</td>
<td></td>
</tr>
<tr>
<td>Forensic evidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collected</td>
<td>48</td>
<td>83.3</td>
<td>6.79*</td>
</tr>
<tr>
<td>Not collected</td>
<td>392</td>
<td>64.5</td>
<td></td>
</tr>
<tr>
<td>Witness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>166</td>
<td>63.9</td>
<td>0.90</td>
</tr>
<tr>
<td>More than one</td>
<td>274</td>
<td>68.2</td>
<td></td>
</tr>
<tr>
<td>Suspect Statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confession/Admission</td>
<td>128</td>
<td>93.0</td>
<td>56.46*</td>
</tr>
<tr>
<td>Denial/Refusal</td>
<td>312</td>
<td>55.8</td>
<td></td>
</tr>
</tbody>
</table>

* indicates $p < .05$,
All assumptions for logistic regression were tested and the neither model breached any assumption. The residuals of the final model were checked for any influential cases or outliers. A review of the standardised residuals indicated that the final model was a good fit to the data as there were no individual outliers. No case had a standardised residual outside +/- 3.29 and only 2% of cases had a standardised residual beyond +/- 1.96. The expected leverage of for each case was calculated to be 0.02, with the maximum value to indicate undue influence at 0.08. Only four cases fell just outside this value with the maximum value at 0.089. The cases were reviewed for entry errors and the model was tested with and without the cases included. There was no change to the overall significance of the model so the cases were included in the reported model.

Based on the coefficients in the table and observation of the dotted line in Figure 9, the effect of age in the first model increased into middle childhood and then plateaued or slightly declined into adolescence. While the linear age effect borders on significance, the quadratic effect of age appears a more robust predictor. In the second model the quadratic effect of age is strengthened, while the linear effect becomes clearly non-significant. In Figure 9 the unbroken line shows that age has a strong curvilinear effect on the proportion of cases charged, which peaks in middle childhood and then declines into adolescence.
Table 7.

Parameter Estimates and Model Fit Statistics of Logistic Regression Models

Predicting Case Outcome.

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B(S.E.)</td>
<td>Exp(B)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.993 (0.15)*</td>
<td>2.699</td>
</tr>
<tr>
<td>Complainant Age</td>
<td>0.067 (0.035)</td>
<td>1.069</td>
</tr>
<tr>
<td>Complainant Age Squared</td>
<td>-0.019</td>
<td>0.981</td>
</tr>
<tr>
<td>Male Complainant</td>
<td>-0.348 (0.293)</td>
<td>0.706</td>
</tr>
<tr>
<td>Penetrative abuse</td>
<td>0.696 (0.268)*</td>
<td>2.005</td>
</tr>
<tr>
<td>Extra-familial abuse</td>
<td>0.589 (0.253)*</td>
<td>1.802</td>
</tr>
<tr>
<td>Repeated abuse</td>
<td>0.646 (0.260)*</td>
<td>1.907</td>
</tr>
<tr>
<td>Over 12 Months</td>
<td>-0.511 (0.291)</td>
<td>0.600</td>
</tr>
<tr>
<td>Medical Evidence</td>
<td>-0.007 (0.469)</td>
<td>0.993</td>
</tr>
<tr>
<td>Forensic Evidence</td>
<td>0.762 (0.478)</td>
<td>2.143</td>
</tr>
<tr>
<td>Corroborating Witness</td>
<td>-0.285 (0.244)</td>
<td>0.752</td>
</tr>
<tr>
<td>Confession</td>
<td>2.166 (0.380)*</td>
<td>8.722</td>
</tr>
</tbody>
</table>

Model \( \chi^2(2) = 24.404, p < .001 \) \( \chi^2(11)112.299, p < .001 \)

Model \( \Delta \chi^2 \) \( \chi^2(9) 87.895, p < .001 \)

Cox & Snell R\(^2\) .054 .225

Nagelkerek R\(^2\) .075 .313

* \( p < .05 \)
Figure 9. Models of association between age and probability of charges. Data points reflect the proportion of cases charged in each age group. In Model 1, age and age squared are the predictor variables. In Model 2, predictor variables are age, age squared, relationship, penetration, repeated, confession and forensic evidence. Predictions are based on group mean for each case characteristic or evidence variable.
The change in the effect of age in model 2 indicated that the proportion of cases charged for older complainants may be partially mediated by the case characteristics and evidence included in the model. There were four significant predictors in this step, including penetrative abuse, an extrafamilial suspect, repeated abuse and an suspect confession. Of these variables, complainant age was significantly associated with Penetration, Extrafamilial and Confession, but not Repeated. Therefore only the first three variables were tested for mediation. To assess this, the coefficients for each of the three variables were scaled to account for their dichotomous nature (MacKinnon & Dwyer, 1993) and entered into three separate Sobel analyses with complainant age as the independent variable and case outcome as the dependent variable. This analysis indicated that there was a significant indirect effect of complainant age on charges through complainant-suspect relationship (Sobel = 2.17, S.E. = .02, p = .030) and suspect confession (Sobel = 3.51, S.E. = 0.04), p < .001). Penetrative abuse was not found to be a significant mediator (Sobel = 1.88, S.E. = .01, p = .060). This demonstrated that cases with older complainants had a higher proportion of extra-familial suspects and suspect confessions, and these factors predict a higher proportion of charged cases. Given this, it appears that extra-familial abuse and suspect confessions partially explain the effect of complainant age on the proportion of cases charged.

Discussion

This was the first study to model the curvilinear effect of age on the authorisation of charges in cases of child sexual abuse. Our results challenge previous explanations for the effect of complainant age. In support of the first hypothesis, it was found that even after abuse and evidence factors were controlled,
there was a curvilinear effect for complainant age on charges, with complainants in middle childhood having the highest proportion of charged cases. The second hypothesis was partly supported with the finding that the effect of complainant age was partially mediated by the complainant-suspect relationship and the outcome of the suspect interview. Specifically, cases involving older complainants had a higher proportion of extra-familial abuse and suspects who confess than cases with younger complainants, and it appears that it is these factors that predict charges against an suspect.

The Effect of Complainant Age on Authorisation of Charges

The current findings challenge prior studies that found complainant age has a positive effect on legal case outcomes (Brewer et al., 1997; Cross et al., 1994; Fitzgerald, 2006). The prior studies explored the linear effects of complainant age, however the results of our study suggest that there is also curvilinear effects. Further, the curvilinear effects of age were stronger than the linear effects when case and evidence characteristics were controlled for in the model.

On the face of it, the quadratic effect of age may appear inconsistent with the argument that the linear effect of age is mediated by extra-familial abuse and suspect confessions, however the two findings can be theoretically reconciled. The results of the mediation test found that the linear effect of complainant age was weakened when the effects of extra-familial abuse or suspect confessions were also modelled. Ordinarily, this would indicate that complainant age had an effect on the mediator, which in turn had an effect on the case outcome. However, by also modelling the quadratic effects for age, we were able to identify that the linear effect of age is weakened in the mediation model because the effect becomes quadratic. This
change in the effect of complainant age is not identified in tests of mediation because they are based on assumptions of linear relationships. Nonetheless it was also important to test for mediation, as the model was not sufficient to determine which of the significant predictors mediated the effect of age.

