

**SOCIAL COGNITION AND RELATIONAL AGGRESSION:
AN INVESTIGATION OF THE COGNITIVE BASES
OF PRESCHOOLERS' AGGRESSIVE BEHAVIOUR**

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ABSTRACT

Young children's social cognitive understanding of aggression and reasons for engaging in aggressive behaviour are often overlooked in aggression research. It is often assumed that preschool age children do not have the cognitive capacity to explain or justify their behaviour and there remains a paucity of appropriate measures of young children's social cognitive understanding of aggression. The aim of this study was to address preschool age children's use of relational aggression and the social cognitive processes that may underlie these behaviours through the development of a 'preschooler-friendly' measure with a view to understanding the reasons why children engage in aggression, as well as children's normative beliefs about, and behavioural responses to, relational and physical provocation. The study also assessed teacher and parent normative beliefs about, and intervention responses for different types of aggression to determine the relationship between children's cognitive processing and ecological factors. This study aimed to extend research by examining the socio-psychological factors of relationally and physically aggressive children in an Australian sample.

A representative sample of preschool age children ($N = 68$) participated in this study, yielding two subgroups comprising highly relationally aggressive ($n = 9$) and typically developing ($n = 7$) children. The identification of two subgroups allowed for differences in relationally aggressive and typically developing children's social cognitive processing to be examined. This study found that relational aggression was viewed as more acceptable by teachers and parents compared to physical aggression and these normative beliefs were accompanied by more passive intervention strategies in response to relational aggression. Relational and physical aggression predicted both functionally adaptive and maladaptive socio-psychological factors in this sample of preschool age children. The newly developed measure was able to identify differences in the social cognitive explanations and responses to provocation of relationally aggressive and typically developing children. Highly relationally aggressive children were more likely to recommend prosocial problem solving responses and have higher quality social interactions with peers and adults, whereas typically developing children recommended typical aggressive responses to provocation. The significance of these results for understanding the development of aggression and implications for early school based interventions are discussed.

DECLARATION

I declare that this submission is my own work and that to the best of my knowledge and belief it contains no material previously published or written by another person nor material which has been accepted for the award of another degree or diploma at a University or institution of higher learning.

The data that forms the basis of this submission was obtained from a series of studies utilising samples of teachers, parents and children from early childhood centres within NSW. These studies were conducted with the approval of the Macquarie University Ethics Review Committee (Human Research). The protocol number for this project is 5201200783.

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CHAPTER 1

INTRODUCTION

The internal cognitive processes underlying preschool age children's use of physical aggression are well documented (Tremblay, 2000; Tremblay, et al., 2004), however, the processes that facilitate young children's use of relational aggression are less clear. In this thesis, the term relational aggression is defined as the intentional, hurtful manipulation of peer relationships and friendships that inflicts harm on others through interpersonally manipulative behaviours, are less clear (Crick & Grotpeter, 1995). In addition, little is known about the cognitive processes that underlie different types of relational aggression. For example, some preschool age children use overt and direct relational aggression such as telling another child "You can't be my friend" while other relationally aggressive children use subtle and sophisticated behaviours such as gossiping and spreading rumours about a peer (Nelson, Robinson, & Hart, 2005; Ostrov & Keating, 2004; Ostrov, Murray-Close, Godleski, & Hart, 2013). This thesis will examine relationally aggressive versus typically developing (i.e., average levels of relational and physical aggression) preschool age children, to ascertain differences in their social cognitions about aggression in different scenarios and to determine contributing factors and socio-psychological outcomes. This data is collected with the aim of informing interventions and professional practice for relationally aggressive young children.

1.1 THEORETICAL PERSPECTIVES ON RELATIONAL AGGRESSION

The study of relational aggression has predominately focused on domain-specific theoretical perspectives such as Bandura's (2001) Social Cognitive Theory, Crick and Dodge's (1994) Social Information Processing Theory, and Huesmann's (1986; 1998) Script Theory, to help explain why some children are more likely than others to engage in relational aggression. Social Cognitive Theory (Bandura, 2001) posits that children's socialising experiences in ecological contexts such as the home and early childhood centre contribute to children's internal cognitive processes that either support or discourage aggressive behaviours. The influence of home contexts has been highlighted in much past research, which has documented that parenting practices and behaviours may directly influence children's use of relational aggression (e.g., Casas et al., 2006; Nelson, Yang, Coyne, Olsen, & Hart, 2013).

However, there remains a paucity of research on the influence of early childhood contexts and teacher behaviour on children's use of relational aggression.

Social Information Processing Theory (Crick & Dodge, 1994) posits that children process and interpret social situations through six distinct cognitive steps or stages (these are explained in Chapter 2). Children who engage in aggression, including relational aggression, are perceived to have a deficit or bias at one or more of these steps and these differences in processing social information are used to explain why some children choose aggressive responses to provocation and others access prosocial behavioural strategies (Crick & Dodge, 1994). Script Theory (Huesmann, 1986; 1998) proposes that mental scripts are a way to explain a child's behaviour. More specifically, normative beliefs are a type of script that reflect a child's cognitive standards about the acceptability of a behaviour. Such scripts subsequently influence whether or not a child retrieves and acts on aggressive scripts for behaviour to resolve conflict (Huesmann & Guerra, 1997). While these theories continue to provide an important theoretical basis for the domain specific study of relational aggression in early childhood, these individual theories do not capture the complexity of relational aggression in young children. The domain specificity of these theories limits the focus on other factors that may also help to explain young children's use of aggression. Thus, this thesis will use the General Aggression Model (Anderson & Bushman, 2002) as an integrative framework because the General Aggression Model integrates social cognitive and information processing approaches into a wider framework to explain human aggression. This thesis will focus on internal cognitive processes and the ecological influences that may underlie young children's use of relational aggression. A more detailed description of the theoretical framework is provided in Chapter 2.

While the Social Information Processing Theory (Crick & Dodge, 1994) and Script Theory (Huesmann, 1986; 1998) have been used by aggression researchers to explain some of the underlying internal cognitive processes that may facilitate young children's relational aggression, many measures used to assess these internal cognitive processes have significant limitations when testing young children. In particular, the verbal descriptions used in hypothetical vignettes depicting aggressive provocation may not accurately elicit young children's internal cognitive processing because of the heavy verbal processing demands required of these procedures. Further, the study of ecological contexts has predominately focused on the influence

of either parents *or* teachers, however, Social Cognitive Theory (Bandura, 2001) recognises that teachers *and* parents are both crucial ecological influences for children's learning of relational aggression. Thus, there is still much to understand about the internal cognitive processes and ecological influences involved in children's use of relational aggression during early childhood and advances still need to be made regarding the use of developmentally appropriate and innovative measures of relational aggression in young children.

Intent to cause harm is a central component of the definition of aggression (Anderson & Bushman, 2002; Baron & Richardson, 1994). Children as young as two have been reported to accurately perceive and infer intentions and causality (see Rosset & Rottman, 2014 for a review), however, researchers exploring relational aggression in preschool age children continue to rely on observer's or researcher's judgement of intent (e.g., McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996; Ostrov & Hart, 2013). No research has examined young children's own explanations of intent and this may be due to the methodological difficulties in assessing these cognitive processes in very young children. Similarly, researchers have identified that young children's use of aggression may serve proactive (i.e., deliberate behaviour that is used to obtain an object, outcome, or self-serving goal) and reactive (i.e., hostile behaviour used in response to a perceived threat) functions (Ostrov et al., 2013), however, the developmental processes involved in these functions of aggression are not well understood (Ostrov et al., 2013). Many of the measures used to assess these internal cognitive processes have relied on observer's, teacher's, and/or parent's judgements of young children's aggressive behaviour and less is known about intentionality and reasons for engaging in aggression from the child's perspective. In light of these limitations, this study used an innovative age appropriate method to ask preschool age children about their intentions and reasons for engaging in aggressive behaviour. Video data of children's actual aggressive behaviour was collected and then replayed to them. During the interview, children were directly asked to explain their intentions and reasons for engaging in each of the aggressive incidences. This was considered a superior data collection method as it is the first known study to directly ask preschool age children about their perceptions for engaging in aggression.

Research has shown that one type of internal cognitive process that is highly related to children's use of aggression is the degree to which aggression is viewed as

'normal' (i.e., normative beliefs about aggression). These beliefs and attitudes about the acceptability or unacceptability of different forms of aggressive behaviour have been shown to be a key factor in whether a person chooses an aggressive response to provocation (Huesmann & Guerra, 1997). For example, older children's beliefs about the acceptability of aggression have been shown to play a key role in predicting children's actual use of aggression (Huesmann & Guerra, 1997; Werner & Nixon, 2005). However, little is known about this association in early childhood populations.

In addition, research has also shown that internal cognitive processes when choosing a behavioural response (i.e., aggression versus prosocial behaviour) are influenced by the child's normative beliefs (Crick & Dodge, 1994; Huesmann & Guerra, 1997; Werner & Nixon, 2005). More specifically, the types of aggression that young children perceive as more acceptable are likely to be reflected in their behavioural responses when reacting to aggressive provocations. However, there remains very little empirical data on the differences in relationally aggressive and typically developing children's internal cognitive processes and behavioural response choices and this may also be due to the methodological difficulties inherent in assessing these processes in very young children.

Although it has been well established that relational aggression occurs in early childhood and school contexts, teachers and parents still perceive physical aggression as more aggressive and concerning compared to relational aggression (Goldstein & Boxer, 2013; McEvoy, Estrem, Rodriguez, & Olsen, 2003; Werner & Grant, 2009), and are more likely to intervene in physical aggression and do nothing in response to relational aggression (Bauman & Del Rio, 2006; Goldstein & Boxer, 2013; Hurd & Gettlinger, 2011; Werner & Grant, 2009). Teachers and parents are considered critical ecological influences in the development of positive social behaviours, especially during early childhood. Their differential beliefs and responses to relational and physical aggression may inadvertently communicate to some children that different forms of aggression are more acceptable. The current literature available on Australian teachers' and parents' beliefs about, and intervention responses to aggression has assessed relational and physical aggression used by older children (e.g., Byers, Caltabiano, & Caltabiano, 2011) but has not assessed younger populations. Thus, this thesis makes an original contribution to current literature by providing data on Australian teachers' and parents' beliefs and

interventions responses to preschool age children's use of relational and physical aggression.

Sibling aggression has also been considered a powerful ecological context in which young children learn relational aggression (Ostrov, Crick, & Stauffacher, 2006; Stauffacher & DeHart, 2006). Siblings, especially older siblings, provide modelling of relationally aggressive behaviours which younger children then generalise to social interactions in the early childhood context (Ostrov et al., 2006). Further, if parents are not intervening in relational aggression in the home, these aggressive behaviours may be reinforced and may influence children's internal cognitive processes about the acceptability of relational aggression.

This thesis focuses on some of the internal cognitive processes (i.e., intent to cause harm, normative beliefs, and behavioural responses) and ecological influences (i.e., the influence of teachers, parents, and siblings) that may help explain why some preschool age children engage in relational aggression. More specifically, it focuses on whether there are any differences in these processes and influences for relationally aggressive children compared to typically developing children. While physical aggression during early childhood is consistently examined in developmental research (Alink et al., 2006; Tremblay et al., 2004), less is known about relational aggression, particularly in Australian early childhood contexts. This may be an important omission because relational aggression is a serious form of aggression that can lead to consequences for victims and perpetrators (e.g., Card, Stucky, Sawalani & Little, 2008; Crick, Casas, & Mosher, 1997; Murray-Close, Ostrov, & Crick, 2007; Prinstein, Boergers, & Vernberg, 2001). It is also noteworthy that a number of studies have found that some relationally aggressive preschool age children experience positive relationships with their peers (i.e., higher social status) and may have more advanced social skills (Hawley, 2003; Nelson et al., 2005, 2010). However, no empirical data has assessed the quality of relationally aggressive children's social interactions with their peers and adults and compared these interactions with typically developing children. This study will also examine whether relationally aggressive children are more or less socially skilled than typically developing children.

1.1 STATEMENT OF THE PROBLEM

Currently little is known about why some preschool age children engage in relational aggression or their understanding and reasons about such behaviour. The lack of empirical research on these internal cognitive processes that facilitate young children's use of relational aggression may be due to (a) the inherent challenges of assessing very young children's social cognitive processes, and (b) limitations related to young children's ability to understand instructions and express their views. Further, no empirical data is available on Australian teachers' and parents' beliefs and intervention strategies when responding to preschool age children's relational and physical aggression.

1.2 PURPOSE AND AIMS

This study addresses these limitations by using a well established and reliable measure to assess teacher and parent normative beliefs about, and intervention strategies for relational and physical aggression. Teacher ratings are used to identify relationally aggressive and typically developing children. Purpose-built social cognitive measures are employed to assess differences in these children's internal cognitive processes including their understanding of intent and reasons for engaging in aggression, normative beliefs, and behavioural response choices when responding to provocation.

This study aims to address these limitations by gaining an understanding of some of the internal cognitive processes and ecological influences involved in young children's use of relational aggression. The aims of the study are:

1. Identifying teacher and parent normative beliefs about, and intervention strategies for, relational and physical aggression, and examining whether these are differentiated according to the type of aggression.
2. Examine the use of relational and physical aggression (as reported by teachers) in a sample of Australian preschool age children and the socio-psychological outcomes associated with relational and physical aggression.
3. Exploring relationally aggressive and typically developing children's developmental understanding of intentionality and reasons for engaging in

aggression and whether there are differences in the quality of these children's social interactions with peers and adults.

4. Determining whether there are differences in relationally aggressive and typically developing children's normative beliefs and behavioural response choices to relational and physical provocation.

In pursuing these aims, this thesis attempts to clarify the interrelationship between children's internal cognitive processes and relevant ecological influences, to determine which factors significantly contribute to young children's use of relational aggression. Additionally, it seeks to address the paucity of developmentally appropriate social cognitive measures available to assess these complex internal processes in young children, through the development and application of two novel methodological innovations.

1.3 RESEARCH QUESTIONS

1.3.1 Study 1. Teacher and Parent Beliefs about Aggression

The aim of Study One was to establish a context for the types of common prosocial and aggressive behaviours observed by teachers within early childhood centres in Australia and to ascertain teachers' and parents' normative beliefs about, and intervention strategies used to respond to relational and physical aggression. The research questions and hypotheses for Study One are:

Research Question 1.1 What are teacher's perceptions of aggressive behaviours in the early childhood context?

Research Question 1.2 What are teachers' and parents' normative beliefs about relational and physical aggression?

Hypothesis 1a: Teachers and parents will view physical aggression as more serious, will have higher levels of empathy for victims and be more likely to intervene compared to relational aggression.

Research Question 1.3 What types of intervention strategies are implemented by teachers and parents in relational and physical aggression scenarios?

Hypothesis 1b: Teachers and parents will use more passive intervention strategies when intervening in relational compared to physical aggression.

Research Question 1.4 What is the association between teacher and parent normative beliefs about relational and physical aggression and their level of education obtained?

Hypothesis 1c: Teachers and parents with higher levels of educational attainment will view relational and physical aggression as more serious behaviours compared to teachers and parents with lower levels of educational attainment.

1.3.2 Study 2. Preschool Children's use of Aggression and Socio-Psychological Wellbeing Factors.

The aim of Study Two was to measure the frequency of relational and physical aggression in a sample of Australian children aged 3, 4, and 5- years old and to assess whether levels of relational and/or physical aggression predicted various factors related to socio-psychological wellbeing. The research questions and hypotheses for Study Two are:

Research Question 2.1 What is the frequency of relational and physical aggression in preschool age children in this sample?

Research Question 2.2 Do levels of relational and physical aggression vary by age and gender in this sample?

Hypothesis 2a: Older children will receive higher teacher ratings of relational aggression.

Hypothesis 2b: There will be no difference between boys' and girls' relational aggression scores as rated by teachers.

Hypothesis 2c: Boys will receive higher teacher ratings of physical aggression.

Research Question 2.3 What is the association between children's levels of relational and physical aggression and the number and age of their siblings?

Hypothesis 2d: Children with older siblings will have higher teacher ratings of relational and physical aggression.

Research Question 2.4 What are the associations between relational and physical aggression and prosocial behaviour, relational victimisation, physical victimisation, depressed affect, peer acceptance, and received prosocial behaviour from peers?

Hypothesis 2e: Higher levels of relational and physical aggression will predict lower levels of prosocial behaviour, peer acceptance and received prosocial behaviour and higher levels of depressed affect and relational and physical victimisation.

Research Question 2.5 Do these associations between relational and physical aggression and the above socio-psychological wellbeing factors differ by gender?

Hypothesis 2f: There will be no difference in these relationships between boys and girls.

Research Question 2.6 What is the unique contribution of relational and physical aggression to each of the above socio-psychological wellbeing factors?

Hypothesis 2g: Both relational and physical aggression will uniquely contribute to each of the socio-psychological wellbeing factors.

1.3.3 Study 3. Understanding the Intentionality and Function of Young Children's Aggressive Behaviour

The aim of Study Three was to explore relationally aggressive and typically developing children's social cognitions about aggressive behaviours that they had enacted, and to ascertain if there were any differences in relationally aggressive and typically developing children's social interactions with peers and adults. For the purpose of Study Three, children's understanding of intent to cause harm and other reasons why they chose to engage in aggression were explored. The research questions and hypotheses for Study Three are:

Research Question 3.1 Do preschool age children report that they engage in aggression with the intent to cause harm or injure another person?

Hypothesis 3a: Preschool age children will report that they engage in aggression with the intent to cause harm or injure another person.

Research Question 3.2 What are some of the explanations preschool age children (in this sample) provide for engaging in aggression?

Hypothesis 3b: Preschool age children will refer to reactive and proactive functions to explain their use of aggression.