Previous studies have suggested that complainant age has increased the likelihood of better outcomes for older complainants due to their ability to provide more detailed disclosures (Walsh et al., 2008). This explanation may be true for complainants aged between early to middle childhood, as the proportion of cases charged increased with age. However, for complainants from middle childhood to adolescence, this explanation is not adequate, as the proportion of cases charged decreased. An alternative explanation suggested by our study is that older complainants have a higher proportion of cases with extra-familial suspects and suspects that confess and these factors may make the case more amenable to prosecution. When these factors are controlled for, the proportion of cases charged declined after middle childhood. These results raise three key issues for consideration. First, why are suspects more likely to confess when the complainant is in adolescence? Second, why does extra-familial abuse increase the likelihood of a case resulting in a charge? Third, why are adolescent children less likely to have their cases charged after controlling for these mediators? Each of these issues are discussed in turn below.

**Suspect Confession as a Mediator for the Effect of Complainant Age**

Overall, the confession rate in the study was consistent with the rate found in previous studies (Bradshaw & Marks, 1990; Cross et al., 1994; Lippert, Cross, Jones, & Walsh, 2010). Our study also indicated that the effect of complainant age was
partially mediated by confession rates; as the age of the complainant increased then there was also an increase in the rate of suspect confessions, and in turn, cases with an suspect confession were highly likely to result in a charge. The strong relationship between confession rates and charges has been consistently found in prior research (Cross et al., 1994; Walsh et al., 2008), however the relationship between complainant age and confessions rates conflicts with the findings in the study by Lippert et al. (2010). In their study, there was a positive association between complainant age and conviction rates, however when complainant age was included in a model with other case characteristics (complainant-suspect relationship, abuse severity and suspect age) and evidence (complainant disclosure, another abuse report, corroborating witness and behavioural evidence), then complainant age did not have a significant effect on confession rates.

There are two possible explanations for the differences in findings between our study and the study conducted by Lippert et al. (2010). First, our study did not control for the effects of other case characteristics and evidence when exploring the relationship between complainant age and confession rates. It is possible that the positive correlation between suspect confession rates and complainant age is explained by factors such as corroborating evidence. Another difference between the two studies that may explain the conflict in results is that Lippert and colleagues included cases with complainants that did not disclose abuse, and found that disclosure was a strong predictor of a confession. Our study only included complainants who had disclosed abuse, therefore it is possible that the effect of age on confession rates is only true in cases where the complainant has disclosed. A possible explanation for this is that where complainants have disclosed and are older, then suspects may believe that the complainant’s testimony will be perceived as
credible, which makes it more difficult to deny the abuse to investigators. This explanation is consistent with previous research that found sex offender confessions are influenced by offender perceptions of the complainant’s credibility (Beauregard, Deslauriers-Varin, & St-Yves, 2010).

**Complainant-Suspect Relationship as a Mediator for the Effect of Complainant Age**

The finding that complainants of extra-familial abuse were significantly older than complainants of intra-familial abuse is consistent with previous research (Fischer & McDonald, 1998), as is the finding that cases that involved extra-familial abuse were also more likely to result in a charge (Brewer et al., 1997; Stroud et al., 2000). Although complainants of intra-familial abuse may be less likely to disclose (Arata, 1998; Collings, Griffiths, & Kumalo, 2005; DiPietro et al., 1997), this does not explain the current finding as all the children in the current study had disclosed their abuse to police.

An alternative explanation for why complainants of extra-familial abuse have a higher proportion of charged cases may be that there is a higher rate of corroborating evidence in cases of extra-familial abuse (Cross et al., 1994; Walsh et al., 2008). Forensic evidence and corroborating witnesses may be more valuable in establishing the offence for extra-familial suspects. There may be few plausible excuses for why a suspect’s DNA was found in a complainant’s room or why a stranger was seen talking to the complainant. Conversely for an intra-familial suspect, forensic evidence connecting the suspect to the crime scene may have less probative value and witness evidence that the suspect and complainant were together on the day the alleged abuse may not assist to establish the abuse occurred.
Regardless, neither forensic evidence nor corroborating witnesses significantly predicted the proportion of cases charged in the study. Therefore evidence may not explain why cases with extra-familial suspects are more likely to be charged.

Family support for the complainant may be an alternative explanation for why extra-familial suspects were more likely to be charged than intra-familial suspects. Although not explored in this study, maternal support is a significant predictor of a case being prosecuted (Cross et al., 1994) and more likely when the perpetrator is not a family member (Malloy & Lyon, 2006). Therefore it is possible that complainants of extra-familial abuse are more likely to have maternal support and this increases the likelihood that their case will be charged, although further research is required to confirm this as a mediator.

The Low Proportion of Cases Charged for Adolescent Complainants

After controlling for case characteristics and evidence, cases with adolescent complainants were more likely to result in charges than cases with complainants in middle childhood. While adolescent victims may have a lower rate of disclosure than victims in middle childhood (London et al., 2007), our study only included complainants who had disclosed abuse, therefore this does not explain the current results. Similarly, complainants who withdrew were excluded from the final multivariate analysis so withdrawal or recantation rates did not explain the results.

One plausible explanation for why cases with adolescent complainants are less likely to result in charges (than complainants in middle childhood) may be because adolescent complainants are perceived to have less credibility. The qualitative study of police decision making by Campbell et al. (2015) found that complainant credibility was perceived as critical to the decision to charge an suspect
due to the paucity of corroborating evidence and that adolescent complainants were perceived as less credible than younger complainants. The Campbell et al. study found that police perceptions of complainant credibility were influenced by the detail and consistency in a complainant’s statement and adolescent complainants were expected to provide more detail and consistency than younger complainants.

Research on jury perceptions of child witness credibility has found that such perceptions are comprised of two constructs, which include cognitive ability and honesty (Ross et al., 1987). Cognitive ability refers to the perceived ability of the child to accurately remember and recall events, while honesty is in regards to whether the child is telling the truth. Perceptions of honesty have been found to be more predictive of a guilty verdict in a trial than perceptions of cognitive ability (Ross et al., 2003). Further, mock juries have been found to perceive older children as more cognitively competent but less honest than younger children (Bottoms & Goodman, 1994; Nightingale, 1993), therefore their cases may be less likely to result in a conviction. In contrast, children in middle childhood have been described as the “ideal child witness” (Nightingale, 1993, p 688), as they are young enough to be naïve and blameless but old enough to have a good memory for the event. Although these studies have been based on mock juries, research has indicated that criminal justice professionals may have a downstream orientation whereby decisions are made with consideration of how credible the case may appear to a jury (Frohmann, 1991). A downstream orientation may result in police discontinuing a case with an adolescent complainant because they do not believe that the complainant will appear credible to a jury, despite personally believing the complainant is telling the truth.

Limitations of Current Study and Implications for Future Research
There are several potential limitations to the current study. First, as is common with studies of child sexual abuse, it is possible that some cases were false allegations. An attempt was made to minimise this limitation by excluding cases that were highly unlikely to have occurred, for example where the alleged perpetrator was interstate when the abuse was said to have occurred or where the complainant’s statement was fantastical. Further, cases where the complainant withdrew the allegation were not included in the multivariate analysis. Another potential limitation was that the study did not consider differences in the quality of disclosure by the complainants, including whether they were able to provide particulars of the offence and if the interviewer adhered to best practice. While these factors were outside the scope of the current study, it is possible that they also influence whether a case proceeds through the justice system and may also mediate the association between age and outcome. This is a potential area for further research.

The findings from this study have some important implications for research and policy. From a research perspective, further investigation is needed to explore how police perceive the credibility of adolescent complainants of sexual abuse. In addition to this, the quality of the disclosure or the investigative interview should also be considered as alternative explanations for the association found between age and the likelihood of charges. An understanding of these factors may provide insight into strategies to reduce barriers to justice for adolescent complainants.

From a policy perspective, the emphasis on improving legal outcomes for complainants at trial (Cossins, 2010) may come too late for majority of complainants whose cases are discontinued long before trial. Resource and research should also focus on initiatives applied during the investigative process. For example, Cossins (2010) suggests a pilot study to explore how appointment of a legal representative
for child complainants at the first police interview may improve the operation of the criminal justice system. Such a program may provide better support to complainants as well as ensure they have an independent advocate. Similarly, Child Advocacy Centres (CAC) have recently been introduced in Australia, which may also support and advocate for child complainants. The current study highlights that while initiatives are needed to improve outcomes during the police investigation, evaluations of these initiatives should give careful consideration as to how the initiatives improve outcomes for adolescent complainants as they may be more vulnerable to having their case discontinued than previously identified. Adolescent complainants that are most at risk of having their case discontinued are those involved in cases where the suspect is intra-familial or does not confess.

In conclusion, this study has identified that cases with complainants in middle childhood and adolescence are more likely to result in police charges than cases with complainants in early childhood. However, this effect is partially explained by the higher rates of extra-familial abuse and suspect confessions observed among older complainants; when these factors are controlled for, cases with adolescent complainants are less likely to result in a charge than cases with complainants in middle childhood. Further efforts may be needed to improve the number of cases that are charged for very young and adolescent victims. This finding highlights that there may be some additional barriers to justice for adolescent complainants of child sex abuse, necessitating further research in this area.
CHAPTER 7. THE EFFECT OF COMPLAINANT ON THE CONVICTION OF CHILD SEXUAL ABUSE (STUDY 3)

In this chapter, the final empirical study is presented. This study explored the effect of age on court outcomes for child sexual abuse cases that were listed at court. Of all cases where police authorised charges against a suspect, prosecutors filed charges at court in 98% of cases. The current study explored court outcomes for these cases. The study compared cases that resulted in a conviction with cases where the defendant was not convicted and predicted outcomes from case characteristics. Due to limitations in the availability of reliable data on the evidence that was used by prosecutors at trial\(^4\), this final study did not include evidence variables. Despite the exclusion of evidence, the current study is one of few studies to explore the effect of case factors on real court outcomes, rather than mock jury trials, thereby making an important contribution to the literature in this area.

For the few child sexual abuse cases that progress from report to prosecution, the rate of conviction is low when compared to other offences (Cossins, 2001, 2010a). This has been primarily attributed to the paucity of evidence in these cases (Blackwell & Seymore, 2014; Walsh et al., 2008); however, researchers have also suggested that extra-legal variables, such as complainant age, may have an effect on decisions to convict or acquit a defendant (Cossins, 2001; Tabak & Klettke, 2014). The effect of complainant age on conviction rates has been found in studies of both real court outcomes (Cashmore, 1995; Read et al., 2006) and mock juries (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014). A

\(^4\) The evidence variables used in the previous study reflected the evidence available at the time that police authorised charges. Given that prosecutors may not use all evidence at trial and that additional evidence may have been gathered after charges were laid, this was not a reliable variable to use in this study.
majority of mock jury studies have found complainants in middle childhood are perceived as more credible and their defendants are more likely to be convicted (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014), however this finding has not been consistently replicated in studies of real court outcomes (see Blackwell & Seymore, 2014).

Very few studies of court outcomes in child sexual abuse have explored the effect of complainant age (Blackwell & Seymore, 2014; Cashmore, 1995; Read et al., 2006). In the earliest study, complainants whose cases progressed to higher courts for trial were significantly older than complainants who had their cases dismissed in lower courts (Cashmore, 1995). In a study of historical cases of child sexual abuse, complainants who were in adolescence at the time of the abuse, were less likely to have their defendant’s convicted by a jury (Read et al., 2006). Finally, a recent study of a sample of 137 New Zealand jury trials did not find that the age of the complainant (either younger or older than 12 years) significantly predicted conviction rates (Blackwell & Seymore, 2014). These findings indicate that, despite the findings of mock jury studies, the effect of complainant age on real court outcomes continues to be unclear.

The current study aimed to address the gap in the literature by modelling the effect of complainant age on conviction rates in a cohort of court cases. In this study, the main effects for complainant age and other case characteristics were modelled as predictor variables. The evidence in the case was not included as a predictor variable because information regarding evidence used by prosecutors was not available. The defendant’s criminal history was also excluded as a predictor variable because it was unknown whether this information was presented at trial.
Based on the findings of mock jury studies, it was hypothesized that complainant age would have a quadratic effect whereby cases with complainants in middle childhood would have the highest conviction rates. It was further expected that this quadratic effect would be robust after controlling for the effects of other case characteristics, including the gender of the complainant, the complainant-defendant relationship, the frequency of abuse, the nature of abuse (penetrative or non-penetrative) and whether the abuse was reported within 12 months of the last incident. Finally, the study aimed to explore whether there were interactions between complainant age and other case characteristics that had a significant effect on conviction rates.

**Method**

**Procedure**

The sample of cases used in this study was a subset of cases drawn from the cohort of reported cases. Cases were included if prosecutors filed at least one sexual offence charge against the defendant in court, and the case was not withdrawn by prosecutors. All cases included in the analysis had at least one sexual offence charge that resulted in a conviction, dismissal or acquittal at court.

**Sample**

Of the 549 cases in the cohort, police authorised charges in 293 cases. The current sample included 288 of these cases, as the remaining cases were awaiting trial outcomes at the time of the study. A majority of complainants in the sample were female (82.7%) and the mean age was 11.26 years ($SD = 3.34$, range = 3-16
years). A small majority of cases were non-penetrative (57.4%) and not repeated (54.0%). There were more cases that involved extra-familial defendants (63.3%) and most incidences were reported within 12 months of the abuse occurring (83.0%).

The mean age for defendants was 35.02 years ($SD = 16.95$, range = 11-89 years) with 16.0% of defendants under the age of 18 years.

**Variables**

Chapter 4 described seven predictor variables that were used in all three studies. The seven variables are based on the complainant age (Complainant Age and Complainant Age Squared), complainant gender (Complainant Gender), whether the abuse was penetrative (Penetration), the frequency of the abuse (Repeated), the relationship between the complainant and suspect (Extra-familial) and the timing of the report (Over 12 months).