Research Question 3.3 What are the qualities of relationally aggressive and typically developing children's social interactions with peers and adults?

Hypothesis 3c: Typically developing children will have higher quality social interactions with peers and adults compared to relationally aggressive children.

1.3.4 Study 4. Children's Normative Beliefs about and Behavioural Responses to Aggression.

The aim of Study Four was to investigate whether there were any differences in relationally aggressive and typically developing children's normative beliefs and behavioural response choices to relational and physical provocations. The research questions and hypotheses for Study Four are:

Research Question 4.1 What beliefs about relational and physical aggression do preschool age children have?

Hypothesis 4a: Relational aggression will be viewed as more acceptable (i.e., more normative) than physical aggression in this sample.

Research Question 4.2 Do children's normative beliefs about relational and physical aggression differ by age and gender?

Hypothesis 4b: Younger compared to older children will view relational and physical aggression as more acceptable.

Hypothesis 4c: Boys will view physical aggression as more acceptable than girls.

Hypothesis 4d: Girls will view relational aggression as less acceptable than boys.

Hypothesis 4e: There will be no difference in boys' and girls' overall normative beliefs about aggression (both relational and physical aggression).

Research Question 4.3 What are the differences in relationally aggressive and typically developing children's normative beliefs about aggression?

Hypothesis 4f: Relationally aggressive children will view relational aggression as more acceptable compared to typically developing children.

Research Question 4.4 Do relationally aggressive and typically developing children's normative beliefs about aggression differ by gender?

Hypothesis 4g: Boys in both the relationally aggressive and typically developing comparison group will view physical aggression as less acceptable compared to girls in the relationally aggressive and typically developing comparison groups.

Hypothesis 4h: There will be no difference in boys' and girls' normative beliefs about relational aggression, whether they were identified as relationally aggressive or typically developing.

Research Question 4.5 What are relationally aggressive and typically developing children's behavioural response choices to relational and physical provocation?

Hypothesis 4i: Relationally aggressive children will suggest more relationally aggressive behavioural response choices to relational and physical provocation.

Hypothesis 4j: Typically developing children will suggest more prosocial problem solving responses to relational and physical provocation.

1.4 ORGANISATION OF THE THESIS

The components of this thesis are presented in Table 1.1. This thesis comprises four studies that were developed and sequenced to build on one another. Chapter 1 (this chapter) provides a general introduction and Chapter 2 provides an

introduction to the concept of aggression and provides the theoretical framework of this research. The literature addressing relational aggression in young children is specifically reviewed in Chapter 3. Chapter 4 reviews the literature considering factors that influence relational aggression in early childhood. The methodological approach of the study is outlined in Chapter 5, with further detail in each of the subsequent studies reported. Each of Chapters 6, 7, 8, and 9 present the four interrelated studies that comprise this thesis. Each chapter contains a brief and specific literature review relevant to that study's aim. The specific methodology and results of each study are presented and each chapter contains a discussion which relates these findings to the overall purpose and aim of the study. Chapter 10 provides an integrated discussion of the key findings from the study and their implications, discusses the strengths and limitations of this research and makes suggestions for future research.

Table 1.1

Components of the Thesis

Chapter	Title	Focus of chapter
1	Introduction	This chapter provides the background of the thesis, the research problem and the aim and purpose of the study, the research questions and hypotheses that each of the four studies seeks to address, and the components of the thesis.
2	Study of Aggression	This chapter defines aggression and describes the forms and functions of aggressive behaviour. This chapter reviews the contribution of relevant domain-specific theoretical perspectives in the understanding of aggression. Limitations associated with these theoretical perspectives are discussed and the General Aggression Model is presented as an integrative framework for the study.
3	Relational Aggression in Young Children	This chapter reviews the literature on the identification and measurement of relational aggression in preschool age children and the consequences of relational aggression for both perpetrators and victims of relational aggression.
4	Factors that Influence Relational Aggression	This chapter describes some of the individual and ecological and environmental factors that may predispose some children to relationally aggressive behaviours. In particular, this chapter focuses on internal cognitive processes such as normative beliefs about aggression and the influence of teachers, parents, and siblings in modelling acceptable and unacceptable social behaviours.
5	Methodological Approach	This chapter describes and justifies the methodological approach adopted for this thesis. It then provides a brief overview of the participants and the specific measures and procedures for each of the studies. Methodological innovations developed for this study are explained. Ethical considerations when conducting research with children are presented and the data analytic approach adopted for this study are outlined.

6	Study 1. Teacher and Parent Beliefs about Aggression	This chapter presents findings from individual teacher interviews and the <i>Teacher and Parent Normative Beliefs Questionnaire</i> . It addresses the types of aggressive behaviours that occur within teachers' early childhood centres and whether there are differences in teachers' and parents' normative beliefs about, and intervention strategies for, relational and physical provocation.
7	Study 2. Preschool Children's use of Aggression and Socio-Psychological Wellbeing Factors	This chapter presents findings from teacher reports of children's aggressive and prosocial behaviour and socio-psychological wellbeing outcomes using the <i>Preschool Social Behaviour Scale - Teacher Form</i> and the <i>Preschool Peer Victimisation Scale - Teacher Form</i> . Teacher ratings are used to identify relationally aggressive (n = 9) and typically developing (n = 7) children for further analysis.
8	Study 3. Understanding the Intentionality and Function of Young Children's Aggressive Behaviour	This chapter presents relationally aggressive and typically developing children's understanding of intentionality and some of the reasons why they choose to engage in aggression based on their responses to the <i>Video Stimulated Recall Interview</i> .
9	Study 4. Children's Normative Beliefs and Behavioural Responses to Aggression	This chapter focuses on the differences in relationally aggressive and typically developing children's normative beliefs and behavioural responses to relational and physical provocations presented in <i>Social Cognitive Interview</i> .
10	Discussion and Implications	This chapter begins with a discussion of the main findings in relation to the main aim and purpose of the study. The final section of this chapter will integrate the key findings of the thesis and describes implications for theory, research, and practice. Limitations are acknowledged and directions for future research are also suggested.
	References	The reference list contains all literature cited throughout each component of the thesis.
	Appendix	The appendix contains supplementary material cited throughout each component of the thesis.

CHAPTER 2

STUDY OF AGGRESSION

Human aggression has been defined from a range of disciplinary perspectives including, psychology, sociology, and criminology. The extensive range of theoretical perspectives and definitions of aggression is well documented in Tedeschi and Felson's (1994) critique of the major categories of aggression covering more than 30 specific conceptual approaches. The difficulty in defining aggression also lies in distinguishing which behaviours should be considered aggressive whilst excluding those that should not (Berkowitz, 1993; Geen, 2001). For the purpose of this thesis, aggression is defined as "any behaviour directed toward another individual that is carried out with the proximate (immediate) intent to cause harm" and the "perpetrator must believe that the behaviour will harm the target, and that the target is motivated to avoid the behaviour" (Anderson & Bushman, 2002, p. 28; DeWall, Anderson, & Bushman, 2012; Warburton & Anderson, 2015). This definition has been widely used by researchers in the field of social psychology, which is now recognised as providing the strongest theoretical perspective from which to understand aggression (Warburton & Anderson, 2015). There are three components that are central to this definition, and others' (e.g., Baron & Richardson, 1994) definition of aggression.

1. Aggression is an observable behaviour. That is, it is not a feeling, thought, idea, and not an attitude, aggression is an active behaviour.
2. The aggressive act is carried out with the intent to cause harm. For example, accidentally bumping someone, regardless of whether the person is hurt or not, is not aggression because it lacks intentionality. Similarly, a doctor giving a child a painful vaccination shot is not considered aggression. Although this act is carried out with intent, the component of intent to *cause harm* is not evident, therefore, this does not qualify as aggression.
3. The victim is motivated to avoid the behaviour. This component of aggression is often overlooked (Geen, 2001) because it is expected that victims would make an effort to avoid being attacked. However, there are situations which are considered hurtful that are not avoided by the victim such as online harassment.

During early childhood children engage in rough and tumble play and other physical behaviours which can be mistaken as aggression but are not. Researchers have agreed that it is necessary to classify behaviours as intentional (i.e., aggression) or unintentional (i.e., rough and tumble play) to better predict and interpret aggressive behaviours (Anderson & Bushman, 2002; Baldwin & Baird, 2001; Baron & Richardson, 1994; Geen, 2001; Knobe, 2003; Mull & Evans, 2010; Tomasello, Call, Behne & Moll, 2005). However, the age of onset of intentionality and intent to harm another person has been widely debated (Flavell & Miller, 1998; Hanish, Kochenderfer-Ladd, Fabes, Martin, & Denning, 2004; Zelazo, Helwig, & Lau, 1996). As a result, some behaviours used by young children that have traditionally been classified as *aggression* have been called into question. For example, a young child may snatch a toy from another child because they do not have the verbal ability to ask for the toy, or they may not have developed impulse control to wait their turn. These developmental limitations suggest that snatching a toy may not be enacted with the intent to cause harm to the other child, even though some adults may classify these behaviours as aggressive.

The concept of intentional understanding is extremely important in understanding how young children make sense of the world and of other people's behaviour. Malle (2001) argued that "a behaviour is judged as intentional when the agent has, at least, a desire for an outcome, a belief that the action leads to that outcome, an intention to perform the action, the skill to perform the action, and awareness of fulfilling the intention while performing the action" (p. 266). With this definition in mind, past research has focused on the role of desires and beliefs as a measure of children's understanding of intent (Astington & Gopnik, 1991; Wellman, 1990). For example, Astington and Gopnik (1991) found that children under the age of five performed poorly on intention tasks because of their inability to distinguish the differences between a desired outcome that has been achieved with intention and the same desired outcome that occurred accidentally. Findings that young children lack the ability to distinguish between deliberate and accidental behaviours are questioned by Joseph and Tager-Flusberg (1999) due to limitations in methodologies which can underestimate children's understanding of intentions. This has led some researchers to dismiss the intent criteria required for aggression, noting that it is a cognitive concept that is often subjective and is indeed very difficult to measure in very young children (see Geen, 2001 for a review).

These findings also concur with the argument posed in Rosset and Rottman's (2014) recent theoretical review of intentionality highlighting that intentional reasoning for behaviour is a critical component of children's social cognition. Indeed, assessing intent is very difficult with preschool age populations (Geen, 2001) and this may explain why researchers have relied on observers' and researchers' judgement of intentionality when assessing young children's aggressive behaviours (McNeilly-Choque et al., 1996; Ostrov & Hart, 2013). However, while research methodologies assessing aggression in young children continue to rely on others' perspectives to assess intent (see Pellegrini, Symons, & Hoch, 2014 for a review), there is the assumption that an individual's understanding of intentionality is a universal human ability that is easily identified in all contexts. Thus, it is difficult to understand the variability and nuances of young children's aggression and *their* intent to cause harm without directly asking children about their intent and reasons for engaging in aggression.

The working definition of aggression that will be used for this thesis, while it is acknowledged that this definition may not cover all examples of aggression, has been chosen because it emphasises three components (i.e., observable behaviour, intent to cause harm, and the victim is motivated to avoid that harm). These three components in this study are considered crucial in distinguishing between young children's aggressive behaviour and typically developing acts. Further, the emphasis on intent to cause harm is in no way intended to imply that the other two criteria are unimportant. Unlike most previous research on aggression, this thesis acknowledges the value in understanding young children's intentions from their perspective as crucial criteria in developing a more comprehensive understanding of the development of aggression.

2.1 THE FORM AND FUNCTION OF AGGRESSION

Aggression can take on a number of different forms and functions. There is a general consensus in the literature that the main forms of aggression are physical, verbal, relational, direct, and indirect (see Warburton & Anderson, 2015 for a review). The main functions of aggression are to either punish or hurt another person (i.e., reactive, hostile, impulsive, or retaliatory aggression) or to obtain something, such as deliberately planning to harm a person to achieve a desired outcome or goal (i.e., proactive, instrumental, or planned aggression) (DeWall et al., 2012; Dodge, 1991;

Little, Jones, Henrich, & Hawley, 2003; Ostrov et al., 2013; Warburton & Anderson, 2015). More recently, the term everyday aggression has been used to refer to direct, indirect and passive forms of aggression that are used in day-to-day social interactions (see Richardson, 2014 for a review). This term highlights that aggression is frequently expressed towards those closest to the aggressor such as romantic partners, family, and friends, and that much aggression is mild and commonly enacted.

Historically, researchers focused on physical forms of aggression such as punching, kicking, and biting in preschool age children (Coyne, Nelson, & Underwood, 2011; Tremblay, 2000). These behaviours are often clearly intended to cause harm and are easy to observe. Verbal aggression relies on the development of children's language skills as this form uses words to hurt another person. Verbally aggressive behaviours include yelling, screaming, and swearing at another person. Relational aggression uses relationships to cause harm. Examples of relationally aggressive behaviours include spreading rumours to damage a peer's reputation. Aggression can also be direct or indirect. Aggressive behaviours are direct when they involve confronting the victim whereas indirect behaviours are a lot more difficult to detect and the perpetrator can remain unknown (Richardson & Green, 1997; Warburton & Anderson, 2015; Warren, Richardson, & McQuillin, 2011).

The function of aggression reflects the underlying motives of aggressive behaviour. Many studies of human aggression have typically classified aggressive behaviour as either reactive aggression or proactive aggression (Anderson & Bushman, 2002; Coyne et al., 2011; Dodge, 1991; Geen, 2001; Ostrov et al., 2013). While some researchers acknowledge that some aggressive behaviours are enacted with mixed motives (i.e., both reactive and proactive intent) and there remains greater overlap than distinctiveness between these functions (Bushman & Anderson, 2001), other research has revealed that reactive and proactive aggression are differentially associated with social and affective processes such as emotion regulation, peer rejection, and anger (Crick & Dodge, 1994; Ostrov et al., 2013). Observational studies have shown that proactive intent is much more common in early childhood populations due to the higher level of preference given to different objects and resources within the social environment (Ostrov & Crick, 2007). For example, a child snatches a toy from another child, in order to obtain that particular toy. The perpetrator though not provoked, deliberately engaged in an aggressive act

to achieve a particular goal. While this may be a familiar example of proactive aggression in preschoolers, research has also shown that children as young as three also regularly engage in reactive forms of aggression (Dodge, Lochman, Harnish, Bates, & Pettite, 1997).

With consideration of this overlap, three dimensions in understanding the functions of aggression have been proposed (Warburton & Anderson, 2015). First, one must assess the degree to which the goal of the aggression is to harm the victim versus benefit the perpetrator. Second, the level of hostility or agitated emotion that is present in the situation needs to be assessed. Third, the degree to which aggression is automatic versus thought through needs to be assessed (Anderson & Huesmann, 2003; Warburton & Anderson, 2015). This dimensional approach is particularly useful when considering aggression during early childhood as it takes into consideration developmental factors and neural maturation which significantly impact on a young child's likelihood to aggress, rather than relying on dichotomous categories of aggression (DeWall & Anderson, 2011).

This brief overview of the term aggression has noted the distinct forms and functions that have been reported extensively throughout the literature (see Little et al., 2003 and Warburton & Anderson, 2015, for a review of the forms and functions of aggression). It is clear in this body of research that a prominent focus of aggression research has been to isolate the causes of aggression. Researchers continue to ask "why" some children choose to aggress and why others choose to employ prosocial problem solving strategies to solve social conflict. In an attempt to understand some of the causes of aggression, it is important to navigate through some of the theorised models of aggression to assess how these models may be used to better explain and understand the internal cognitive processes that may facilitate young children's aggression.

2.2 THEORISED MODELS OF AGGRESSION

Non-biological approaches to the study of aggression typically focus on social cognitive and social information processing models (e.g., Anderson & Bushman, 2002; Bandura, 1989, 2001; Crick & Dodge, 1994; Huesmann, 1998). Although these models differ in terms of focus, they have in common an assumption of a neural substrate in which aggressive thoughts, feelings, and action tendencies are wired

together in an associative neural network (Crick & Dodge, 1994; Huesmann, 1998). Social cognitive theories further assume a “hard wired” tendency to imitate others’ behaviours under certain circumstances, a theory further strengthened by the discovery of mirror neurons (Tylén, Allen, Hunter, & Roepstorff, 2012). For the purpose of this thesis, brief overviews of Social Cognitive Theory (Bandura, 1989; 2001; 2008), Cognitive Neoassociation Theory (Berkowitz, 1989; 1990), Social Information Processing Theory (Crick & Dodge, 1994), and Script Theory (Huesmann, 1986; 1998) will be presented with the aim of highlighting some of the key processes related to children’s engagement in aggression. Central to each of these theories is the concept of social cognition. Social cognition refers to a child’s ability to understand “their own and others’ thoughts, feelings, beliefs and intentions” (Hughes & Lecce, 2010, p. 1). It will be argued that while each of these theories differs in perspective and focus, the General Aggression Model (Anderson & Bushman, 2002) is a comprehensive framework which integrates each of these theories to provide a general explanation of aggression.

2.2.1 Social Cognitive Theory

According to Social Cognitive Theory (Bandura, 2001), young children’s prior socialising experiences in the home, in peer groups, and through exposure to media contribute to differences in their individual cognitions that either support or discourage aggressive behaviour. A key mechanism in Bandura’s (1999, 2001) Social Cognitive Theory is observational and experiential learning. In Bandura’s (1989) early experiments, he and his colleagues demonstrated that humans, from a young age, tend to imitate the behaviours of others, even in the absence of other learning processes such as associative conditioning and instrumental conditioning (e.g., Bobo doll experiment; Bandura, Ross & Ross, 1961, 1963). This is particularly true if the behavioural models are admired by the child, have a high status, are attractive, and/or rewarded for particular behaviours. Bandura’s Social Cognitive Theory conceptualises the interaction between cognitive and affective processes, environmental influences, and behavioural outcomes as *Triadic Reciprocal Determinism* (see Bandura, 2008 for a review). The interaction between each of these factors and this theoretical approach has been widely used by researchers to understand and explain children’s aggressive behaviours. Given that each of these factors overlaps significantly with the proximal and distal factors presented in the General Aggression Model (Allen & Anderson, in press; Anderson & Bushman,

2002), only a brief description of internal characteristics, behavioural events, and environmental factors will be provided here to avoid repetition.