The dependent variable of this study was Conviction, which was based on the result of the case at court. Where the defendant was convicted of at least one sexual offence, the variable was coded as 1. Where all charges against the defendant were dismissed by the court or acquitted by a judge or jury, the variable was coded as 0.

**Data Analytic Technique**

The interrelationships between the complainant age and each case characteristic were explored with logistic regression. Complainant Age and Complainant Age Squared were entered as predictor variables in the regression, with each case characteristic explored as an outcome variable. This procedure was also used to explore the linear and quadratic effects of complainant age on the proportion
of case convicted. Bivariate relationships between case characteristics and conviction were explored with chi-square analysis. Logistic regression was used to explore whether complainant age interacted with other case characteristics to predict conviction. Logistic regressions were again used as the data did not have a normal distribution. The predictor variables in these models were complainant age, complainant age squared, the case characteristic and the interaction between the case characteristic and complainant age. The outcome variable was conviction. The final multivariate model included all case characteristics and complainant age variables as predictors of conviction.

Results

Overall, 64.9% of cases prosecuted resulted in a conviction. There was no significant difference between the mean age of complainants in cases that were convicted \( (M = 11.37 \text{ years}, SD = 3.31) \) and not convicted \( (M = 11.06, SD = 3.43) \) \( t(286) = 0.75, p = .455 \). Similarly, complainant age was not found to have an effect on conviction \( (\chi^2 = 0.57, p = .752) \), with no significant linear \( (B(S.E.) = 0.026, p = .528) \) or quadratic effects \( (B(S.E.) = -0.001, p = .919) \).

Bivariate Relationships

Relationships between case characteristics were explored with correlation. Repeated abuse was correlated with higher rates of penetrative abuse \( (r = .28, p < .001) \), intra-familial abuse \( (r = .26, p < .001) \) and abuse being reported more than 12 months later \( (r = .16, p = .008) \). Abuse being reported more than 12 months later
was also related to higher rates of penetrative abuse \( (r = .23, p < .001) \) and intra-familial defendants \( (r = .21, p < .001) \).

The effect of complainant age on the presence of case characteristics was explored with logistic regression and the results are presented in Table 8. There was a linear and quadratic effect of complainant age on the proportion of cases that involved penetrative abuse. The quadratic effect was positive which indicate a u-shaped effect, where younger and older complainants had a higher proportion of cases with penetrative abuse than complainants in middle childhood. The model predicting the complainant-defendant relationship was also significant and both the linear and quadratic effect of complainant age were approaching significance, although the linear effect appeared stronger. A review of the plotted predicted probabilities for this model indicated that the proportion of cases with extra-familial defendants increased up to early adolescence and then plateaued.

Associations between case characteristics and conviction were explored with Chi-square; the results of which are presented in Table 9. Cases reported more than 12 months after the abuse occurred had significantly lower rates of conviction than cases reported within 12 months. The relationship between the frequency of abuse and conviction was also close to significant, which suggests that cases with repeated abuse may have a higher conviction rate than cases with a single instance of abuse. Interactions between complainant age and case characteristics were also explored with logistic regression to determine if any interactions had a significant effect on conviction rates (Table 10). No interactions between complainant age and case characteristics were found to significantly predict conviction.
Table 8.

*Logistic Regression Predicting Case Characteristic from Complainant Age.*

<table>
<thead>
<tr>
<th></th>
<th>Predictors</th>
<th>Model Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant B (S.E.)</td>
<td>Complainant Age B (S.E.)</td>
</tr>
<tr>
<td>Male complainant</td>
<td>-1.56 (0.22)</td>
<td>-0.09 (0.05)</td>
</tr>
<tr>
<td>Penetration</td>
<td>-0.82 (0.18)</td>
<td>0.13 (0.04)</td>
</tr>
<tr>
<td>Extra-familial</td>
<td>0.75 (0.18)</td>
<td>0.08 (0.04)</td>
</tr>
<tr>
<td>Repeated</td>
<td>-0.19 (0.17)</td>
<td>0.02 (0.04)</td>
</tr>
<tr>
<td>Over 12 Months</td>
<td>-1.45 (0.23)</td>
<td>0.08 (0.06)</td>
</tr>
</tbody>
</table>

Note: Numbers in bold highlight variable parameter is significant <.05.
Table 9.

*Case Characteristic by Conviction with Chi-square Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Total n</th>
<th>%</th>
<th>$\chi^2$</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>238</td>
<td>65.1</td>
<td>0.02</td>
<td>.879</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
<td>64.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abuse Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Penetrative</td>
<td>165</td>
<td>68.5</td>
<td>2.14</td>
<td>.143</td>
</tr>
<tr>
<td>Penetrative</td>
<td>123</td>
<td>60.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>155</td>
<td>60.0</td>
<td>3.58</td>
<td>.058</td>
</tr>
<tr>
<td>Repeated</td>
<td>133</td>
<td>70.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra-familial</td>
<td>106</td>
<td>62.3</td>
<td>0.52</td>
<td>.469</td>
</tr>
<tr>
<td>Extra-familial</td>
<td>182</td>
<td>66.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Timing of Report</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 12 Months</td>
<td>239</td>
<td>68.6</td>
<td><strong>8.39</strong></td>
<td><strong>.004</strong></td>
</tr>
<tr>
<td>Over 12 Months</td>
<td>49</td>
<td>46.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defendant Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juvenile</td>
<td>46</td>
<td>69.6</td>
<td>0.21</td>
<td>.648</td>
</tr>
<tr>
<td>Adults</td>
<td>233</td>
<td>66.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Numbers in bold highlight significant difference, $p < .05$. 


Table 10.

Logistic Regressions Predicting Conviction from Interaction between Victim Age and Case Characteristic, and their Interactions.

<table>
<thead>
<tr>
<th></th>
<th>Male Complainant</th>
<th>Penetrative Abuse</th>
<th>Repeated</th>
<th>Extra-familial Abuse</th>
<th>Over 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (S.E)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
<td>B (S.E.)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.62 (0.19)</td>
<td>0.75 (0.20)</td>
<td>0.41 (0.21)</td>
<td>0.52 (0.25)</td>
<td>0.79 (0.19)</td>
</tr>
<tr>
<td>Complainant Age</td>
<td>0.04 (0.05)</td>
<td>-0.02 (0.06)</td>
<td>0.03 (0.05)</td>
<td>0.05 (0.06)</td>
<td>0.05 (0.05)</td>
</tr>
<tr>
<td>Characteristic</td>
<td>-0.05 (0.33)</td>
<td>-0.43 (0.26)</td>
<td>0.47 (0.25)</td>
<td>0.16 (0.26)</td>
<td>-0.85 (0.34)</td>
</tr>
<tr>
<td>Age* Characteristic</td>
<td>-0.07 (0.09)</td>
<td>0.12 (0.08)</td>
<td>-0.02 (0.08)</td>
<td>-0.05 (0.08)</td>
<td>-0.11 (0.11)</td>
</tr>
<tr>
<td>Compliant Age Squared</td>
<td>-0.001 (0.01)</td>
<td>0.003 (0.01)</td>
<td>-0.001 (0.01)</td>
<td>0.001 (0.01)</td>
<td>&lt;0.001 (0.01)</td>
</tr>
</tbody>
</table>

Model $\chi^2$: 1.08  5.37  4.16  1.36  10.17
P value: .889  .252  .385  .852  .038
Cox&Snell R$^2$: .004  .018  .014  .005  .035
Nagelkerke R$^2$: .005  .025  .020  .006  .048

Note: Numbers in bold indicate that the parameter is significant <.05
Multivariate Model

All case characteristics were entered into a logistic regression to predict conviction; the results of which are presented in Table 11. No interactions were included in the final model as the previous analysis did not find any significant interactions. Overall the final model significantly predicted the proportion of cases convicted, although there were only two significant predictors. In the model, a case was 2.21 times more likely to result in a conviction when the abuse was repeated. Conversely was 2.63 times lower when the report was made more than 12 months after the abuse. Complainant age did not have a significant linear or quadratic effect on the proportion of cases convicted.

Testing the assumptions of logistic regression showed that the model did not breach any assumptions. The model fit to the data was also explored with a review of the residuals, which did not identify any outliers as all values were less than +/- 1.96. The leverage was also reviewed and the maximum calculated leverage value was 0.08. Two cases were found to be above this value and the model was run with and without these cases. There was no change to the significance of the model or the variables in either analysis, therefore both cases were included in the model reported.
Table 11.

Logistic Regression Predicting Conviction from Case Characteristics.

<table>
<thead>
<tr>
<th></th>
<th>B (S.E.)</th>
<th>P value</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.55 (0.33)</td>
<td>.094</td>
<td>1.73</td>
</tr>
<tr>
<td>Complainant Age</td>
<td>0.04 (0.04)</td>
<td>.348</td>
<td>1.04</td>
</tr>
<tr>
<td>Complainant Age Squared</td>
<td>&lt;0.01 (0.01)</td>
<td>.849</td>
<td>1.00</td>
</tr>
<tr>
<td>Male Complainant</td>
<td>-0.21 (0.34)</td>
<td>.535</td>
<td>0.81</td>
</tr>
<tr>
<td>Penetrative abuse</td>
<td>-0.46 (0.29)</td>
<td>.105</td>
<td>0.63</td>
</tr>
<tr>
<td>Repeated abuse</td>
<td><strong>0.79 (0.29)</strong></td>
<td><strong>.006</strong></td>
<td><strong>2.21</strong></td>
</tr>
<tr>
<td>Extra-familial defendant</td>
<td>0.16 (0.29)</td>
<td>.571</td>
<td>1.18</td>
</tr>
<tr>
<td>Over 12 Months</td>
<td><strong>-0.98 (0.35)</strong></td>
<td><strong>.005</strong></td>
<td><strong>0.38</strong></td>
</tr>
</tbody>
</table>

Model \( \chi^2 \) 18.29

\( p \) value .011

Cox & Snell R\(^2\) .060

Nagelkerke R\(^2\) .085

Note: Numbers in bold indicate variable is significant at <.05
Discussion

The main finding in this study was that around two thirds of child sexual abuse cases that proceeded to prosecution resulted in a conviction. This included cases where the defendant pleaded guilty or was found guilty at trial. This rate is higher than conviction rates reported from other Australian jurisdictions, where around one third of prosecuted cases were convicted (Fitzgerald, 2006; Wundersitz, 2003). This may reflect the positive effect of changes to legislation and practice that have been implemented since these earlier studies, for example the use of the complainant’s video recorded forensic interview as the evidence in chief. The age of the complainant was not found to have a significant effect on conviction rates, nor did it interact with any other case characteristic to predict conviction rates. The final model indicated that repeated abuse predicted an increase in the proportion of cases convicted, while delays in reporting the abuse predicted lower rates of conviction.

The final model weakly predicted court outcomes and it is likely that there was a myriad of more salient factors - such as evidence - that contributed to conviction rates. Notwithstanding this, the finding that court outcomes are predicted by at least two case characteristics indicates that extra-legal factors may have an effect on court outcomes for child sexual abuse. While the current study did not explore the mechanisms by which these factors have an effect, several possible explanations are considered below.

Repeated abuse may predict higher conviction rates for several reasons. It is possible that repeated abuse increases the rate of guilty pleas, as a study of confession rates found a higher rate of confession in cases where abuse was repeated, with the difference approaching significance (p = 0.056) (Lippert et al., 2010).
Relatedly, repeated abuse may lead to other corroborating evidence, such as witnesses that support part of a complainant’s story. Although the current study did not have information regarding prosecution evidence, previous studies have found that corroborating evidence increases the likelihood that a suspect will confess (Lippert et al., 2010) and that a defendant will be convicted (Blackwell & Seymore, 2014; Walsh et al., 2008). The link between repeated abuse and supporting evidence must be established to support this explanation.

An alternative explanation for the higher conviction rates in cases with repeated abuse is that repeated abuse may affect perceptions of the complainant’s credibility. Researchers exploring the impact of single versus repeated abuse in case scenarios presented to mock jurors have found more convictions when the abuse is described as repeated in the scenario. Researchers suggest this is because mock jurors perceive that repeated abuse is worse, making it more believable (Golding et al., 1999; Pozzulo, Dempsey, & Crescini, 2010). In real court cases the impact of repeated abuse may be more complex because repeated events may make it more difficult for child witnesses to recall specific details of any one event. This has been found to reduce victim credibility from the perspective of mock jurors (Connolly, Price, Lavoie, & Gordon, 2008).

In the context of a trial it is likely that effects of repeated events on witness recall are present, as well as the effects of repeated abuse on perceptions of severity. Further research is needed to disentangle the two effects. Due to the filtering effect of the criminal justice system, it is also likely that many cases with complainants who provide inconsistent or vague disclosures have already been discontinued by police or prosecutors prior to trial. If this is correct, then the effect of repeated abuse on the quality of the complainant’s evidence may be less prevalent in real court cases
and the higher rate of convictions may be due to the abuse being perceived as more serious and more believable. Further research is needed that explores the quality of the complainant’s disclosure and how this may mediate the association between repeated abuse and conviction.

The finding that delayed reports of abuse predicted lower conviction rates is consistent with studies of mock juries (Golding et al., 1999; Pozzulo et al., 2010). Mock jury studies suggest that jurors believe that the accuracy and credibility of a complainant’s recall is negatively affected by reporting delays, which results in the defendant appearing more believable (Golding et al., 1999). Despite these findings, Read and colleagues (2006) found that conviction rates in actual court cases (as opposed to mock jury cases) were only reduced when the delay was more than 20 years after the event and the case was trialed by a judge. Read et al.’s finding is not necessarily in conflict with the current study, as the Read et al. study focused exclusively on historical cases. In contrast, our study compared cases involving delayed reports with cases involving contemporaneous reports. By combining the results of both studies, it may be concluded that cases with delayed reports are perceived more negatively than cases with immediate reports; however, the actual length of the delay is not important until it has been over several decades.