2.2.1.1 Internal Characteristics

Personal internal characteristics include beliefs and perceptions, expectations, and self-perceptions. Each of these internal characteristics can be defined as a person's social cognitive understanding. The development of social cognitive understanding is one of the most important milestones of childhood cognitive development. Social cognitions encompass interpersonal domains such as an individual's knowledge, perception, attitude and behaviour in relation to social situations (Bennett, Farrington & Huesmann, 2004). These factors of social cognition actively guide children's behaviour in social situations, and have been found to affect the quality of children's interactions with others in both adaptive and maladaptive ways (e.g., Ladd, Buhs, & Troop, 2002).

2.2.1.2 Behavioural Events

According to Social Cognitive Theory (Bandura, 1989; 2001), children can learn social behaviours (including aggression) through observation, modelling, imitation, and reinforcement that occur in their immediate environmental contexts. Children can also learn aggression through instrumental (operant) conditioning, via the positive and negative consequences of their own enacted behaviours. Aggression may also be learnt by observing the behaviours of other children (social learning). Through these observations, children monitor the outcomes of their behaviour and can identify behaviours that are rewarded, ignored, or punished. In this sense, the child is motivated by their social cognitive representation of the anticipated consequences of their aggressive behaviour (Guerra, Nucci, & Huesmann, 1994). Based on Social Cognitive Theory and the Bobo doll experiments (Bandura, 1961; 1965), some children will still imitate in the absence of rewards or punishments if the behavioural models are judged as favourable (i.e., admired, high status etc.). If the outcome of the child's behaviour is rewarded or justified or indeed if there is no consequence, negative or positive, the child would be more likely to re-enact this behaviour. In contrast, behaviours that are punished are expected to extinguish (Bandura, 1965; Hogben, 1998). While negative behaviours go unpunished, children may believe that these behaviours are acceptable or that they

are not serious enough to hold negative consequences. By observing these behaviours and associated outcomes, children begin to learn what forms of behaviour are less punishable and suitable for different social situations (Bandura, 1999). Bandura (1999) also explains that “learning from response outcomes is commonly portrayed as a mechanistic process in which responses are shaped automatically and unconsciously by their immediate consequences” (p. 25). Based on both active and observational learning, children develop knowledge structures (Bandura, 1999) or scripts (Huesmann, 1998) for aggressive behaviour. As children repeatedly engage in aggression, these cognitive components become more entrenched (Huesmann, 1998).

2.2.1.3 Environmental Factors

Social Cognitive Theory (Bandura, 1973) proposes three main environmental contexts through which children learn social behaviours. These include the community or culture, the media, and teachers, parents, siblings, and peers (Bandura, 1973). Particularly relevant to the current study are the beliefs and behaviours endorsed by teachers, parents, and siblings, and how these may facilitate young children’s use of aggression. Research has shown that familial interactions significantly influence children’s use of social behaviours (including aggression), whereby older siblings and other peers are often considered crucial in influencing young children’s development of aggression. For instance, Ostrov and colleagues (2006) found that during early childhood older siblings may provide powerful modelling of acceptable and unacceptable social behaviours, particularly in relation to the various forms of aggression that can be used to achieve different outcomes. These behaviours are sometimes reinforced or discouraged by peers and other adults as the child gets older (Horne & Sayger, 2000).

These ecological influences (i.e., parents, teachers, and siblings) may provide a foundation on which normative standards of aggression are developed and communicated. Environments, where aggressive behaviour is common in social interactions, may directly influence children’s concepts about social behaviours, expected behaviours in different social situations and the potential costs and benefits of aggression (Guerra & Huesmann, 2004). In summary, Social Cognitive Theory (Bandura, 1989, 2001) posits that a child observes instances of aggression in the context of the home, school, television and media. Through observation of the

consequences and/or rewards of aggression, the child gradually acquires knowledge structures of acceptable and unacceptable behaviour and behaves in accordance with these social cognitions.

2.2.2 Cognitive Neoassociation Theory

Cognitive Neoassociation Theory (Berkowitz, 1989; 1990; 1993) posits that a person's affect, cognitive, and physiological processes are interconnected within the brain's associative neural networks. Aversive events or stimuli (e.g., frustration, provocation, loud noises etc.) instigate aggressive reactions through firstly eliciting negative affect (e.g., feelings of anger; see Baron & Richardson, 2004 for a comprehensive review). Negative affect then stimulates cognitive (e.g., thoughts, memories) and/or physiological (e.g., motor reactions) processes which result in the activation of both fight and flight responses. Depending on the situation and the internal characteristics of the person, one tendency will come to dominate, with fight responses being linked to anger and an increased likelihood of aggression. The Cognitive Neoassociation Theory was the first theory to relate neural processes with aggressive behaviours and was the precursor to the General Aggression Model (Anderson & Bushman, 2002). The interconnection between higher-order neural processes and children's aggressive behaviour are particularly important in this thesis. In particular, the attributions and appraisals that children use to explain their reactions to aversive events provide information about the way they think about their feelings, why they feel a particular way and the possible outcomes they expect for acting on their feelings (Anderson & Bushman, 2002; Allen & Anderson, in press). The consideration of children's explicit thought processes is becoming well recognised in aggression research (see Pellegrini et al., 2014 for a review) and is a core component of the General Aggression Model (Anderson & Bushman, 2002).

2.2.3 Social Information Processing Theory

The reformulated Social Information Processing Model (SIP; Crick & Dodge, 1994) assumes that individuals attend to different social situations with a *database* of memories and knowledge about social rules and other social information. According to the Social Information Processing Theory (Crick & Dodge, 1994), there are six steps or stages by which children process and interpret social situations. Each

distinct step influences the other steps, creating a cyclical model of processing social information. The six steps are as follows:

1. Children are exposed to a range of cues from internal and external sources. This first step of the Social Information Processing model requires children to selectively attend to and 'encode' those cues. Children are more likely to attend to and encode salient cues compared to irrelevant cues. For example, aggressive children may identify with more salient cues based on personal, situational, and contextual factors (Guerra & Huesmann, 2004). Anderson and colleagues (1998) highlighted the importance of situational stimuli such as weapons, which may induce a priming effect whereby children are more likely to recognise aggression cues. Also of importance are contextual factors, which may make certain social cues more salient. Children who have previously experienced aggression or abuse may be more sensitive to perceived threats of aggression or violence (Guerra & Huesmann, 2004).
2. The second step is interpretation of cues that have been encoded. The interpretation involves evaluating what caused the cues as well as intent attributions (i.e., the intentions and reasons why others are behaving the way they are). These interpretations are heavily influenced by children's schemas, scripts, and knowledge structures based on their past experiences and their inherent capabilities, which are stored in their database.
3. In the third step, goals associated with the social situation are clarified. During this step, children consider what they want to achieve from the social situation.
4. The fourth step involves children developing possible responses to the situation. Children will *access* responses by drawing on past experiences or will *construct* responses if the situation is novel.
5. In the fifth step, children evaluate their possible responses in terms of self-efficacy for aggression (i.e., confidence in their ability to engage in aggression), outcome expectations for aggression (i.e., beliefs that

aggression will lead to the expected outcome) and outcome values for aggression (i.e., desirability of the outcomes achieved through the use of aggression). The response which is viewed most positively is chosen for enactment.

6. The final step of the Social Information Processing Model involves the child behaviourally enacting their chosen response.

As noted by Crick and Dodge (1994), the Social Information Processing Model helps to describe conscious and thought-through behaviours and attempts to explain why some individuals respond differently to the same social situation. Some theorists have pointed out that the Social Information Processing Model focuses on rational and reflective components of social cognition without specifically addressing the many decisions underlying behavioural enactment that are made automatically, or out of conscious awareness (Oborio de Castro, 2004; Lemerise & Arsenio, 2000). Measures commonly used to assess social information processing (i.e., vignettes depicting hypothetical social interactions) have further accentuated these issues as it is difficult to account for automatic and affective processes at each stage of the Social Information Processing Model when responding to a hypothetical aggressive provocation (Crozier et al., 2008; Oborio de Castro, 2004). More recently, Ostrov and Godleski (2010) proposed that the original Social Information Processing Model (Crick & Dodge, 1994) did not sufficiently explain gender-based modes of aggression. They extended the model to include the role of gender schemas and gender-linked behaviour.

2.2.4 Script Theory

Script Theory (Huesmann, 1986; 1998) provides a detailed explanation of social learning and social information processes, emphasising the role of mental scripts to explain children's social behaviour. More specifically, scripts are a set of well-rehearsed, highly associated situations or events in a person's memory or mental database that influence expectations and intentions, goals, and action plans (Allen & Anderson, in press; Anderson & Bushman, 2002). Once a script is learned (through rehearsal), it is available to be accessed in similar future situations and may guide behaviour if activated. When these scripts structures are frequently enacted, they become stronger and more easily accessed (i.e., chronically accessible).

Script Theory (Huesmann, 1986, 1998) proposes that the strength and accessibility of scripts occur for two reasons. First, exposure to social situations which lead to multiple rehearsals of scripts will create additional links to other concepts in the memory, thus creating additional pathways to activate the script. Second, frequent rehearsal increases the strength and accessibility of the separate links between concepts. For example, if a child has witnessed hundreds of examples of threatening to withdraw friendship if the other child does not comply with their requests, then that child is likely to have a chronically accessible script for threatening to withdraw friendship from other children. This script is also likely to be generalised across situations and contexts, leading automatically to relational aggression, thereby bypassing conscious processing of the behaviour (Anderson & Bushman, 2002; Huesmann, 1998).

A crucial element of this theory is normative beliefs. Normative beliefs are a child's cognitive standards about the acceptability of a behaviour (Huesmann & Guerra, 1997). For instance, if a child believes aggression to be acceptable, then these beliefs influence the way the child processes social cues, and how they choose to respond to those social cues. Indeed, research with older children shows that children who hold normative beliefs supportive of relational aggression are more likely to use relational aggression (Werner & Hill, 2010; Werner & Nixon, 2005). In terms of the central themes of this thesis, young children's normative beliefs related to aggression are particularly salient because these processes may guide children's aggression and may also indicate whether these behaviours are enacted with the intent to cause harm. This seems to be particularly important during early childhood when scripts are still often in the early stages of development and children are using more conscious thought processes when engaging in aggression (as these scripts may not yet be entrenched). Moreover, normative beliefs guide a child's behaviour in situations that require both controlled and automatic processing (Huesmann & Guerra, 1997) and can be measured in young children (e.g., Goldstein, Tisak, & Boxer, 2002). Thus, young children's normative beliefs are crucial in understanding the internal cognitive processes that may influence and facilitate their use of aggressive behaviour.

2.3 THE GENERAL AGGRESSION MODEL

The theorised models of aggression presented above have allowed researchers to explore the underpinnings of aggressive behaviours, however, these theories rely on domain-specific explanations of behaviour. This has created significant overlap in a number of areas exploring social cognitive and information processing related to aggression. The General Aggression Model (Anderson & Bushman, 2002) was developed by integrating existing theories into a unified general framework of human aggression. More specifically, the General Aggression Model (Anderson & Bushman, 2002) builds on Bandura's (1989; 2001) Social Cognitive Theory, Cognitive Neoassociation Theory (Berkowitz, 1989, 1990, 1993), Social Information Processing Theory (Crick & Dodge, 1994), and Script Theory (Huesmann, 1986, 1998) all of which are underpinned by the assumption of an associative neural network comprising of schemas, scripts, and knowledge structures acquired through social learning and other learning processes. The model also acknowledges the role of affective states, physiological arousal, and any factors that increase a person's likelihood to aggress.

The General Aggression Model focuses on the processes which impact how an individual acts in a social situation and this is referred to as an *episode*. Each episode is composed of three proximal factors known as inputs, routes, and outcomes (Allen & Anderson, in press; Anderson & Bushman, 2002) (see Figure 2.1).

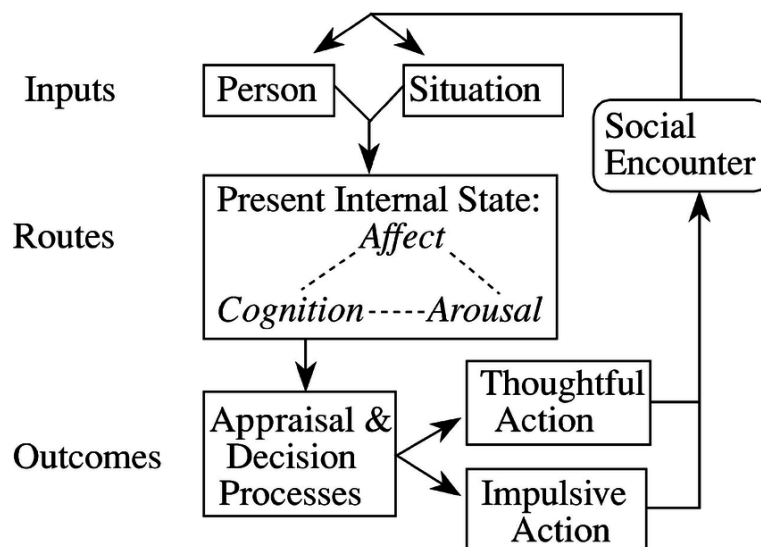


Figure 2.1. The General Aggression Model Episodic Processes (Reproduced from Anderson & Bushman, 2002, p. 34)

2.3.1 Inputs

In line with social cognitive explanations of behaviour, the General Aggression Model (Anderson & Bushman, 2002) starts with a person and their characteristics interacting with a situation, and the social cues for aggression within the situation. In the model, a wide range of 'person' and 'situation' factors are noted and described.

2.3.1.1 *Person Factors*

Person factors are characteristics that an individual brings to a situation that will influence how they respond in a social situation. These characteristics include personality traits, attitudes, and genetic predispositions and comprise factors that influence individual's "preparedness to aggress" (Anderson & Bushman, 2002, p. 35). These person factors are considered relatively stable across time and situations (or both), thus influencing the social situations and cues that children tend to look for, or avoid. There are a number of person factors that may increase aggressive behaviour in young children. Briefly, heightened aggression has been linked to negative emotionality (Denham et al., 2002; Calkins, Gill, Johnson, & Smith, 1999); hyperactivity and impulsivity (Ostrov & Godleski, 2009); gender (Archer, 2004); genetics (Tuvblad, Raine, Zheng, & Baker, 2009); language delays (Séguin, Parent, Tremblay & Zelazo, 2009); and hostile intent and retaliation (Horowitz, Westlund, & Ljungberg, 2007). For example, children who attribute hostile intent to a social situation are more likely to respond with aggressive retaliation than children without this bias (Horowitz et al., 2007). Aggressive behaviours have also been linked to normative beliefs about aggression (e.g., Huesmann & Guerra, 1997; Werner & Nixon, 2005), however, this association is yet to be explored with early childhood populations.

2.3.1.2 *Situational Factors*

Relevant situational factors are aspects of a social situation that can trigger an aggressive response, such as the presence of provocation or an aggressive cue (e.g., weapon). These aspects interact with person factors and ultimately stimulate or inhibit aggressive behaviour. For instance, social exclusion can strengthen a child's hostile attributional bias (Bushman & Anderson, 2002; DeWall & Anderson, 2011). Thus, person and situational factors are not mutually exclusive. At this stage of the General Aggression Model (Anderson & Bushman, 2002), a child's decision to enact

aggression is influenced by a trigger (situational factors) and the child will either have more or less risk factors for aggression (person factors), given that particular trigger.

2.3.2 Routes

Depending on the person and the nature of the situation, the person may or may not have aggressive cognitions or affects activated by the trigger, and may or may not be more physiologically aroused. The nature of activation in these three routes will determine the likelihood of an aggressive response. They may independently propel the child toward aggression, or may interact with each other to propel the child toward aggression.

2.3.2.1 Affect

The person and situation input variables can influence a child's mood or emotions. For example, factors such as provocation or frustration which cause anger and other negative emotions that are positively related to aggression (Crick & Dodge, 1994; Williams, Lochman, Phillips, & Barry, 2003).

2.3.2.2 Cognition

The input variables can influence a child's thoughts, attitudes, beliefs, expectations, hostile biases, and aggressive scripts for behaviour. As noted earlier, when scripts are frequently rehearsed and activated, they can become chronically accessible and sometimes the behavioural response is automatic (Huesmann, 1998). For example, when a child experiences feelings of anger (affect) this may increase the accessibility of pathways to hostile or aggressive cognitions, particularly if the child holds normative beliefs approving of aggression.

2.3.2.3 Arousal

Input variables can cause an increase or decrease in levels of a child's physiological arousal. A child's state of arousal can influence the likelihood of aggression through three pathways (Allen & Anderson, in press; Anderson & Bushman, 2002). First, arousal from irrelevant sources can motivate dominant, aggressive tendencies. If a child experiences provocation while already in a heightened state of arousal (e.g., based on anger affect and hostile cognitions) then they may be more likely to respond with aggression. Second, arousal from irrelevant

sources may be *mistakenly* attributed as anger, leading to aggressive behaviour which is motivated by anger affect, as is posited in excitation-transfer theory (Zillman, 1971), one of the key theories subsumed by the General Aggression Model (Anderson & Bushman, 2002). The third and final way is for unusually high or low arousal to be aversive and thus, facilitate aggression in the same way that painful stimuli, loud noises, or hot temperatures stimulate aggression (Allen & Anderson, in press; Anderson & Bushman, 2002).

2.3.3 Appraisal Processes and Outcomes

The final phase of an episode in the General Aggression Model (Anderson & Bushman, 2002) focuses on the outcome, which includes several complex appraisal and decision processes (see Figure 2.1). These processes can range from relatively automatic and impulsive actions (reactive aggression) to heavily controlled, thoughtful actions (proactive aggression). Figure 2.2 describes the appraisal and decision processes. The immediate appraisal refers to the immediate response and occurs relatively automatically and unconsciously. Reappraisal describes a more controlled process whereby the child, if they have the resources and time, think through alternative responses before enacting a final response. The ultimate behaviour occurs as an outcome of these decision making processes.

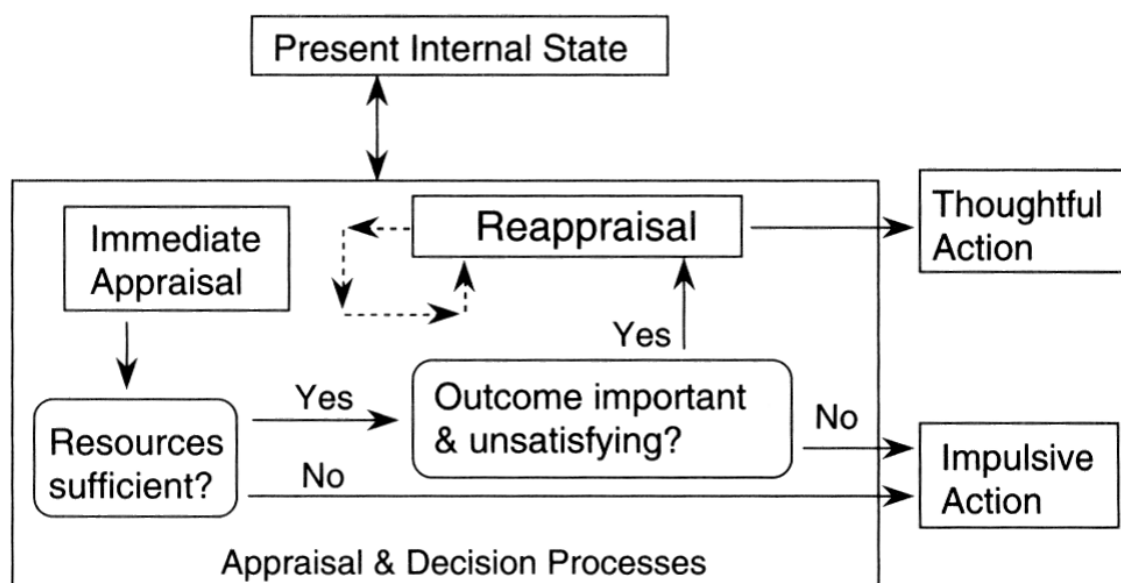


Figure 2.2. The General Aggression Model Expanded Appraisal and Decision Processes (Reproduced from Anderson & Bushman, 2002)

2.3.3.1 Immediate Appraisal

This process refers to the immediate predisposition to respond given the child's activated cognitions, affective state, and level of arousal. Higher physiological arousal usually pushes the child more towards this first response tendency. In addition, higher levels of anger, attributions of intentionality, and activated aggressive scripts will all propel the child towards aggression. Particularly relevant to this thesis is that the behavioural tendency at this point can vary significantly between children depending on their internal state, including the factors just described. In contrast to theories that have focused on a set of processes or skills that explain young children's aggression, the General Aggression Model (Anderson & Bushman, 2002) recognises that the development of aggression does not occur through one uniform set of processes, thus, differences between and within groups may not be universal or consistent.

2.3.3.2 Action Decision

Action decisions are made based on two main considerations. First, the child may or may not have the resources to make a considered decision (i.e., time and cognitive capacity), and second the child may assess that the outcome of the immediate appraisal is both important and/or unsatisfying. If the child has insufficient resources or assesses that the outcome is trivial or satisfactory, then they are more likely to react with their immediate impulse. This impulsive behaviour could be either aggressive or non-aggressive, depending on the nature of the immediate appraisal. This process usually occurs in a very short time frame.

2.3.3.3 Reappraisal

If the child does not act on their immediate impulse and moves to reappraisal, they draw on different knowledge structures or scripts and explore alternative views of the social situation. As shown in Figure 2.2, the reappraisal process is a cycle which could occur more than once and, as indicated by the double arrow, the reappraisals are influenced by the child's present internal state, and also influence the child's present internal state. Reappraisal leads to more thoughtful behaviour, and this could be aggressive or non-aggressive.

2.3.3.4 Action

The final process involves the child selecting and enacting a behaviour which ultimately feeds back into both the social situation and the child's own characteristics (i.e., it becomes a learning episode in its own right that contributes to the child's future expectations and beliefs). Thus, the action can either reinforce or change the child's behaviour in future social situations.

The General Learning Model (Buckley & Anderson, 2006), an extension of the General Aggression Model (Anderson & Bushman, 2002), moves past a short-term episode to examine the distal processes that influence the child's behaviour over longer periods of time, such as environmental and biological modifiers (Allen & Anderson, in press; Anderson & Bushman, 2002; Anderson & Carnagey, 2004; Buckley & Anderson, 2006). Key distal processes relevant to aggression include the acquisition of social cognitions, learning of aggressive schemas and scripts, and desensitisation to aggression, all of which increase a child's preparedness to aggress. Some of the distal environmental factors that may influence children's aggressive behaviours include, but are not limited to, situations that evoke fear, previous experiences of victimisation, aggressive neighbourhood, maladaptive ecological contexts, exposure to violent media, and associations with antisocial aggressive peers (see Anderson & Carnagey, 2004, for a complete list). Finally, some examples of biological factors that may influence children's aggression include unusually low base levels of cortical and physiological arousal, executive functioning deficits, hormone imbalances, and neurological behavioural disorders (see Anderson & Carnagey, 2004, for a complete list). The recognition of these distal factors in the General Aggression Model (Anderson & Bushman, 2002) and the General Learning Model (Buckley & Anderson, 2006) underlines the contributory role of context in facilitating children's aggression. As noted earlier, in order to extend our understanding of the development of aggression in early childhood, it is crucial to explore these behaviours within a variety of social situations and context.

2.4 CHAPTER SUMMARY

The aim of this chapter has been to review relevant theories that help explain children's development of aggression. These theories are heavily focused on explaining a specific function of aggression. For instance, the Cognitive

Neoassociation Theory (Berkowitz, 1989; 1990; 1993) is better suited to explain reactive aggression with the consideration of fight or flight responses, whereas the Social Learning Theory (Bandura, 1989; 2001) is better suited to explain proactive aggression as it explores the processes and factors that influence how children acquire aggressive behaviours. The Social Information Processing Model (Crick & Dodge, 1994) provides a series of steps or stages that children go through when processing social information to enact a reactive or proactive behavioural response or prosocial response. The General Aggression Model (Anderson & Bushman, 2002) (Anderson & Bushman, 2002) provides an integrative framework for understanding some of the internal and situational factors that may propel some children to aggress. Indeed, this framework highlights that aggression does not occur through one uniform set of processes. The model recognises that aggressive behaviours can be driven by multiple motives (i.e., reactive and proactive intent; Bushman & Anderson, 2001) and this is particularly relevant to the study of aggression during early childhood as children are still learning social rules and acceptable and unacceptable social behaviour. As such, children are likely to use aggression for proactive (Ostrov & Crick, 2007) and reactive purposes (Dodge et al., 1997) and elimination of either function will significantly limit our understanding of aggression in young children.

While researchers continue to agree that intent is necessary for behaviour to be classified as *aggressive*, there remains controversy around the development of intentionality in young children. Indeed, assessing intent in preschool age children is a difficult task, however, it is crucial for researchers to develop appropriate measures that assess young children's intent to aggress from their perspective (Pellegrini et al., 2014). The burgeoning recognition that children are capable of holding opinions and ideas (Merewether & Fleet, 2014) contradicts current assessment of intent via observer's and researcher's judgement of intent to aggress, thus leading to a narrow view of the development of aggression during early childhood. Measures that directly ask children about their intent to cause harm are more likely to provide comprehensive evidence about the internal processes and situational cues that may be more likely to increase their preparedness to aggress.

Further, there are a number of well developed theories which focus on ways in which children develop aggression. However, relying on these theories which emphasise specific processes limits our perspective of the array of internal processes and factors that can influence the development of aggression. Thus, this

thesis has presented four particularly relevant theories of the acquisition of aggression, Social Cognitive Theory (Bandura, 1989; 2001), Social Information Processing Model (Crick & Dodge, 1994), and Script Theory (Huesmann, 1986; 1998) as the most relevant specific theories, and the General Aggression Model (Anderson & Bushman, 2002), a wider theory of aggressive behaviour that encompasses a wide range of factors that are relevant to both relational and physical aggression. This thesis will build on the General Aggression Model (Anderson & Bushman, 2002) and previous research on childhood aggression by examining the influence of two crucial contexts, namely teachers and parents, on different types of aggression (i.e., relational and physical) used in early childhood. Previous research has examined either teacher's or parent's beliefs and behaviours influencing children's aggression (e.g., Hurd & Gettinger, 2011; Moffitt & Caspi, 2007), and it is now well documented that both teachers and parents play a crucial role in influencing children's understanding about acceptable and unacceptable social behaviours, including aggression (Merritt, Wanless, Rimm-Kaufman, Cameron, & Peugh, 2012; Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). Thus, exploring teacher and parent factors separately limits our understanding about ecological influences that contribute to children's development of aggression. Rather, research should examine both influences when looking at a cohort of children.

The General Aggression Model (Anderson & Bushman, 2002) has predominately been used to explain human aggression more broadly, and like most other theorised models of aggression focuses on middle childhood and adolescent populations. In this thesis, the General Aggression Model will be used a framework through which to understand relational aggression in young children. While it is acknowledged that over the past century research on the development of aggression during early childhood has substantially increased, this research has primarily focused on physical aggression. More recently, relational aggression has been identified as a serious aggressive behaviour that can lead to significant consequences (Card et al., 2008). However, much of the research on relational aggression also remains heavily focused on the middle childhood and adolescent years. To address this gap in research, the research in this thesis will use the General Aggression Model (Anderson & Bushman, 2002) as a framework to develop a more comprehensive understanding of the interrelationship between internal cognitive processes (i.e., person processes such as intent to cause harm, normative

beliefs, and behavioural responses), ecological influences (i.e., distal environmental factors that influence children such as teachers, parents, and siblings), and both trait aggressive behaviour and aggression observed in the moment. The key focus will be on relational aggression, although physical aggression will be used as a comparator.

CHAPTER 3

RELATIONAL AGGRESSION IN YOUNG CHILDREN

This chapter reviews both the empirical and conceptual literature on relational aggression, with a focus on the emergence of this form of aggression during early childhood. The first section will clarify the terms used when discussing non-physical forms of aggression and consider the debate that has emerged in the field about social forms of aggression. Second, literature about the emergence and identification of relational aggression in early childhood is reviewed. Current measures used to assess relational aggression in preschool age children will be evaluated, with an emphasis on the advantages and disadvantages of measurement techniques that capture both the direct and subtle nature of relational aggression. The final section will consider some of the consequences associated with relational aggression.

3.1 COMMON TERMS RELATED TO RELATIONAL AGGRESSION

There are three different terms that have been used to describe certain forms of aggression such as relational, social, and indirect aggression (Archer & Coyne, 2005; Coyne et al., 2011; Warren et al., 2011). The somewhat contested nature of these terms is highlighted by Archer and Coyne (2005) who compared the application of relational, social, and indirect aggression in the extant developmental literature. Archer and Coyne (2005) concluded that while the definitions and measures used to assess indirect, relational, and social aggression differ, they essentially “all measure comparable alternative strategies to physical aggression” (p. 225) and verbal aggression. Some researchers have also argued that relational aggression researchers have simply renamed an old concept (i.e., indirect aggression) that had been studied for nearly a decade (Archer & Coyne, 2005; Björkqvist, 2001). However, relational aggression researchers maintain that the three terms are different and describe different forms of behaviour (Archer & Coyne, 2005; Crick, Casas, & Ku, 1999).

Feshbach (1969) coined the term *indirect aggression* to identify aggressive acts that were non-physical (and not as direct) in nature including behaviours such as social exclusion, ignoring, and rejection of another peer. In the late 1980s, Lagerspetz, Björkqvist, and Peltonen (1988) assessed children’s use of indirect

aggression, noting that these behaviours “inflict pain in such a manner that he or she makes it seem as though there is no intention to hurt at all” (Björkqvist, Lagerspetz, & Kaukiainen, 1992, p. 118). This definition extended previous definitions by highlighting the indirect nature of the aggression (Lagerspetz et al., 1988), encompassing behaviours such as rejection and exclusion. Researchers who use the term indirect aggression primarily focus on behaviours which are delivered “behind-the-back” and often when the aggressor is unknown to the victim, such as spreading rumours or lies about another person or blowing up a mailbox (Gentile, Coyne, & Walsh, 2011; Richardson & Green, 1997; Warren et al., 2011).

The term *relational aggression* was first introduced by Crick and Grotpeter (1995) to describe behaviours which use relationships as the vehicle to intentionally cause harm. Whilst relational and indirect aggression both assess indirect behaviours, a distinction is evident in that Crick and Grotpeter (1995) recognised that relationally aggressive behaviours could also include overt, direct behaviours (Archer & Coyne, 2005; Warren et al., 2011). Specifically, Crick and Grotpeter’s (1995) definition of relational aggression encompasses behaviours such as ignoring another peer by deliberately walking away from them, or by telling other peers to ignore that person. These aggressive acts involve the manipulation of relationships and encompass both overt and covert, direct and indirect behaviours.

The term *social aggression* has been used to refer to “the manipulation of group acceptance through alienation, ostracism, or character defamation” (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989, p. 323). Based on the definitions of indirect and relational aggression that have been provided thus far, it appears that this early definition of social aggression encompasses behaviours which closely relate to both the indirect and relational aggression constructs and may explain why this term is used less frequently by researchers. However, nearly a decade after the first definition of social aggression, Galen and Underwood (1997) argued that social aggression was distinct from indirect and relational forms of aggression as it includes both indirect and relationally aggressive behaviours as well as harmful nonverbal behaviours such as giving dirty looks. More specifically, the term social aggression differs from other aggression concepts in that it encompasses both direct (overt) and indirect (covert) manipulative and deceitful behaviours (Underwood, 2003; Underwood, Galen, & Paquette, 2001). That is, social aggression acknowledges non-confrontational aggression that is used within group contexts as well as more direct

relational manipulation that often occurs within a dyad (Archer & Coyne, 2005; Galen & Underwood, 1997).

The defining features of relational, indirect, and social aggression vary in the extent to which the aggression is social in nature and whether the aggressor uses dyadic relationships and manipulation as a vehicle of harm (Archer & Coyne, 2005). The measures used to assess relational, indirect, and social aggression have been found to be highly related to one another (Warren et al., 2011), however, measures of relational aggression are distinct in that they assess both direct and indirect behaviours and focus exclusively on relationally aggressive acts that use relationships as a vehicle of harm, not broader social behaviours such as giving dirty looks. For the purpose of this thesis, the term *relational aggression* will be used to refer to interpersonally aggressive behaviours such as social exclusion and manipulation, rejection, teasing and rumour spreading, purposefully ignoring another child, and alienation. Like other researchers (e.g., Young, Boye, & Nelson, 2006) this term has been chosen because the conceptual definition of relational aggression recognises the direct and indirect nature of certain aggressive behaviours as well as the function of the aggressive behaviour. This is in line with recent formulations of aggression that emphasise forms and functions of behaviour (see Warburton & Anderson, 2015).

3.2 IDENTIFICATION AND MEASUREMENT OF RELATIONAL AGGRESSION IN EARLY CHILDHOOD

During early childhood, physical forms of aggression have been regarded as fairly typical childhood behaviour that is used spontaneously when children are strongly motivated to achieve their goals (Olds et al., 1998). For example, young children can frequently be seen tugging at another child's toy in an attempt to obtain it. During these very early years children are not learning how to initiate physical aggression but rather they are learning not to use physical aggression (Tremblay, 2012). The presumed *typical* nature of physical aggression is further supported by the extensive research documenting this form of behaviour in early childhood populations (Alink et al., 2006; Côté, Vaillancourt, Barker, Nagin & Tremblay, 2007; Crick et al., 2006; Tremblay et al., 2004).

Physical aggression generally starts to decrease from the ages of two to four as children become more cognitively and verbally mature and aware of social expectations and norms (Tremblay et al., 2004). As physical aggression declines it is often replaced by alternative ways of resolving conflict in social situations (Tremblay et al., 1999; Tremblay, 2010). One alternative strategy is relational aggression, which substantially increases between the ages of four to seven (Côté, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006; Tremblay et al., 1999; Vaillancourt et al., 2007). Further, physically aggressive children are more likely to increase their use of relational aggression over time (Brendgen et al., 2005; Miller, Vaillancourt, & Boyle, 2009).

In preschool age children, relationally aggressive behaviours have been considered to be relatively unsophisticated, focusing more on direct, overt strategies of social manipulation (Crick et al., 1999; Leff, Waasdorp, & Crick, 2010; Nelson et al., 2005). For example, Nelson and colleague's (2005) assessment of a large sample of children aged between 3 and 5 years concluded that behaviours were relatively unsophisticated and included behaviours such as disallowing another peer to play with the group; demanding other children not play with a specific peer; and threatening not to play with another peer unless certain needs or demands were met. While these behaviours reflect the direct and obvious nature of relational aggression in young children other researchers have concluded that young children's relational aggression is more sophisticated.