The impact of delayed reporting on jury decision-making has received a lot of legal consideration and comment in Australia (Australian Law Reform Commission, 2010). Under common law, judges were traditionally required to warn juries that, delayed complaints which lacked corroborating evidence were dangerous to convict as the delay may have caused the defendant a forensic disadvantage (Longman v The Queen (1989)). This warning has been criticised for several reasons, including that it has been given in cases where there is corroborating evidence (Cossins, 2010b) and it
does not require the defense to establish that there has been a forensic disadvantage (Australian Law Reform Commission, 2010). Further, there is no specific statement in regards to what period of time constitutes a delayed complaint. This creates the potential for broad application as many children do not report at the time of the abuse (London, Bruck, Ceci, & Shuman, 2005).

In this study’s jurisdiction, when issues pertaining to a delayed complaint arise in a trial, then the judge must both warn the jury that delayed complaints do not indicate that the allegation is false and inform the jury that there may be good reasons why a victim may hesitate to make a complaint. This legislation does not override the discretion of the judge to give the Longman warning; however, it ensures that the warnings are more balanced in regards to the interests of the defendant and the victim. Despite this, *Croft v The Queen* (1996) consider a similar rule in another jurisdiction and the High Court found that the legislation does not preclude a judge from giving directions to the jury that the complainant’s delay may be used to assess the credibility of the complainant. Therefore juries adjudicating a case with a delayed report may potentially have received all three warnings; namely (1) it is dangerous to convict a defendant where the only evidence is the complainant’s testimony, (2) delayed reporting does not indicate a false allegation, and (3) the delay may be used to assess the credibility of the complainant.

This complex legal set of jury warnings highlights the contentious position of cases with delayed reports and the ongoing attempts by law reformers to balance the rights of all involved. The findings of our study indicate that, regardless of law reform, delayed complaints predict lower conviction rates. It is not clear whether this is due to lower guilty pleas by defendants, a decrease in the believability of the complainant, an increase in the believability of the defendant, or an increase in
reasonable doubt in the mind of the judge or jury. In order to understand what factors underpin the low conviction rates for delayed reports, further research is needed to explore the impact of delayed reporting on guilty pleas, as well as the impact of the complex judicial warnings on juror decision-making.

The study did not find that the age of the complainant had an effect on court outcomes. This finding contradicted previous studies of mock juries that found complainant age influenced perceptions of complainant credibility, which in turn influenced the decisions of mock jurors to convict or acquit defendants (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014). One plausible explanation for the difference in findings is that cases with complainants who have inconsistent or unreliable evidence, or who appear to lack credibility, are already filtered out by police during the investigation process. Given that just under half of reported cases in the thesis sample did not proceed to prosecution, it is likely that the cases that went to trial only included complainants who provided reliable and consistent evidence. Whereas mock jurors perceive the youngest and oldest complainants as least credible, complainants in early childhood and adolescence may need to be perceived as very reliable and credible by police before their case progress to prosecution. Therefore at the point that the case is prosecuted, the effect of complainant age is less relevant, and cases with very young and adolescent complainants have strong evidence.

Further research is required to explore the quality of complainant testimony and evidence to support this explanation. It may be hypothesised that cases with complainants in early childhood and adolescence have more detailed and consistent testimony and more corroborating evidence than cases in middle childhood. This hypothesis is consistent with research that has demonstrated adolescent complainants
are expected by police to provide more details and consistency to overcome poor perceptions of credibility (Campbell et al., 2015). An alternative explanation may be that the study lacked power to detect a significant effect; however, the sample size was appropriate for the number of variables explored and the results did not even indicate a trend towards significance for victim age.

The most significant limitation of the current study was that it only explored the effects of case characteristics on court outcomes. It is very likely that evidence has a strong influence on conviction rates, and evidence may also be interrelated with the case characteristics explored. For example, repeated abuse may be associated with more evidence, which improves conviction rates. Conversely, delayed reports may be associated with less corroborating evidence, which reduces conviction rates. A key direction for further research is to explore how evidence may mediate the effect of both repeated abuse and delayed reports on court outcomes.

Another limitation of the current study is that there was no differentiation between a guilty plea and a finding of guilt by a judge or jury. It is likely that the case factors that predict a defendant to plead guilty are related to factors that prompt a judge or jury to convict a defendant, however there may also be some factors that only influence one of these outcomes. Further research is needed to disentangle these outcomes.

Notwithstanding the limitations outlined, the current study provided an important capstone to the previous studies in this thesis. Taken together with the results of the previous study, it may be concluded that the age of the complainant was more salient to outcomes during investigation, and that due to the filtering process of the criminal justice system complainant age does not have an effect on conviction rates for prosecuted cases.
CHAPTER 8. GENERAL DISCUSSION

This thesis tracked a cohort of 549 reported cases of child sexual abuse through three stages of the criminal justice process. The aim of the thesis was to undertake a thorough exploration of complainant age effects on case outcomes at each stage. The thesis expanded on previous research by considering interrelationships between complainant age and other case characteristics, and investigating how these interrelationships impacted outcomes. The studies in this thesis also improved on prior studies by modeling both linear and quadratic effects for complainant age in order to discover if the effect was curvilinear.

This chapter provides a general discussion and conclusion to the thesis. To avoid overlap with individual study discussions (provided in Chapters 5 -7), the focus of this section is on findings that emerged from the thesis as a whole. Upon review of all studies, there were three key findings. The first finding was that the age of the complainant had a curvilinear effect on outcomes during the investigation of the abuse, but not during the prosecution. The second key finding was that complainant age was interrelated with other case characteristics and these interrelationships had an effect on case outcomes during the investigation phase. The final key finding was that the effects of some case characteristics differed across stages. Each of these findings and their implications are discussed below (sections 8.1 - 8.3). The chapter concludes with a discussion of the general limitations of the thesis and directions for future research (8.4).
8.1 Key Finding One: Complainant age has a curvilinear effect on investigation - but not court - outcomes

The finding that complainant age has a curvilinear effect on outcomes during the investigation is consistent with other studies that have explored non-linear effects for complainant age (Bunting, 2007; Walsh et al., 2008). The studies by Walsh et al. (2008) and Bunting (2007) both found that complainant age predicted a suspect being charged, with charges being highest for cases with complainants in middle childhood. One limitation of these studies was that they modeled age as a categorical variable, rather than as a continuous variable. As discussed in preceding chapters, collapsing age into categories can be problematic because nuanced age differences are lost and arbitrary age cut-offs can strongly influence results. The current thesis improved on this methodology by modeling age as a continuous variable with linear and quadratic effects. The results demonstrated robust support for the finding that complainant age has non-linear effects during investigations of child sexual abuse and highlight the importance of including quadratic age variables in future studies.

The finding that complainant age has a curvilinear effect during the investigation emphasises that cases with adolescent complainants may be more vulnerable to being discontinued than cases with complainants in middle childhood. This was not previously identified by studies that only modelled linear age effects (Brewer et al., 1997; Cross et al., 1994). The studies in Chapter 5 and 6 highlighted that there were particular circumstances in which cases with adolescent complainants may be most likely to be discontinued. If the suspect had a history of violence, the abuse occurred within 12 months of being reported, or the suspect was unrelated to the complainant, then cases with adolescent complainants were vulnerable to being
discontinued because complainants were less likely to disclose. Once complainants had disclosed, then cases with adolescent complainants were more likely (than cases with complainants in middle childhood) to be discontinued due to lack of evidence, if the complainant was related to the suspect and if the suspect did not confess.