For example, Ostrov and colleagues (2004) have shown that children as young as three are capable of engaging in relatively sophisticated relationally aggressive behaviours such as gossiping, rumour spreading, and telling secrets. In a laboratory setting, two children were observed whispering and gossiping about another child and the function of relational aggression appeared to be to make the other child feel uncomfortable and inferior, highlighting the manipulative use of relational aggression. Similarly, Maguire and Dunn (1997) found that some Kindergarten children employ covert and difficult to detect behaviours such as saying to another peer, "I don't like X, do you?" These sophisticated yet subtle behaviours are much more difficult to observe and interpret which may enable the aggressor to remain unidentified, thereby reducing the possibility for retaliation.

Identifying and measuring relational aggression within the early childhood context is not a straightforward process because these behaviours become less obvious, more indirect and subtle and may not be easily observed by adults or identified as aggressive behaviour (Atlas & Pepler, 1998; Dellasega & Nixon, 2003; Underwood et al., 2001; Young et al., 2006). Various methods of measuring the construct of relational aggression have been reported and have been compared and reviewed (see Archer & Coyne, 2005, and McEvoy et al., 2003, for a full review). Given that the types of relationally aggressive behaviours used by children change throughout development, it is important to consider the most appropriate assessment of aggression. A child's age and the capabilities of the measurement in providing the most reliable and valid information in identifying young children's use of relational aggression should be taken into consideration. The primary measures of relational aggression used in early childhood contexts include peer assessment, teacher ratings, and observations of child behaviour in naturalistic and laboratory settings. These will be discussed in the following section.

3.2.1 Peer Assessments

Peer assessments have been frequently used to assess relational aggression during early childhood, middle childhood, and adolescence. The Preschool Social Behaviour Scale – Peer Form (PSBS-P; Crick et al., 1997; Crick & Grotpeter, 1995) was initially developed as a peer nomination instrument where children were asked to nominate up to three peers who most closely fitted each of the statements on the measure (the limitations of peer reports were recognised by Crick and colleagues (1995) who later developed the teacher form (Crick et al., 1997) described below). The items on these measures are designed to assess relationally aggressive behaviours that occur directly within social groups and include statements such as “Name three kids who tell friends they will stop liking them unless the friends do what they say.” There are several important advantages of using peer nominations when assessing relational aggression in early childhood. First, children are identified as aggressive based on multiple individual perspectives and the quantification of these perspectives (Crick & Rose, 2000; McEvoy et al., 2003), indicating that these behaviours may not be reflective of one-off isolated incidences or one child's opinion (Merrell, Buchanan, & Tran, 2006). Second, relationally aggressive behaviours can be indirect and difficult for teachers, parents, and researchers to observe reliably in natural contexts (Crick & Grotpeter, 1995; Voulgaridou & Kokkinos, 2015). Thus,

peers may be more privy and aware of the children who engage in relational aggression more frequently, particularly when the relational aggression occurs outside of an adult's direct supervision, such as school bathrooms (McEvoy et al., 2003).

Limitations of peer reports of aggression include age effects, personal biases, and ethical issues related to disclosure and future social interactions with peers (Archer & Coyne, 2005; McEvoy et al., 2003; Merrell et al., 2006; Voulgaridou & Kokkinos, 2015; Young et al., 2006). Relational aggression consists of a range of sophisticated direct and indirect behaviours which young children may or may not be able to accurately and reliably assess and interpret. During early childhood when young children are developing an understanding of acceptable and unacceptable social behaviours, they may still be interpreting some behaviours as rough and tumble play or may not interpret relational aggression as mean (McEvoy et al., 2003). Young children may also be primed to identify the obviously aggressive children as these children may be frequently in trouble and publicly recognised for their negative behaviour (Archer & Coyne, 2005; Voulgaridou & Kokkinos, 2015). Quieter children who engage in subtle relational aggression may be less identifiable as aggressive by their peers.

3.2.2 Teacher and Parent Reports

Teacher and parent reports have been used extensively to assess relational aggression in early childhood (see Archer & Coyne, 2005 and McEvoy et al., 2003 for reviews). Crick and colleagues developed teacher reports of children's aggression which were based on the same items initially developed for peer reports (Crick et al., 1997; Crick & Grotpeter, 1995; Werner & Crick, 1999). Similar to the peer report measure, this measure consists of the same three subscales, and asks teachers to report on children's relational aggression (e.g., "this child spreads rumours or gossips about some peers"), physical aggression (e.g., "this child hit, shoves, or pushes peers"), and prosocial behaviour (e.g., "this child tries to cheer up peers when they are sad or upset about something"). Teacher report measures have also been adapted for use with parents (see Crick, 1997). The similarity in teacher and peer assessment methods may provide an explanation as to why highest agreement about young children's relational aggression is identified when teacher and peer reports are compared.

For example, McEvoy and colleagues (2003) examined teacher, peer, and observer reports of relational and physical aggression. The results indicated that teachers perceived more relational and physical aggression in children than was documented by observers and teachers and peers agreed most often in comparison to the observers. The authors provided a number of explanations that may explain this difference including the possibility that teachers may over identify aggressive children or may be influenced by their personal bias for children who may have a reputation for negative social behaviours. However, these results may also be indicative of teachers' extensive knowledge of children's aggressive behaviours particularly given that observations are limited to assessing children's aggression for a set period of time (e.g., 10 minute observation over eight different time points). Thus, teacher reports appear to have strong face validity and construct validity in reporting children's social behaviours in naturalistic contexts.

Nevertheless, a number of limitations are associated with teacher reports of young children's aggression. Teachers may have gender biases or stereotypes that create confounds in their ratings of children's aggression. For instance, teacher reports about relationally aggressive behaviours have tended to show higher relational aggression scores for girls than boys, while other methods of assessment have produced equivocal results (Archer & Coyne, 2005; Bonica, Arnold, Fisher, Zelijo, & Yershova, 2003; Crick & Grotpeter, 1995; McEvoy et al., 2003; Merrell et al., 2006; Prinstein et al., 2001; Rys & Bear, 1997). This suggests that teacher reports may reflect a gender bias in that girls may be expected to engage in typical relationally aggressive behaviours and similar behaviours exhibited by boys may be overlooked. Similarly, boys may be expected to engage in physical aggression and these behaviours may be overlooked in girls. As noted earlier, teachers may also be less privy to some of the less direct forms of relational aggression that occur in contexts where there is limited adult supervision (McEvoy et al., 2003). As children get older, they may become more aware of their ability to conceal these behaviours from adults, and therefore, it may be more difficult for teachers to accurately assess the frequency of these behaviours (Voulgaridou & Kokkinos, 2015; Young et al., 2006). Notwithstanding these potential limitations, numerous researchers agree that teacher ratings are one of the most accurate methods for evaluating young children's use of relational aggression (Archer & Coyne, 2005; McNeilly-Choque et al., 1996; Merrell et al., 2006; Voulgaridou & Kokkinos, 2015).

3.2.3 Observation Methods

While peer, teacher, and parent reports have been shown to be efficient and effective in identifying relational aggression in preschool age children, the identification of the more subtle and indirect (and seemingly more sophisticated behaviours) have been facilitated by the use of careful observation techniques. For example, Ostrov and colleagues (2004) set up an activity in the laboratory which involved triads of same-sex peers colouring in pictures. Each child was given a picture to colour in and each triad was provided with one coloured crayon and two white crayons. The colouring-in task was used to elicit and assess the types of aggressive behaviour that children use when they have limited access to resources, such as functional crayons needed to colour in a picture. The interactions were video recorded and observational coding schemes were also used to code children's behaviour. The results show young children who received a white crayon aggressively snatching a coloured crayon from their peers or using subtle behaviours such as whispering about one of the peers using a coloured crayon. While this study was limited to a laboratory setting that may have only roughly paralleled real-life contexts, the results clearly provided evidence that children as young as three engage in aggression and these can be accurately recorded using observational coding schemes (Ostrov & Keating, 2004; Ostrov, Woods, Jensen, Casas, & Crick, 2004).

While observational procedures often require observers to code children's behaviour using standardised coding schemes, observers are also often requested to write a short narrative about the situation to set the behaviours within the broader social context (Ostrov & Hart, 2013; Ostrov & Keating, 2004). Others have used observational data to conduct secondary coding of the functions of children's aggressive behaviours to gain more insight into children's motivations (e.g., Ostrov & Crick, 2007). The advantage of narratives and secondary coding when using observational methods is that a context surrounding children's aggressive behaviour can be established. In contrast, situational factors and context features are not obtained in peer or teacher ratings of children's behaviour (Ostrov & Godleski, 2007). Indeed, this is a significant limitation associated with peer and teacher ratings of children's behaviours. The use of careful observation techniques alongside other informant measures may provide more opportunities to identify the subtle and sophisticated relationally aggressive behaviours that young children use as well as

providing important information about the links between children's internal cognitive processes and situational factors.

Traditional observational methods require the researcher to remain at arm's length from the focal child and record the observed behaviours on a coding sheet. Such methods may be limited in capturing subtle relationally aggressive behaviours because it can be relatively difficult to hear or understand young children's verbal interactions with peers. However, with the improvement of technology, researchers employing observation methods for the study of relational aggression have incorporated remote video and audio technology to increase the reliability of accurately assessing and capturing relational aggression (Atlas & Pepler, 1998; Pellegrini, 2004; Pepler & Craig, 1995; Pepler, Craig, & Roberts, 1998). While the use of technological aids such as video and audio recorders and microphones can lead to higher reactivity from some children, the use of remote audiovisual recording allows researchers to capture direct and indirect behaviours and verbal utterances from an unobtrusive location (see Pepler & Craig, 1995 for a review). The use of remote audiovisual observational procedures has been fairly sparse in the extant research, perhaps because of the labour intensive nature of this method of data collection. As a result, researchers assessing relational aggression in young children have tended to rely on research questions and hypotheses relating to quantitative analyses of traditional observation data (i.e., behaviour frequency counts), limiting understanding of the internal processes, cognitive and affective states, and situational factors that are all relevant in understanding of young children's aggression.

A crucial limitation of direct observation methods for assessing relational aggression is the reliance on observer's perspectives in judging aggression. More specifically, while coding schemes provide a rigorous structure for the assessment of aggression, they fall short in identifying what internal cognitive processes are at work when children engage in aggression, an area central to understanding aggression through the processes outlined in the General Aggression Model (Anderson & Bushman, 2002). It is acknowledged that secondary coding has been used to code some functions of aggression (Ostrov & Crick, 2007) however, these coding descriptors still rely heavily on the observer's subjective judgement of behaviours which are identified a priori as aggression (Tremblay, 2000). Indeed, this is emphasised in Polman and colleague's (2007) meta-analysis and discussion of

reactive and proactive aggression across 51 studies. They acknowledge the need for observational studies to employ methods of introspection in order to assess the function of children's behaviour. In particular, antecedent-behaviour-consequence patterns were recommended as these situational factors provide information that can help distinguish between the different functions of aggression (Polman, Oborio de Castro, Koops, van Boxtel, & Merk, 2007). An additional consideration when using observational methods to assess young children's aggression is the potential utility of using first person perspectives such as directly asking children about their aggression when seeking to understand the function of their behaviour. This would assist in understanding the internal cognitive processes that may contribute to young children's use of aggression, and ways that particular situations may impact a child's internal cognitive state. Indeed, no research has to date directly asked young children to explain their behaviour immediately after enactment, which has limited understanding of some of the important processes and factors that directly impact on children's choice to engage in aggression. This limitation will be further discussed in Study Three (Chapter 8).

3.3 CONSEQUENCES OF RELATIONAL AGGRESSION

The ability to measure relational aggression specifically has also enabled researchers to distinguish the specific consequences of this behaviour. While it is widely accepted by researchers that relational aggression has serious consequences for both victim and perpetrator, the same understanding may not be held by parents or teachers. As has been noted, relational aggression can be manipulative and subtle and enacted in such a way that it does not appear aggressive at all. The ambiguity in the use of the term relational aggression has led a number of adults to believe that relational aggression is a normal behaviour, reflecting children being *"just the way they are"*, especially during adolescence (Dellasega & Nixon, 2003; Underwood, 2001; Young et al., 2006). Teachers and parents continue to view physical aggression as more harmful than relational aggression in younger and older children (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner, Senich, & Przepyszny, 2006; Young et al., 2006) and relational aggression is often dismissed by teachers and parents as part of normal development or typical behaviours which children are told to 'sort out themselves' (Atlas & Pepler, 1998). Indeed, relationally aggressive behaviours are often not recognised for what they actually are: hurtful,

damaging, and a form of aggression serious enough to warrant a response or intervention from adults (Young et al., 2006).

Extensive research has documented that both relational and physical aggression are associated with socio-psychological maladjustment and decrements in wellbeing for both victims and perpetrators (e.g., Card et al., 2008; Crick et al., 1997; Murray-Close et al., 2007; Prinstein et al., 2001). As such, it is important to explore socio-psychological consequences that may be associated with relational aggression in order to highlight the need for teachers and parents to identify the seriousness of this form of aggression and the potential negative consequences of these behaviours.

3.3.1 Peer Status

Children's peer status (i.e., acceptance and rejection) has been identified as a serious consequence of aggression for both victims and perpetrators. Typically relational and physical aggression in preschool age children has generally been associated with lower peer acceptance and greater rejection for victims and perpetrators (Bierman, 2004; Crick et al., 2006; McNeilly-Choque et al., 1996; Murray-Close, Crick, & Galotti, 2006; Ostrov & Crick, 2007; Ostrov et al., 2013). An early study conducted by McNeilly-Choque and colleagues (1996) found that in a sample of 241 four and five year old children, relationally and physically aggressive children were less accepted by their peers and this finding was differentiated by gender. More specifically, relational aggression was associated with peer rejection for girls and physical aggression was associated with peer rejection for boys reflecting that gender normative consistency may be associated with higher peer rejection. Similarly, Crick and colleagues (2006) conducted an 18 month longitudinal study which included the administration of peer and teacher reports of relational and physical aggression and peer rejection, and observational methods were also used to support the psychometric properties of the surveys. The findings of this study indicated that for girls, observed relational aggression, after controlling for the effects of physical aggression, were significantly predictive of future peer rejection, however, similar associations were not found for boys. Conversely, observed physical aggression significantly predicted future peer rejection for boys, but not for girls. Studies conducted in later developmental periods have also shown that aggression is a precursor to later peer rejection (e.g., Zimmer-Gembeck, Geiger, & Crick, 2005).

Although the use of aggression may be associated with peer rejection, researchers have also found that relational aggression may involve the strategic use of prosocial behaviours by some children. Children who are sophisticated and strategic in the way they balance aggressive and prosocial behaviours are often well liked by their peers (Hawley, 2003; LaFontana & Cillessen, 2002; Nelson et al., 2005; Ostrov et al., 2013; Rose, Swenson, & Waller, 2004). This suggests that prosocial behaviour is important for peer acceptance if children are also relationally aggressive. For instance, Ostrov and colleagues (2013) explored the prospective associations between relational and physical aggression and reactive and proactive functions of aggression with peer rejection in a sample of preschool age children. Their results indicated that reactive relational aggression was associated with increased peer rejection while proactive relational aggression, such as gaining social status, was associated with decreases in peer rejection. Thus, some children's use of relational aggression may be an adaptive factor in helping them achieve social status and popularity amongst their social group (Hawley, 2003; Ostrov et al., 2013; Ostrov & Crick, 2007).

3.3.2 Peer Victimisation

Studies of aggression have further demonstrated that relational aggression is associated with peer victimisation (e.g., Ostrov, Kamper, Hart, Godleski, & Blakely-McClure, 2014; Putallaz, Grimes, Foster, Kupersmidt, Coie, & Dearing, 2007). It is also well recognised that like subtypes of aggression, children can also experience different subtypes of victimisation (i.e., physical victimisation and relational victimisation). Ostrov's (2008) study of the prospective associations between aggression and victimisation in preschool age children revealed the utility of this subtype approach in understanding socio-psychological trajectories of children. In this study, Ostrov (2008) documented that observed relational aggression was associated with concurrent teacher reported relational victimisation above and beyond the effects of physical aggression, physical victimisation, prosocial behaviour, and gender. Similarly, observed physical aggression was associated with concurrent teacher reported physical victimisation above and beyond the effects of relational aggression, relational victimisation, prosocial behaviour, and gender.

Given that it is logical to think that children who experience more victimisation may be more likely to engage in aggression as they have fewer opportunities to

participate in positive peer interactions (Ostrov, 2008), the directional association between aggression and victimisation has received recent empirical attention. Recent research has shown evidence of a directional effect whereby aggression predicts changes in victimisation (Ostrov et al., 2014) while other studies have found evidence for the directional effects of victimisation predicting aggression (e.g., Ostrov, 2010). More specifically, it has been found that preschoolers' experience of relational victimisation was uniquely associated with an increase in their use of relational aggression, and the same was found for physical victimisation and physical aggression, suggesting a spiral of cause and effect (Dhami, Hoglund, Leadbeater, & Boone, 2005; Ostrov, 2008; Ostrov, 2010; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999; Sullivan, Farrell, & Kliewer, 2006). These associations were confirmed by a recent meta-analysis (see Reijntjes, Kamphuis, Prinzie, Boelen, & Telch, 2011 for a full review) and can be explained within social learning theories. That is, victimised children may use their experiences to learn about aggression and how to more effectively use different types of aggression. It is also plausible that children's experience of victimisation leads to an increase in aggression as they defend themselves against future victimisation (Reijntjes et al., 2011). This is also consistent with the General Aggression Model (Anderson & Bushman, 2002) and Script theories (Huessman, 1986; 1998) and the notion of a database in the Social Information Processing Model (Crick & Dodge, 1994), all of which recognise that experiences feedback into internal cognitive processes such as scripts and schemas that increase prosocial behaviour or the likelihood of aggressive responding. Similarly, theories recognise internal social cognitive processes as being a key method by which aggressive behaviours are acquired. Children's social learning of aggression through victimisation experiences can also be thought of in terms of the *Specificity Hypothesis* of aggression (Crick et al., 1999; Ostrov, 2010) which posits that relational aggression is uniquely related to relational victimisation and physical aggression is uniquely related to physical victimisation. It would be expected that children who are victimised through relational means may be more likely to enact similar relationally aggressive behaviours.

Whilst a number of research findings have supported the Specificity hypothesis, previous studies (e.g., Ostrov, 2008; Salmivalli & Helteenvouri, 2007) have also called for future work to explore the moderating effects of gender on the relationship between relational and physical aggression and victimisation to further

understand how these relationships may differ for boys and girls during early childhood. For example, Ostrov (2008) found that girls', but not boys', use of physical and relational aggression predicted changes in relational victimisation and concluded that further studies on such gender differences were needed. The emphasis on gender is also important when considering the effects of gender normative and non-normative aggression. In particular, previous evidence suggests that socio-psychological wellbeing factors may more adversely impact children who engage in gender non-normative aggression (physically aggressive girls and relationally aggressive boys) than gender normative aggression (Coyne et al., 2011).

Empirical studies are also needed to explore the directional relationship between aggression and victimisation. Like aggressors, victims of relational and physical aggression also experience significant concurrent and prospective decrements in key socio-psychological factors such as depression, loneliness, and externalising problems (Boivin, Hymel, & Bukowski, 1995; Crick & Grotpeter, 1996; Hodges, Boivin, Vitaro, & Bukowski, 1999; Prinstein et al., 2001). Overall, the extant literature documenting the association between aggression and victimisation highlights the need to consider both of these constructs when assessing young children's social behaviours.

3.3.3 Internalising Consequences

Internalising consequences for perpetrators and victims of relational aggression generally include clinical or subclinical depression and anxiety (Card et al., 2008) as well as loneliness and self-esteem (Prinstein et al., 2001). Card and colleague's (2008) meta-analytic review of the maladaptive consequences associated with direct and indirect aggression found that depression and anxiety were more strongly and uniquely associated with indirect aggression. Thus, children who experience heightened anxiety and depressive symptomology may be more willing to use subtle and covert means of aggression rather than direct confrontational aggression. Similarly, others have also found that relational aggression may increase the child's interpersonal stress which increases internalising consequences (Murray-Close et al., 2007). In addition, Prinstein and colleague's (2001) found that adolescent girls who are victimised by relational aggression were more likely to experience substantial increases in depression, loneliness, and negative self-esteem highlighting that internalising consequences are

strongly associated with both perpetration and victimisation. Prinstein and colleagues (2001) suggested that these internalising consequences may be stronger for girls as they tend to internalise more than boys.

The relationship between depression and use of relational and physical aggression has been well documented throughout the literature (Card et al., 2008; Morrow, Hubbard, Rubin, & McAuliffe, 2008) and depressive symptoms have also been associated with being disliked by peers and experiencing peer rejection (Boivin et al., 1994). Relationally aggressive children report significantly higher levels of depression than do their peers (Crick & Grotpeter, 1995; Crick, Ostrov, & Werner, 2006; Ellis, Crooks, & Wolfe, 2009; Murray-Close et al., 2007). However, the majority of empirical evidence linking aggression to depressive symptomology and other internalising consequences is limited to middle childhood and adolescence. Internalising consequences are often assessed through teacher and/or self-reports and are considered subjective constructs even in older children (see Brendgen, Vitaro, Turgeon, & Poulin, 2002 for a review), making them difficult to accurately assess. It is even more difficult to assess depression in young children where it may look more like irritability. Indeed, this may be a reason why there remains limited research exploring the associations between aggression and internalising consequences, particularly depressive symptomology, in preschool age children.

3.4 CHAPTER SUMMARY

The aim of this chapter has been to define key terms and review literature related to the identification, measurement, and consequences associated with relational aggression in preschool age children. Aggressive behaviour that harms another's relationships and social standing have been identified by three different terms, namely, indirect, relational, and social aggression (see Archer & Coyne, 2005; Warren et al., 2011 for a review). The term that will be used consistently throughout this thesis is relational aggression, which is defined as the intentional, hurtful manipulation of peer relationships and friendships that inflicts harm on others (Crick & Grotpeter, 1995). Relational aggression has been identified as the most appropriate term to use in this study because it encompasses *both* the direct and indirect nature of young children's aggression. Indeed, these features are also what make relational aggression distinct from physical aggression. Physical aggression is associated with behaviours that are easily observable whilst relational aggression

can be easily observable sometimes but at other times can be very hard to detect. Such differences have probably contributed to the widespread belief that physical aggression is a lot more serious than relational aggression (e.g., Bauman and Del Rio, 2006; Werner & Grant, 2009). However, it is increasingly clear that relational aggression needs to be understood as an aggressive behaviour that causes significant harm to perpetrators and victims and can lead to a range of negative socio-psychological consequences. For the purpose of this study (see Study Two, Chapter 7), the consequences of peer victimisation, peer acceptance, depressed affect, and received prosocial behaviour from peers will be assessed in relation to relational and physical aggression because less is known about these consequences in early childhood populations and no data is available on Australian populations.

While there are numerous available methods for assessing relational aggression in early childhood, these may be harder to conduct with younger children than with older children. Current reviews of methodologies (see Archer & Coyne, 2005; McEvoy et al., 2003; Ostrov & Hart, 2013, for a review) suggest that using multi-method and multi-informant strategies increases the accuracy of identifying subtle behaviours such as relational aggression across different early childhood contexts. Using a multi-informant approach may help eliminate bias and provide a wider scope of data comparison, assisting the accuracy, reliability, and validity of the research data (Ostrov, Reis, Stauffacher, Godleski, & Mullins, 2008), whilst also capturing the direct and indirect nature of relational aggression in early childhood contexts. It should also be noted that the use of remote audiovisual observation methods provides a platform that overcomes a number of limitations identified in previous methods of assessing relational aggression. Thus, a central goal of this thesis will be to use a range of methods and informants to gather information about young children's aggression, and teachers' and parents' perceptions of aggression. This thesis will extend previous methodologies through the development and combination of methods such as remote audiovisual observations and interviews, to obtain a more comprehensive understanding about the internal cognitive processes and ecological or situational factors that may facilitate some children's use of relational aggression.

CHAPTER 4

FACTORS THAT INFLUENCE RELATIONAL AGGRESSION

This chapter examines the individual factors (e.g., gender) and features of the ecology or environment (e.g., teacher, parent, and sibling behaviour) that might influence young children's use of relational aggression. In the first section, individual factors relevant to the child are examined in terms of the influence on children's preparedness to aggress. In particular, the role of aggressive cognitions and internal processes in children's behavioural response choices when faced with provocation is examined. In the second section, ecological and environmental factors such as the influence of teachers' and parents' attitudes and beliefs about relational and physical aggression, and ways that these beliefs may impact intervention strategies for the different types of aggression are considered. The possible role of siblings in modelling relational aggression is also considered. Overall, this chapter will demonstrate that there is a need to explore the internal cognitive processes and ecological influences relevant to young children in order to understand the aetiology of young children's relational aggression.

4.1 INDIVIDUAL FACTORS

In accordance with the General Aggression Model, individual factors are theorised to play a central role in influencing children's preparedness to aggress (Anderson & Bushman, 2002). There are numerous individual factors that are relevant to understanding why some children engage in relational aggression instead of other forms of aggression. These will be reviewed in the following sections.

4.1.1 Gender

One of the most robust and consistent gender differences in aggression research is the finding that boys are more physically aggressive than girls across all developmental periods (Archer, 2004; Bettencourt & Miller, 1996; Card et al., 2008; Coyne et al., 2011; Juliano, Werner, & Cassidy, 2006). Recently Lansford and colleagues (2012) examined the association between relational and physical aggression and gender differences in diverse cultural contexts across nine countries. The results provided strong evidence that boys are more physically aggressive than girls in an ethnically and culturally diverse sample of children. This is not surprising

given that stereotypically boys are considered to be more aggressive than girls because the male gender role is generally linked to dominance, power, and aggressiveness (Coyne et al., 2011; Richardson & Hammock, 2007), whereas, the female gender role is generally associated with caring and nurturance (Crick, 1997; Richardson & Hammock, 2007). The differences in gender roles are reinforced by research exploring the evolutionary basis for the way in which mothers and fathers parent. Recent findings show that both mothers and fathers are more inclined to promote physical play behaviours in their sons and care behaviours in their daughters (Möller, Majdandžić, De Vente, & Bögels, 2013). The differences in gender roles may also provide an explanation as to why teachers, parents, and peers often discourage girls' use of physical aggression (Coyne et al., 2011; Underwood, 2003). Richardson and Hammock (2007) propose that aggression researchers themselves are likely influenced by gender stereotypes and thus may overestimate differences in aggression that may, in fact, be minimal. They conclude that the gender differences identified in aggression research may, in fact, be more reflective of a child's response to their gender role, a similar idea identified by Crick (1997) as gender normative and non-normative aggression.

Unlike the findings in physical aggression research, findings of gender differences in relational aggression have been equivocal. For example, Hayward and Fletcher (2003) found no differences in adolescent boys' and girls' use of relational aggression and no gender differences were found in Swit and McMaugh's (2012) study of children's use of relational aggression in early childhood. Three large meta-analytic studies support these conclusions. First, Archer (2004) conducted a meta-analytic review of 78 studies focusing on indirect aggression enacted by boys and girls from childhood through to adulthood. The results of this meta-analysis indicated that girls displayed more indirect aggression than boys when averaged across age, however, this was only the case with certain assessment methods (i.e., observations, peer ratings, and teacher reports) and not with others (i.e., peer nominations and self-reports). In particular, gender differences were strongest in studies employing observational methods (Archer, 2004). Similarly, Card and colleagues (2008) expanded Archer's (2004) review by conducting a meta-analytic review of direct and indirect aggression during childhood and adolescence. Overall, this meta-analysis consisted of data from 148 independent studies, consisting of 73,498 children. The main difference in findings in these two meta-analyses is that the latter found that

girls compared to boys were slightly more indirectly aggressive during early and middle childhood (Card et al., 2008). The gender similarities identified for relational aggression in these two meta-analyses was recently confirmed in Lansford and colleague's (2012) meta-analysis of boys' and girls' relational and physical aggression in nine countries. These empirical studies and large meta-analyses confirm that the overall effect size of gender differences in children's use of relational aggression is very small and that gender differences in younger and older children's use of relational aggression are nil or equivocal (Archer, 2004; Card et al., 2008; Hayward & Fletcher, 2003; Lansford et al., 2012; Swit & McMaugh, 2012). Thus, Richardson and Hammock (2007) make an important point when they suggest that researchers may be paying too much attention to gender differences, as they are arguably minimal.

An early study on relational aggression, conducted by Crick and Grotpeter (1995) found that girls in third to sixth grade were identified by their peers as significantly more relationally aggressive than boys. These initial gender differences were linked to the different social goals held by boys and girls, whereby boys are motivated by instrumental goals and physical dominance and participate in higher levels of physical aggression, whereas girls are motivated by intimacy goals and participate in higher levels of relational aggression (Crick & Grotpeter, 1995). Such differences in social goals may relate to ecological factors. As noted earlier, researchers have identified that boys are socialised by their mothers and fathers to engage in more physical play behaviours (Möller et al., 2013) whilst girls are given fewer opportunities to develop the emotional self-regulation and social skills that often come when engaging in rough and tumble play (Pellegrini, 2009). Thus, girls' use of covert forms of aggression may be reflective of their lack of experience and exposure in learning to respond to physical aggression and conflict. In other words, it is the absence of the socialisation of physical aggression that may facilitate girls' use of relational aggression as an alternative form of aggression, particularly during adolescence (Simmons, 2002). Girls (or according to some studies, boys as well) may ponder on social situations or events, which may lead to heightened negative affective states and cognitive reflections. According to the General Aggression Model (Anderson & Bushman, 2002) these internal cognitive processes may provide more opportunities for them to engage in proactive forms of aggression, namely relational aggression. Thus, young girls who may lack experience or exposure to responding to

different social conflict may be using relational aggression because they are aware that physical aggression enacted by girls is not socially appropriate and relational aggression appears to be the next most reasonable alternative strategy (Pellegrini, 2009).

4.1.2 Prosocial Behaviour

Numerous studies have been conducted exploring the relationship between prosocial behaviour and young children's use of aggression. Typically, the common perception is that the aggressive child lacks social skills and lacks prosocial behaviour (Coie & Dodge, 1998; Crick et al., 1999; Hawley, 2003). Prosocial behaviour has generally been associated with characteristics such as empathy, cooperativeness, self-sacrificing behaviours, and has been measured using teacher and parent reports of behaviours such as helping others, concern for others, and kindness towards others (Ladd & Profilet, 1996; Ostrov et al., 2004). Thus, while prosocial behaviours are used for the benefit of others, it seems logical to expect that a lack of these behaviours may be associated with higher levels of aggression. This expectation is confirmed by a number of studies that have considered the association between relational aggression and prosocial behaviour in preschool age children. Ostrov and colleagues (2004) assessed preschool age children's delivered and received relational and physical aggression and prosocial behaviours during a laboratory experiment which involved children participating in the white crayon task, described in the previous chapter. Observations of children's interactions during the task were used to assess their delivered and received relational and physical aggression, while teacher reports were used to assess children's delivered and received prosocial behaviour. The findings of this study demonstrated that boys who used physical aggression during the task were more likely to be rated as less prosocial by their teachers. For girls, delivered and received relational aggression was also associated with fewer prosocial behaviours, suggesting that observer perceptions of gender roles and gender normative aggression (i.e., boys using physical aggression and girls using relational aggression) may influence these associations.

Moreover, Renouf and colleagues (2010) conducted an analysis of data obtained from two large, comparable longitudinal samples of singletons and twins (total sample size was 399 children) between five and six years of age. These

researchers were interested in whether prosocial behaviour moderated the association between indirect aggression and theory of mind. Contrary to the author's expectations, the results indicated that children who displayed high levels of prosocial behaviour did not use indirect forms of aggression, and physical aggression was also associated with fewer prosocial behaviours. While gender differences were not identified in this study, these findings and those of Ostrov and Keating's (2004) suggest that during early childhood both relational and physical aggression are associated with fewer prosocial behaviours. Similarly, teacher, parent, and child self-reports were used to assess the bidirectional cross-lagged associations between aggressive and prosocial behaviours in 1334 children aged seven to eleven years old (Obsuth, Eisner, Malti, & Ribeaud, 2015). The results of this large study revealed that children's aggressive behaviour predicted decreases in future prosocial behaviour, however, the opposite effect was not significant. This finding suggests that for some children lack of prosocial behaviour is not a sufficient proximal factor in children's development of aggressive behaviours.

In contrast to the above research findings, there is a substantial body of evidence which has documented that aggression, particularly relational aggression, may be linked to positive social skills, higher levels of prosocial behaviour, and more adaptive development for some children in certain contexts. Although this may seem counterintuitive initially, it appears that some relationally aggressive children use this form of aggression to reap benefits such as achieving a proactive goal or peer status (Banny, Heilbron, Ames, & Prinstein, 2011; Hawley, 2003; Heilbron & Prinstein, 2008; Leff et al., 2010; Nelson et al., 2005; Rose & Swenson, 2009; Young et al., 2006). For example, Nelson and colleagues (2005) examined the associations between relational and physical aggression and preschool age children's social status. In line with the recommended methodology of previous researchers (e.g., Crick et al., 1997), this study used peer and teacher reports to assess these constructs. Both teachers and peers reported on children's relational, physical, and sociable behaviours (i.e., the quantity of friends, fun to play with, and skills in turn taking and sharing) and peers also reported on peer acceptance and peer rejection to obtain a social status rating. Whilst previous studies have argued that the associations between relational aggression and perceived popularity increase with age (see LaFontana & Cillessen, 2002; Rose et al., 2004 for examples), the results from Nelson and colleague's (2005) study indicated that these associations are

already evident in early childhood. Indeed, the salient finding that controversial children (i.e., children who received many like and dislike nominations from peers) were more sociable and more relationally and physically aggressive highlights the potential for relational aggression to be functionally adaptive for some children. That is, relational aggression may be associated with increased social centrality and social prominence in children as young as three years of age, and these children may be using a combination of aggressive and prosocial behaviours. Alternatively, these findings may indicate a transitional period from using predominately prosocial behaviours to learning how to use relational aggression to achieve goals. This highlights the significance of considering children's internal cognitive processes to determine the reasons for their aggressive behaviour.

Hawley (2003) explored young children's use of aggression and their endorsement of strategies of resource control. More specifically, the author was interested in whether the types of strategies that children used to control a social situation were related to the types of aggression they engaged in most frequently. This study included a sample of 163 children between the ages of 2.9 and 6 years and teachers assessed children's prosocial and coercive strategies of control, resource control success, and their use of physical and relational aggression. The findings indicated that relationally aggressive boys and girls were more likely than physically aggressive children to use prosocial control strategies. That is, the antisocial behaviour of relational aggression did not preclude prosocial behaviour. Like prosocial controllers, bistrategic controllers (i.e., these children used both prosocial and coercive strategies) were preferred by peers compared to those who used coercive strategies. This finding concurs with those found by Nelson and colleagues (2005) and other researchers (see Heilbron & Prinstein, 2008) that some children who employ relationally aggressive behaviours may be more socially skilled as this form of aggression often serves functional goals such as peer status or obtaining a desired object, outcome, or goal. Similarly, this has been confirmed in Card and colleague's (2008) large meta-analysis of the relationship between direct and indirect aggression and maladjustment in children and adolescents. Specifically, in older children, direct (physical) aggression was uniquely associated with low prosocial behaviour whilst indirect (relational) aggression was uniquely associated with high prosocial behaviour, dismissing previous perceptions of *all* aggressors lacking social skills and prosocial behaviour. Thus, it appears that because relational

aggression requires children to engage with other peers, and perhaps gain the support and assistance of others, prosocial behaviour may be necessary in order to effectively deliver relational aggression. Indeed, much of the documented evidence on relational aggression supports the notion that these behaviours are associated with maladjustment, however, in some social and developmental contexts this form of aggression may be associated with adaptive functions (see Heilbron & Prinstein, 2008 for a review). Thus, it is important to explore the individual factors and differences in the social skills of relationally aggressive and typically developing children to ascertain the most important factors that may facilitate relational aggression.