Identifying that certain cases with adolescent complainants are more vulnerable to attrition than other cases has important implications for practice. One such implication is that investigators may need to spend more time preparing investigative interviews. For example, investigators may need to regularly review the suspect’s history of violence prior to an investigative interview. Where there are prior charges of violence against a suspect, then this may indicate that investigators should spend more time building rapport with adolescent complainants and taking step to ensuring their physical safety. Similarly, where the abuse occurred within the past 12 months or the offender was unrelated to the victim, then more time may be needed to build rapport with the complainant or explore possible barriers to disclosure. Research on investigative interviewing is beginning to explore the role of rapport on complainant disclosure rates (Hershkowitz, Lamb, Katz, & Malloy, 2015). The findings of this thesis highlight that this research may be particularly important for adolescent complainants.

The current thesis also expanded on the findings by Walsh et al. (2008) and Bunting (2007) by separately exploring the effect of complainant age on interview and investigation outcomes. The study by Bunting (2007) explored the effect of complainant age on investigation outcomes, but did not include any variables related to complainant disclosures. Given this, their finding that complainant age had an effect on investigation outcomes may be explained by age differences in disclosure rates. As suggested by London et al. (2007) and found in Chapter 5, complainants in
middle childhood are most likely to disclose their abuse, so it may be expected that this age group is most likely to have their case proceed from report to charges. Without controlling for disclosures, it is difficult to decipher if the results from Bunting’s (2007) study are due to age having an effect on disclosures or age having an effect on police decision making.

In contrast to the study by Bunting (2007), Walsh et al. (2008) controlled for complainant disclosures in their model predicting authorisation of charges. After controlling for disclosures, the age of the complainant had a significant effect on police decisions to authorise charges. This indicates that the effect of age on police decisions was independent of the effect of age on disclosure rates. Yet, Walsh et al.’s study did not provide insight into whether complainant age also had an effect on disclosure rates. The current thesis expanded on their results by first exploring the effect of age on disclosure rates and then exploring the effect of age on authorisation of charges. By exploring each of these outcomes separately, the findings of the current thesis have demonstrated that complainant age has an independent effect on at least two components of the investigation phase.

The finding that complainant age has an effect on both disclosure rates and authorisation of charges has important systemic implications. One implication is that increasing disclosure rates of very young and adolescent complainants will not necessarily increase the proportion of suspects charged in these cases. Given this, strategies aimed at increasing disclosure rates, such as building rapport with reluctant complainants, may not have an effect on charging rates (Hershkowitz et al., 2015). Increasing disclosures of abuse by complainants is important for many reasons. Primary among these is that disclosures instigate child protection interventions which ensure the child’s safety. Yet the results of this thesis demonstrate that higher
disclosure rates across all ages may not necessarily result in more suspects being charged across all ages. While not explored in this thesis, increasing the quality of the investigative interview may have an effect on the number of suspects charged. A recent study in this area has suggested that adherence to best-practice interview protocols does increase the likelihood of charges (Pipe, Orbach, Lamb, Abbott, & Stewart, 2013). Given this, one area that future research could focus on is investigating how the quality of investigative interviews may differ between age groups, and how these differences may impact on authorisations of charges.

Moving past the investigation phase, the finding that complainant age has no significant effect on court outcomes contrasts to findings from studies of mock juries (Gabora et al., 1993; Nightingale, 1993; P. Rogers & Davies, 2007; Tabak & Klettke, 2014) and court outcomes (Cashmore, 1995; Read et al., 2006); although, it was consistent with one recent study of court outcomes in New Zealand (Blackwell & Seymour, 2014). One possible explanation for this finding was that the investigation process filters cases with very young and adolescent complainants (as demonstrated in Chapter 5 and 6), so that only the most compelling cases proceed to court.

There are several implications for the finding that complainant age did not have an effect on court outcomes. First, in order to improve outcomes for very young and adolescent complainants, research and resources should be invested in improving outcomes during the investigation phase. For example, studies designed to explore biases in mock jury members may need to be adapted to explore potential biases in investigators. A related implication is that prior studies of mock juries may lack ecological validity because they have not accounted for the fact that cases are filtered through the criminal justice process. Studies with mock juries manipulate complainant age while controlling for a majority of other variables, however this is
not representative of the range of case that may be presented at court. A more realistic design may be to compare mock jury decisions for cases that involve a very young or adolescent victim with compelling evidence, with cases that involve a victim in middle childhood where the only evidence is their disclosure. Notwithstanding this suggestion, the study in Chapter 7 did not explore evidence variables. If evidence variables had been controlled for, victim age effects may have emerged.

8.2 Key Finding Two: Interrelationships between complainant age and other case characteristics have an effect on case outcomes

The second key finding that emerged from the studies in this thesis, is that complainant age is interrelated with other case characteristics and these interrelationships have an effect on case outcomes. The nature of these interrelationships was discussed in detail in Chapters 5 to 7; however, in this section the broader implications of the findings are discussed.

Interrelationships between case characteristics have been identified in prior research. For example victims of intra-familial abuse have been found to be younger than victims of extra-familial abuse (Fischer & McDonald, 1998). Links have also been demonstrated between case characteristic and evidence, for example Walsh et al. (2008) found both victim ethnicity and age were associated with types of evidence available in a case. Previous studies have addressed these interrelationships by including multiple case characteristics in prediction models to identify the unique effects of each characteristic (Brewer et al., 1997; Cross et al., 1994; Lippert et al., 2009; Walsh et al., 2008). While this approach allows researchers to investigate the
unique effects of individual case characteristics, it stops short of understanding the impact of the interrelationships on case outcomes.

The finding that interrelationships between case characteristics have an effect on case outcomes indicates that the main effects for these case characteristics are not interpretable. This is because the effect of one case characteristic depends on the level (or in this case presence or absence) of the other case characteristic. This was observed in Chapter 5, where the effect of age was dependent on the presence or absence of other case characteristics. For example, where the abuse was intra-familial, then age had a positive effect on disclosure rates with older victims disclosing more than younger victims. In contrast, where the abuse was extra-familial, then age had a curvilinear effect on disclosure rates with victims in middle childhood having the highest disclosure rates. If main effects alone were interpreted it may have been erroneously concluded that disclosure rates were higher when victims were older and the offender was extra-familial. This finding should caution future researchers to ensure interactions are explored prior to interpreting main effects.

Another reason why it is important to explore interrelationships between case characteristics, is that the interrelationships may explain case characteristic effects. An example of this was found in Chapter 6 where the effect of age was shown to be mediated by case characteristics. Previously, when age was found to be positively associated with charges, researchers suggested that the testimony of older victims may be perceived by prosecutors as more credible than testimony from younger victims (Brewer et al., 1997; Cross et al., 1994). The findings in Chapter 6 challenges this explanation and suggests that cases with older victims are more likely to be charged because the cases are more likely to involve confessions and extra-
familial abuse. Once these factors are controlled for, then cases with adolescent victims were less likely to result in charges, which indicated that victim age did not necessarily increase the credibility of the victim’s testimony.

The finding that case characteristics moderate age effects on forensic disclosure rates, and mediate age effects on authorisation of charges, highlights an important area for future research. While the current thesis focused on the effect of complainant age, it is likely that other case characteristics may interact to have an effect on case outcomes, or that other mediational models exist. Exploring these interrelationships is an important area for future research. Not all case characteristics will be appropriate to explore as mediators. It must be established theoretically that one case characteristic occurred first and then had an effect on the mediating case characteristic. Complainant age, gender and ethnicity cannot be explored as mediators as they exist prior to the onset of abuse and therefore cannot be affected by other case characteristics. Case characteristics that are possible mediators include the complainant-suspect relationship (as established in Chapter 6), the type and duration of the abuse and the length of delay in reporting. In addition to this, evidence variables should also be explored further as possible mediators of the effect of case characteristics on legal outcomes.

8.3 Key Finding Three: Effects for case characteristics can differ between stages

The final broad finding of the thesis was that the effect of case characteristics can differ depending on which stage of the criminal justice process was explored. This was particularly evident for cases with adolescent victims. The study in
Chapter 5 found that adolescent complainants had higher disclosure rates when the abuse was intra-familial and occurred over 12 months prior. Curiously, in Chapter 6 it was found that intra-familial abuse predicted a lower proportion of suspects charged. Similarly, the study in Chapter 7 found that abuse occurring over 12 months prior to the report predicted a case would not be convicted. This indicates that the adolescent complainants that are most likely to disclose are also least likely to have their cases result in a conviction.

The finding that the effect of case characteristics is contextual has important implications for research. Prior studies may not have adequately accounted for the contextual effects of case characteristics. For example some studies that have analysed investigation outcomes have not controlled for differences in disclosure rates (Bunting, 2007; Fitzgerald, 2006; Wundersitz, 2003). As discussed above, some case characteristics may have a positive effect on disclosure rates but a negative effect on rates of charges. If disclosure rates are not controlled for in studies exploring investigation outcomes, then the effects found for case characteristics may be misleading. For example if investigation outcomes for cases with adolescent victims were explored without controlling for disclosure rates, then it may be found that the victim-offender relationship does not have an effect on outcomes. This finding may be misleading because the results in the thesis have demonstrated that the victim-offender relationship has an effect on both disclosure rates and rates of suspects charged, but the effect is opposite i.e. extra-familial abuse predictors lower disclosure rates for adolescents but higher rates of authorisation of charges. If the effect on disclosure rates is not controlled before looking at the effect on authorisation of charges, then the two effects may appear to cancel each other out.
and it may be wrongly concluded that there is no age effect on authorisation of charges.

8.4 Thesis Limitations and Directions for Future Research

In this section the over-arching limitations of the thesis are discussed with suggested directions for future research. A thorough discussion of the limitations of the individual studies has been provided in Chapters 5 to 7, so this discussion is focused on more global limitations of the thesis. One broad limitation that stems from the depth of focus on complainant age is that a range of variables and outcomes were not investigated. When interpreting the results of each study, it became clear that further variables should be explored including systemic variables and different case outcomes. An additional limitation stemmed from the use of administrative data, which created unique challenges also discussed below.

One group of variables not investigated in the thesis were systemic variables. The effects of systemic variables, such as the quality of the rapport and questioning in the investigative interview, on case outcomes have been broadly researched (Cashmore & Trimboli, 2006; Hagborg et al., 2012; Lamb et al., 2007; Powell et al., 2005), and it may be important to control for these when exploring the effects of case characteristics. In addition to this, systemic variables may interact with case characteristics. For example, one previous study found that the age of the complainant and aspects of the investigative interview (such as rapport building and open questions) interacted to have an effect on disclosure quality (Davies, Westcott, & Horan, 2000). Exploring interactions between systemic factors and case characteristics in future research may provide further explanations for the effects of
complainant age. In addition to this, such research may provide insight into how systemic interventions may be tailored for different groups of victims.

Another limitation of the thesis was that the outcomes investigated in each study were dichotomous. The study in Chapter 5 explored whether a complainant provided a forensic disclosure or not, however alternative outcomes that could have been explored in this study include whether a complainant gave a full or partial disclosure, refused the interview or denied the abuse outright. The analysis in Chapter 6 focused on whether police authorised charges or discontinued due to insufficient evidence; however, additional investigation outcomes that were not explored included withdrawal of a report by a complainant or parent. Finally, Chapter 7 investigated whether a defendant was convicted at court or not, but additional court outcomes that may be the focus of future research include whether the defendant pled guilty, the prosecutor withdrew charges or a judge dismissed the case before the verdict. By exploring outcomes dichotomously, each study in the thesis was able to identify the effect of age on the broadest alternative outcomes; however, to further understand the reason for each effect, future studies could explore outcomes in more detail.

A final limitation of the thesis stems from the use of administrative data. The limitations of administrative database research have been comprehensively described in Chapter 4 and one area that specifically affected this thesis was missing data. To address this challenge, cases with missing data were compared with cases with complete data. Cases were not significantly different across a majority of the case characteristics. The largest difference between cases was that those with missing data had lower rates of disclosure, charging of suspects and conviction of defendants. Excluding these cases likely reduced the power of the analysis in each study due to a
reduced sample; however, given that the overall sample size was still large there was still sufficient power to detect significant effects. Similarly, given that cases with missing and complete data were similar across a majority of predictor variables, it is unlikely that the exclusion of these cases has created a risk of false positive results. Notwithstanding this, the results of this thesis may be limited in their generalisability and replications of the study in another Australian jurisdiction is recommended.

8.4 Thesis Summary and Conclusion

The results of this thesis have expanded on previous research in several ways. The thesis combined a case tracking design with multivariate modeling of outcomes, which provided insight into the effect of complainant age on how cases are filtered through the criminal justice system. The thesis improved on previous studies by modeling both linear and quadratic effects of complainant age on case outcomes. This approach revealed that complainant age has a curvilinear effect on the proportion of cases in which a complainant disclosed, as well as the proportion of cases in which a suspect was charged. At both stages, cases with complainants in middle childhood had the highest proportion of forensic disclosures and suspects charged. This indicated that cases involving very young and adolescent complainants might be particularly vulnerable to attrition during the police investigation and further research is needed to reduce attrition rates for these vulnerable groups.

The studies in this thesis also expanded on prior literature by exploring interrelationships between complainant age and other case characteristics. While prior studies have identified that case characteristics have an effect on outcomes in the criminal justice system, the results of this thesis have shown that outcomes may
be predicted by the combination of case characteristics. Given this, interrelationships between case characteristics may be more important to explore than main effects of case characteristics. The results of the thesis also highlighted that interrelationships between case characteristics may be mediational and provide valuable insight into the reasons for main effects of the mediated case characteristic. As such, future research should continue to explore these interrelationships and their effects on the criminal justice response to child sexual abuse cases.
References


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