4.1.3 Temperament Factors

Some temperament factors in young children have been linked to problematic aggressive behaviour in early childhood. Rubin and colleagues (2003) assessed behavioural and emotional regulation in toddlerhood and aggressive behaviour in the preschool years (i.e., 2 years later). The findings of this study revealed that behavioural and emotional dysregulation independently predicted preschool age children's use of aggression. This suggests that children who are not able to regulate their emotions may also experience deficits in inhibiting unacceptable aggressive behaviours in different social situations.

In a study of US and Australian children's temperament and social behaviours, Russell and colleagues (2003) found that shyness was strongly predictive of children's use of relational and physical aggression. More specifically, children who were not shy (i.e., extraverted) were more likely to display higher levels of both prosocial and aggressive behaviours and be considered more 'outgoing', and these findings were consistent across the two cultures. Other studies have explored the associations between impulsivity-hyperactivity and aggression during early childhood. Ostrov and Godleski (2009) used multiple perspectives and methods to assess preschool age children's impulsivity-hyperactivity levels and their use of relational and physical aggression in the early childhood setting. The results of this study indicated that children with higher levels of impulsivity-hyperactivity were more likely to engage in higher levels of physical aggression across time, as reported by independent observers. Impulsivity-hyperactivity was also associated with relational aggression, however, this finding was only significant with concurrent observed

relational aggression and impulsivity-hyperactivity did not predict future relational aggression. These findings are not surprising given that physical aggression is often considered a reactive form of aggression, whereas relational aggression often involves forethought and planning, both of which are internal cognitive processes related to proactive aggression.

4.1.4 Child Normative Beliefs and Aggressive Behaviour

A key type of social cognition that is highly related to children's use of aggressive behaviours is the degree to which aggression is seen as acceptable and normative (Huesmann & Guerra, 1997). Past research has predominately focused on normative beliefs about physical and relational aggression among middle childhood and adolescent populations (Huesmann, Guerra, Miller, & Zelli, 1992; Zelli, Dodge, Lochman, & Laird, 1999). These studies have shown that children who view physical aggression as an acceptable or normative social response are more physically aggressive (Zelli et al., 1999) and that children who hold normative beliefs supportive of relational aggression are more likely to use relational aggression (Werner & Hill, 2010; Werner & Nixon, 2005). There are few studies which have considered normative beliefs in younger children, with the exception of Goldstein and colleagues (2002) who assessed preschoolers' normative (what a peer would do) and prescriptive (what a peer should do) judgements about hypothetical aggressive conflicts. They asked children to rate the degree of "badness" of relational, physical, and verbal aggressive responses to the conflictual scenarios. This study found that preschool age children viewed relational aggression as more normative than physical and verbal aggression. Girls were more likely than boys to view relationally aggressive responses to provocation as wrong (less normative). However, similar associations between normative beliefs and aggressive behaviour which have previously been identified in older populations, have not been explored in early childhood. Moreover, there remains a paucity of research exploring whether differences exist in relationally aggressive and typically developing children's normative beliefs, particularly during early childhood. This limitation will be addressed in this thesis (see Study Four, Chapter 9).

Extensive research has shown that older children who engage in relational and physical aggression, often hold hostile schemas and attitudes supportive of aggression (Burks, Laird, Dodge, Pettit, & Bates, 1999; Huesmann & Guerra, 1997)

and tend to process social information in ways that increase the likelihood of using aggression to solve social conflict (Crick & Dodge, 1994; Musher-Eizenman, Holub, Miller, Goldstein, & Edwards-Leeper, 2004). For example, Musher-Eizenman and colleagues (2004) conducted a survey of 778 children in grades four to six and found that those children who were approving of indirect aggressive behaviours had higher levels of engagement in actual indirect aggressive behaviours. Moreover, research has shown that children's normative beliefs influence the behavioural response choices they use to respond to different social provocations (Crick & Dodge, 1994; Huesmann & Guerra, 1997; Werner & Nixon, 2005). For example, Bellmore and colleagues (2005) conducted a large ($N = 2003$) multi-informant study assessing whether young adolescents' aggressive response choices were associated with their normative beliefs and level of aggression, as reported by teachers and peers. The results of this study indicated that the types of aggressive behaviours that adolescents consider acceptable or normative are more likely to be reflected in their behavioural response when reacting to different social situations (Bellmore, Witkow, Graham, & Juvonen, 2005). Thus, consistent with these findings, and in line with Social Cognitive Theory (Bandura, 1989; 2001), Script Theory (Huesmann, 1986; 1998), Social Information Processing Theory (Crick & Dodge, 1994), and the General Aggression Model (Anderson & Bushman, 2002), the types of behavioural response choices children believe are acceptable in response to social conflict should be a good indicator of their aggressive or non-aggressive behaviour in response to actual conflict (Bellmore et al., 2005).

4.1.5 Children's Efficacy Beliefs, Outcome Expectations, and Outcome Values

According to the General Aggression Model (Anderson & Bushman, 2002), Script Theory (Huesmann, 1986; 1998), and the Social Information Processing Theory (Crick & Dodge, 1994) children's behavioural response choices are influenced by their self-efficacy beliefs, outcome expectations, and outcome values for aggression. When enacting a behavioural response, children will evaluate each of these processes and choose the behaviour which is expected to lead to positive outcomes. More specifically, aggressive children have been shown to express greater confidence (i.e., self-efficacy) in their ability to successfully enact aggressive behaviours (Perry, Perry & Rasmussen, 1986). This association was highlighted in Erdley and Asher's (1996) study which presented fourth and fifth grade children with hypothetical provocation scenarios and assessed their social goals and self-efficacy

perceptions. Results indicated that aggressive children compared to non-aggressive children had higher self-efficacy and confidence in their ability to enact aggression in response to the provocation scenarios and lower self-efficacy and confidence in their ability to enact prosocial problem solving responses. These findings suggest that some aggressive children may have difficulty inhibiting their aggression and may lack alternative prosocial strategies to solve social conflict. In line with the General Aggression Model (Anderson & Bushman, 2002), the Social Information Processing Theory (Crick & Dodge, 1994), and Social Cognitive Theory (Bandura, 1989; 2001), as children develop higher self-efficacy beliefs in their ability to enact aggressive behaviours, they are more likely to rely on these behaviours to solve social conflict in the future. A child's self-efficacy for aggression may also provide some insight into their intentions, a crucial criterion for assessing aggression.

Further, outcome expectations and outcome values are two concepts which overlap significantly and have commonly been used to denote the same concept (Hall, Herzberger, & Skowronski, 1998). In accordance with the Social Information Processing Theory (Crick & Dodge, 1994) and Script Theory (Huesmann, 1986; 1998) aggressive children who are confident in enacting aggression, are also more likely to expect that their aggression will produce a reward or valuable outcome (Perry et al., 1986). Crane-Ross and colleagues (1998) found that aggressive children, compared to less aggressive children, believed that aggression would lead to tangible rewards and would reduce unpleasant treatment received from peers. That is, children who believe that their aggressive behaviour will lead to desired outcomes are more likely to enact aggression (Crane-Ross, Tisak, & Tisak, 1998; Egan, Monson & Perry, 1998). Other researchers have assessed outcome expectancies by exploring perceived costs and/or benefits of aggression (i.e., outcome values; Hall et al., 1998; Marks, Hine, Manton & Thorsteinsson, 2012; Seals & Young, 2003). Marks and colleagues (2012) assessed potential costs and benefits of relational and physical aggression in a sample of Australian adolescents. Results from this study indicated that males were more likely than females to anticipate greater benefits (i.e., "I would feel more in control") and fewer costs (i.e., fear of authority) from engaging in physical aggression. Contrary to their hypothesis, the authors found that adolescent males engaged in more relational aggression and this was associated with outcome expectancies consistent with self-benefits. That is, they would feel more powerful. These findings are consistent with earlier research findings

(Boldizar, Perry, & Perry, 1989; Perry, Williard, & Perry, 1990) which indicated that aggressive children are more likely to attach greater value to positive outcomes such as gaining control over their victim and receiving tangible rewards, whereas, less value was attributed to negative outcomes such as causing the victim to suffer, retaliation, peer rejection, and feelings of negative self-evaluation.

While research about the associations between self-efficacy, outcome expectations, and outcome values for relational aggression is scarce in early childhood, such associations have been examined in adolescents. For instance, Delveaux and Daniels (2000) explored the associations between children's use of aggression to solve social conflict and the functions of their behaviour. The results of this study indicated that children employed relationally aggressive behaviours when their social goal was to avoid trouble and to maintain peer relationships. The authors suggested that children may choose relationally aggressive behaviours as opposed to physically aggressive behaviours because relational aggression is more effective in achieving goals related to self-interest, control, and revenge, whilst at the same time maintaining positive peer relationships and avoiding unwanted attention from authority figures.

4.2 ECOLOGICAL AND ENVIRONMENTAL FACTORS

In accordance with the General Aggression Model (Anderson & Bushman, 2002), there is a range of environmental factors that can inhibit or stimulate young children's preparedness to aggress. While these factors vary depending on context and social situation, Social Cognitive Theory (Bandura, 2001) highlights that children's responses to these factors are influenced by a range of ecological factors such as teacher and parent behaviour, modelling from siblings, and the role of media. These factors will be discussed in the following section.

4.2.1 The Role of Caregivers

For the purpose of this section, the term caregiver is used to denote parents and teachers of preschool age children. Generally, it is well accepted that caregivers' beliefs and attitudes about prosocial and aggressive behaviour directly influences how they view, interpret, and direct their children's behaviour (Spodek & Saracho, 2006). Similarly, the influence of adult-child interactions also constitutes an important developmental context in which young children learn about social and behavioural

expectations, which may be generalised across social contexts (Kawabata, Alink, Tseng, van IJzendoorn, & Crick, 2011). As such, it is generally accepted that caregivers play a crucial role in establishing early patterns of positive social development and behavioural interaction (Merritt, et al., 2012; Rimm-Kaufman et al., 2009).

4.2.2 Parenting Practices

In accordance with Bandura's (2001) theory of social cognitive learning and the underlying tenets of the General Aggression Model (Anderson & Bushman, 2002), parenting practices significantly predict children's use of aggression through modelling and reinforcement (Kawabata et al., 2011). Children may copy or use similar forms of aggression to those that they see their parents using. These behaviours can be observed in the case of parents using aggressive behaviours towards their own friends or partner, or parents' use of aggression toward the child or their siblings. A meta-analysis of studies examining the association between parenting behaviours and children's use of relational aggression revealed that physically punitive (i.e., smacking) parenting behaviours predicted physical aggression in the punished child or in children who had witnessed the punishment (Kawabata et al., 2011). Similarly, children may develop relationally aggressive behaviours through modelling, direct reinforcement or observation of others being rewarded for relational aggression (Anderson & Bushman, 2002; Bandura, 1973; Kawabata et al., 2011). Interestingly, Nelson and Crick (2002) found that permissive parenting practices reinforced children's aggressive behaviours because of the use of inconsistent discipline strategies. In particular, permissive parents tend not to punish poor behaviour, a strategy that ultimately reinforces children's aggressive behaviours (Nelson & Crick, 2002). Other researchers have also found that these types of parenting practices are also related to young children's use of relational aggression (e.g., Casas et al., 2006).

Parent's use of psychological control (i.e., love withdrawal) has also been associated with the child using similar manipulative strategies, such as friendship withdrawal in the context of their own peer relationships. For example, Nelson and colleague's (2013) study of a large cohort of Russian preschool age children and their parents found evidence that psychologically controlling parenting practices were associated with preschooler's use of relational aggression. Arguments for the links

between psychologically controlling parenting and relational aggression have been put forward in Rochner's parental acceptance-rejection theory (Khaleque & Rohner, 2002) which proposes that children may employ aggression when they experience parental rejection. When parents are unaffectionate, hostile and aggressive, indifferent, neglecting, and rejecting, their child is likely to hold the belief that their parents do not care about them. For instance, the child is likely to experience negative affects such as feelings of rejection and not being worthy of love that ultimately influence the way the child interprets the situation and similar future situations. This can increase the likelihood of responding with aggression.

Early childhood is a critical period for learning about acceptable and unacceptable social behaviours (Goldstein & Boxer, 2013) and parenting practices and behaviour play a critical role in influencing young children's beliefs and behaviours related to different types of aggression. For example, Goldstein and Boxer (2013) compared parents' discipline strategies and responses to their preschool age children's use of relational aggression and physical aggression. Their findings indicated that parents communicate different standards depending on the type of aggression the child displays. For example, parents who were reported to have fewer rules related to relational aggression were less likely to implement sanctions or disciplinary strategies. Parents also perceived relational aggression as something that children need to work out themselves (Goldstein & Boxer, 2013). Parents are critical teachers in the lives of their children and it is important to investigate the specific beliefs that parents (and teachers) have about relational aggression and how these beliefs may be transmitted to their children.

4.2.3 Behaviour of Teachers

Although much of the literature on early childhood aggression has focused on the influence of parenting practices and behaviours, teachers also have an important influence on the socialisation of aggressive behaviours, an impact that is increasing because children are spending an increasing amount of time with teachers in early childhood settings (Hurd & Gettinger, 2011). Current intervention programs targeting relational aggression in the early years have focused on the role of teachers in promoting positive social skills (see Leff et al., 2010 for a review). Recent research observing teacher-child interactions and first grade children's aggressive behaviours with peers has shown that teachers who offer children emotional support such as

warmth, encouragement, and comfort are more likely to reduce both relationally and physically aggressive behaviours observed at school (Merritt, et al., 2012). As with parents, psychological control, if also used by teachers, seems to be associated with aggressive child behaviour. For example, in classrooms where there are many aggressive-disruptive children, teachers often resort to coercive and punitive practices to maintain control of their classroom (e.g., Hughes, Cavell, & Jackson, 1999), even though such discipline practices have been shown to increase student defiance and aggression rather than inhibit these behaviours (Hamre & Pianta, 2001).

4.2.4 Caregiver's Normative Beliefs and Intervention Strategies

A further factor to consider as an influence on children's aggressive behaviour are normative beliefs about aggression held by caregivers and the behavioural interventions they enact. Although researchers have recognised the influence of both teachers' and parents' normative beliefs about different forms of aggressive behaviours, they have tended to examine parents and teachers separately, limiting understanding of the relative contribution of each on children's normative beliefs and aggressive behaviours. Research is needed that examines the impact of both parents' and teachers' normative beliefs together, in the lives of the same child. Much of the research exploring teacher and parent perceptions has done so in regard to bullying¹ within school contexts. Several studies have shown that teachers' definitions of bullying frequently fail to identify relationally aggressive behaviours such as social exclusion, name calling, spreading rumours, intimidation and taking other people's belongings (Bauman & Del Rio, 2006; Boulton, 1997; Byers et al., 2011). Rather, physical and verbal behaviours and forcing people to do things that they do not want to do were more typically considered as bullying by teachers in these samples. Similarly, many caregivers fail to recognise relationally aggressive behaviours as bullying, dismissing them as part of normal development or as 'typical' behaviours that children are told to 'sort out themselves' (Atlas & Pepler, 1998). Unfortunately, this lack of attention to acts of relational aggression may limit the extent to which relationally aggressive behaviours are identified and subject to caregiver intervention.

¹ Bullying is typically defined as repeated aggressive behaviour that intentionally inflicts harm on the victim and involves a power imbalance between the perpetrator and victim (Olweus, 1993).

The links between caregiver's normative beliefs and their intervention strategies used to respond to different types of aggression provide some indication of whether adults consider these behaviours as aggressive or typical childhood behaviour. Hurd and Gettinger (2011) compared mothers and teachers in their ratings of the degree of hurtfulness and the importance of intervening in different forms of aggression. The results of this study showed that both mothers and teachers rated physical aggression much higher on the measure of hurtfulness than relational aggression. Moreover, both mothers and teachers rated the importance of intervening in physical aggression higher than that of relational aggression. An important element of this study design was the assessment of how mothers and teachers would respond to different acts of aggression. When specifically asked 'How quickly do you think an adult should intervene in this situation?' both mothers and teachers were less likely to recommend immediate intervention in relationally aggressive acts compared to physically aggressive acts. Mothers and teachers were also less likely to endorse negative consequences for the relationally aggressive perpetrator. Similar findings were identified by Werner and colleagues (2006) in that mothers of preschool age children were more likely to react to hypothetical incidents of relational aggression with the use passive intervention strategies and recommended more direct reprimands and communication that a rule had been violated in physically aggressive scenarios. In an Australian study, Byers and colleagues (2011) also found that teachers rated physical aggression as more serious than verbal or relational aggression and had lower levels of empathy and intervention for relational aggression than physical acts of aggression.

Researchers are continuing to demonstrate robust differences in caregiver's normative beliefs about relational versus physical aggression with physical aggression still being reported as the worse behaviour more frequently and consistently by teachers and parents (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006). A possible reason for the limited identification of relational aggression as a serious aggressive behaviour is that these behaviours tend to be subtle and therefore, not easily observed (McEvoy et al., 2003). This is concerning given that analysis of school bullying intervention programs has shown that those programs that only address physical aggression fail to identify over 30% of children who engage in relational

aggression, and approximately 60% of children who are victimised through relationally aggressive means (Crick & Nelson, 2002).

In line with Social Cognitive Theory and the processes outlined by Bandura (1986; 2001), under these circumstances, young children may be likely to recognise that caregivers pay little attention to relational aggression compared to physical aggression and may internalise these reactions as supportive of relationally aggressive behaviours (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006). Similarly, caregivers' lack of response to relationally aggressive behaviours may also be directly reinforcing children's negative behaviours (Young et al., 2006), particularly when their negative behaviour has proven successful in achieving a goal or the negative behaviour has not led to a negative consequence. Thus, theoretically, these early beliefs that caregivers are sending to children about relational aggression may manifest themselves in children's normative beliefs about relational aggression and the types of behavioural responses children enact in social conflict. To date, no research has been conducted exploring the influence of teachers' and parents' implicit approval of relational aggression on children's normative beliefs about different forms of aggression and their behavioural response choices. Thus, this thesis will explore possible interrelationships between caregiver's normative beliefs and whether these are associated with children's normative beliefs and behavioural responses to provocation.

4.2.5 The Role of Siblings

Researchers have suggested that relationally aggressive behaviours are associated with particular ecological contexts such as home and school environments and the behaviours and beliefs of parents and teachers. Moreover, evidence suggests that home or prior to school contexts are the source of early learning of relational aggression (Compton, Snyder, Scherpferman, Bank, & Shortt, 2003; Ostrov et al., 2006; Pellegrini & Roseth, 2006; Stauffacher & DeHart, 2006; Tippet & Wolke, 2015). For example, sibling aggression has been identified as the most common form of aggression within families (Khan & Cooke, 2013) and this presents as a clear context for the early learning of aggression. A large study of adolescents (N = 4237) indicated that almost half of the children were victims of aggression from their siblings and over one third were perpetrators of aggressive

behaviour towards their siblings (Tippett & Wolke, 2015). Because sibling relationships are a fundamental part of young children's social worlds (Stauffacher & DeHart, 2006), sibling aggression may be a key mechanism for learning relational aggression and generalising these behaviours to other contexts such as early childhood settings.

The influence of sibling aggression on younger siblings' use of aggression was studied in the play interactions of 4 year olds' sibling and friendship dyads (Stauffacher & DeHart, 2006). In a home-based observational study the researchers observed play interactions between sibling dyads and friendship dyads and found that at age four, sibling dyads exhibited a higher rate of relationally aggressive behaviours than did friendship dyads. In particular, older sisters displayed higher and consistent levels of relational aggression compared to brothers and younger sisters who were more variable in their use of relational aggression. Similarly, preschool age children's use of relational and physical aggression was observed at two different time points (i.e., approximately six months apart; Ostrov et al., 2006). The findings from these observations revealed that observed relational and physical aggression of older siblings significantly predicted future observed relational and physical aggression of the younger sibling. These findings provide evidence that social interactions between siblings may provide their younger siblings with modelling and 'training' in the use of negative social behaviours, including relational aggression.

Similar homotypic stability for aggression has been demonstrated in older children whereby children who were identified as aggressive towards their siblings were more likely to report bullying peers at school, indicating the potential transmission of aggression across contexts (Tippett & Wolke, 2015). Evidence suggests this may be because sibling interactions can provide an environment where children accept and normalise relational aggression. In accordance with Social Cognitive Theory (Bandura, 1989; 2001) and the underlying tenets of the General Aggression Model (Anderson & Bushman, 2002), aggressive behaviour may be reinforced or inhibited based on the learning opportunities and feedback received from others. This is particularly true if the behavioural models are admired by the child, such as with sibling relationships. Therefore, early childhood might represent a developmental period when sibling influences on relational aggression may be salient and powerful. Thus, this study will include the presence of siblings as a factor when considering young children's use of relational aggression.

4.2.6 The Role of the Media

Recent research has also demonstrated the role of media in facilitating young children's use of relational aggression. A two-year longitudinal study investigating associations between violent media exposure and educational media exposure on concurrent and future aggression revealed that preschool age children who were exposed to more educational media engaged in more observed and teacher-reported relational aggression over time (Ostrov, Gentile, & Mullins, 2013). These findings and similar findings by Ostrov and colleagues (2006) suggest that preschool age children may not understand the conflict resolution skills that are typically displayed at the end of such programs. Thus, these children may be paying greater attention to the relationally aggressive behaviours being used within these programs and modelling these behaviours in social interactions with peers. These findings provide additional evidence of the interrelationship between internal cognitive processing and environmental factors in facilitating young children's use of relational aggression.

The General Aggression Model (Anderson & Bushman, 2002) has been central in assessing the nature of the links between violent media exposure and aggression. In particular, Anderson and colleagues (2001) meta-analytic review of the effects of violent video games revealed that exposure to violent media increases a child's aggressive thoughts, feelings, and physiological arousal, and this, in turn, increases children's preparedness to aggress. Thus, exposure to violent media may not only provide modelling of different types of aggression but may also cause changes to children's internal cognitive states that may facilitate aggression.

4.3 CHAPTER SUMMARY

The aim of this chapter has been to review the current literature on factors that are significant to the development of young children's relational aggression. Throughout this chapter, the influential role of internal factors and social ecological agents were emphasised in an attempt to highlight that a comprehensive understanding of the aetiology of aggression during early childhood cannot be achieved without acknowledging the collective contribution of internal and ecological factors.

Based on the theoretical evidence, it has been argued that the development of children's relational aggression may be influenced by internal factors, such as their

normative beliefs. These normative beliefs may develop as a result of direct observation and interaction with social agents such as teachers, parents, and siblings. The normative beliefs about, and intervention strategies used by teachers and parents in response to relational and physical aggression may communicate different messages about the acceptability of these types of aggression. More specifically, caregivers who view relational aggression as more normative and acceptable than physical aggression, are more likely to empathise with victims of physical aggression, and are more likely to use direct, immediate intervention in responses for physically aggressive behaviours compared to relationally aggressive behaviours (Bauman & Del Rio, 2006; Byers et al., 2011; Goldstein & Boxer, 2013; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006). Thus, it is necessary to explore young children's normative beliefs about relational and physical aggression and whether these beliefs are similar to the normative beliefs held by their teachers and parents. These patterns of beliefs also help to contextualise the intervention strategies used by teachers and parents when responding to different types of aggression and may provide essential empirical evidence for the aetiology of preschool age children's relational aggression.

Further, the findings reviewed in this chapter suggest that children's normative beliefs should be a good predictor of their aggressive or non-aggressive behaviours. For instance, children who hold normative beliefs approving of relational aggression are more likely to engage in relationally aggressive behaviours (Musher-Eizenman et al., 2004). However, these associations are yet to be explored in early childhood. This study will explore whether differences exist in relationally aggressive and typically developing children's normative beliefs about relational and physical aggression and associations between these beliefs and their levels of aggression.

In summary, there is a number of internal cognitive processes and environmental precursors that may facilitate young children's use of relational aggression. Previous research with early childhood populations may be limited because of the inherent methodological difficulties in assessing these complex constructs in very young children. Thus, for the purpose of this study, a developmentally appropriate, interactive measure will be developed and utilised in an attempt to understand the internal cognitive processes and ecological influences that may underlie children's use of relational aggression during early childhood.

CHAPTER 5

METHODOLOGICAL APPROACH

This chapter presents an overview of the research design and methodology of the study conducted for this thesis. It begins by presenting the research design followed by a description of the participants and the measures used in each study and the procedure of the study. The final section presents a brief discussion about ethical considerations and engaging children as research participants.

5.1 RESEARCH DESIGN

This study employed a convergent parallel mixed method design (Creswell & Plano Clark, 2011) to explore the development of relational aggression during early childhood. The convergent parallel mixed method design incorporates the use of quantitative and qualitative measures equally in each stage of the research process. In this thesis, the use of both quantitative and qualitative approaches allowed for a more comprehensive analysis of individual factors that may influence young children's use of relational aggression or prosocial problem solving behaviours. The quantitative methodology allowed the researcher to assess relational and physical aggression and prosocial behaviours in a sample of preschool age children and efficiently identify relationally aggressive and typically developing children. Qualitative methodologies such as interviews and observations allowed for more fine grained data to be collected about the differences in these two groups of children (Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 1998). Thus, the convergent parallel design was employed to develop a more comprehensive understanding of the social cognitive differences between relationally aggressive and typically developing children and the identification of factors that may facilitate aggressive behaviours in some children.

5.2 PARTICIPANTS

The participants in this study comprised three groups including children, their parents and teachers. Participants were recruited from a purposive sample of early childhood centres located in North Western Sydney, Australia. These centres were selected because they were located in postcodes representative of the general socio-demographic population in New South Wales, Australia (Australian Bureau of

Statistics, 2003). Eleven centres were approached for participation and seven agreed to participate in the study (participation rate = 64%). The final sample reflected a mix of privately operated ($n = 4$) and local government operated ($n = 3$) centres, also representing typical early childhood centres in Australia.

In each of the seven centres, teachers who were currently teaching children between the ages of 3 to 5 years were invited to participate. Eighteen teachers agreed to participate (participation rate = 100%). All children between the ages of 3 to 5 years who attended each early childhood centre, and their parents, were invited to participate in the research. The final sample consisted of 68 children and their consenting parent ($N = 68$) who completed the parent surveys (participation rate = 27%). Table 5.1 provides an overview of the number of participants in each centre, their ages, and gender.

Table 5.1

Participants by Centre, Age, and Gender

	Centre 1	Centre 2	Centre 3	Centre 4	Centre 5	Centre 6	Centre 7
Teacher							
N	4	2	3	3	1	3	2
Male	0	0	0	0	0	0	0
Female	4	2	3	3	1	3	2
Age years	41.0	41.5	29.3	30.0	24.0	27.0	48.0
<i>M (SD)</i>	(15.8)	(19.1)	(9.5)	(1.7)	(24.0)	(10.1)	(14.1)
Range	29 – 63	28 – 55	22 – 40	28 – 31	24	18 – 38	38–58
Child							
N	18	12	3	9	8	7	11
Male	8	4	0	3	2	5	8
Female	10	8	3	6	6	2	3
Age years	4.2	4.0	4.0	4.3	4.5	4.9	4.7
<i>M (SD)</i>	(0.4)	(0.6)	(0.5)	(0.6)	(0.5)	(0.4)	(0.6)
Range	3.2 – 5.0	3.0 – 4.8	3.6 – 4.5	3.2– 5.1	3.7 – 5.3	3.9 – 5.1	3.5-5.3
Parent							
N	18	12	3	9	8	7	11
Male	2	0	0	0	0	1	0
Female	16	12	3	9	8	6	11
Age years	31.7	33.5	31.3	30.4	31.9	32.2	33.6
<i>M (SD)</i>	(4.0)	(4.5)	(5.7)	(5.5)	(4.7)	(5.8)	(4.1)
Range	24 – 41	30 – 42	25 – 36	21 – 36	26 – 41	26 – 41	28–39

5.3 MEASURES

Several quantitative and qualitative measures were used in this study and a brief description of each measure will be provided in the following section. A more extensive description is provided in each chapter of the four individual studies (Chapters 6-9).

5.3.1 Teacher and Parent Beliefs about Aggression

Study One employed quantitative and qualitative self-report measures to assess teacher and parent perceptions of different types of aggression used by preschool age children, including relational and physical aggression. The *Teacher and Parent Normative Belief Questionnaire* is described in Chapter 5 and is an adaptation of Bauman and Del Rio's (2006) Bullying Attitude Questionnaire and is used to assess normative beliefs about, and intervention strategies for aggression. This measure consisted of two physically aggressive and two relationally aggressive vignettes. A sample vignette is "*At a craft table you overhear a child say to another child, 'If you don't let me have the purple crayon, I won't invite you to my birthday party.'*" Following each vignette, three subscales assessed teacher's and parent's perceptions of the seriousness of the act, empathy for the victim and if they would be likely to intervene in the behaviour. Teachers and parents were asked to report on the types of intervention strategies they would use to respond to each act and these responses were analysed qualitatively (See Appendix C for the Teacher and Parent Normative Belief Questionnaire).

Teachers also completed an individual interview in which they were asked to provide specific examples of aggressive behaviours they had witnessed in the early childhood setting. A sample interview question is "*What sorts of aggressive behaviours do children in the 3-5 classroom use?*" (See Appendix D for the full teacher interview protocol).

5.3.2 Preschool Children's use of Aggression and Socio-Psychological Wellbeing factors

Study Two assessed children's use of relational and physical aggression and a range of socio-psychological outcomes. The *Preschool Social Behaviour Scale – Teacher Form* (Crick et al., 1997) and the *Preschool Peer Victimization Scale –*

Teacher Form (Crick et al., 1999) are teacher-rated scales that assessed each child's use of relational and physical aggression, their relational and physical victimisation, their use of prosocial behaviours and received prosocial behaviours from their peers, their level of peer acceptance in the group, and their depressed affect (See Appendix E for teacher's report of children's social behaviour and development).

5.3.3 Understanding the Intentionality and Function of Young Children's Aggression

Study Three used the data from Study Two to identify subgroups of relationally aggressive and typically developing children. These children formed two groups for more in depth group comparisons of social behaviours in the early childhood centre. The *Early Childhood Play Project Observation System* (ECPPOS; Ostrov & Keating, 2004) was used to record incidences of aggressive behaviour used by relationally aggressive and typically developing children during four, 20 minute observations. The original measure recorded children's behaviour during five, 10 minute observation periods. The longer observation periods were used in this study to capture the subtle incidences of aggression that may be missed with shorter observation periods. The ECPPOS observation coding system was used to assess children's relational and physical aggression during free, unstructured play.

Following observations, each child was invited to participate in a *Video Stimulated Recall Interview* (explained further in the Methodological Innovations section of this chapter and in Chapter 8) in which incidences of aggressive behaviour were replayed to the child and the child was asked to explain why they chose to engage in aggression. The Video Stimulated Recall Interview followed each observation session, allowing for children's intentions and social cognitive thought processes to be examined immediately after engaging in aggression and at multiple time points throughout the study (see Appendix F for the full observation coding system).

5.3.4 Children's Normative Beliefs and Behavioural Responses to Aggression

For the purpose of Study Four, a *Social Cognitive Interview* (explained further in the Methodological Innovations section of this chapter and in Chapter 9) was devised to assess children's normative beliefs and behavioural response choices to relational and physical provocation. This measure consisted of two physically

aggressive and two relationally aggressive vignettes presented using Duplo toy figurines. A sample scenario is “*This child is building a block tower. Another child comes over and knocks over the block tower.*” Following each vignette, two subscales assessed children’s normative beliefs about the type of aggression enacted in the vignette and how they would respond to the provocation. Children’s behavioural responses were assessed qualitatively (See Appendix G for the relational and physical provocation vignettes).

5.4 METHODOLOGICAL INNOVATIONS

This thesis devised two new measurement approaches to assess children’s intentionality, reasoning about aggression, and behavioural response choices to different forms of provocation.

5.4.1 Video Stimulated Recall

Video recordings provide opportunities to observe young children’s overt behaviours as well as non-verbal communication, allowing researchers to develop a new understanding of social interactions during early childhood (Heath, Hindmarsh & Luff, 2010; Walsh, Bakir, Lee, Chung, & Chung, 2007). An advantage of video technology is that it allows the researcher to observe and re-observe children’s social interactions and behaviours, making it possible to examine the details of children’s social interactions with a higher level of scrutiny and precision than before (Flewitt, 2006; Heath et al., 2010; Walsh et al., 2007).

Video Stimulated Recall (Kagan, Krathwohl, & Miller, 1963) or Instant Video Revisiting (IVR; Forman, 1999) involves recording a child (or children) engaging in behaviours within their social contexts using a digital video camera. Shortly after the recording has taken place, the video footage is played back to the child (or children) and the child is asked specific questions regarding the behaviours they engaged in. In this sense, video stimulated recall is a tool that allows the researcher to “gain access to the thoughts, feelings, concerns, interpretations, and reactions” (Pomerantz, 2005, p. 96), all of which are central tenants to the Social Information Processing Framework (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002).

The Video Stimulated Recall interview was used in Study Three to directly ask relationally aggressive and typically developing children about their aggressive behaviours and why they chose to engage in aggression. This methodological approach was useful in understanding young children's use of aggression in light of the processes central to the Social Information Processing Model (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002), namely the interaction between behaviour, social information, and internal cognitive processes.

5.4.2 Social Cognitive Interview

A number of studies have employed the use of hypothetical vignettes and questioning to gain deeper insight into young children's perspectives and motives in response to different social provocations (e.g., Huesmann & Guerra, 1997; Goldstein et al., 2002; Werner & Hill, 2010; Werner & Nixon, 2005). For example, Huesmann and Guerra (1997) constructed vignettes to assess first and fourth grade children's normative beliefs about different types of aggression. An example of a vignette was "It's okay for a boy, Tom, to hit a girl, Julie, if Julie says something bad to Tom first" (p. 410). As shown in this example, vignettes have been used as a technique to tell stories about an individual or situation and participants are typically asked to respond to these situations with what they would do or how they think another person would respond (Hughes, 1998). While vignettes are used to understand young children's perspectives about aggression, the method is not without limitations. Vignettes, such as the example illustrated above, often contain complex sentences or embedded clauses that may be difficult for some children or very young children to follow. These vignettes often require a child to *imagine* a particular scenario or aggressive behaviour occurring and then answer a range of questions related to their perceptions of the information provided in the scenario. A limitation of the use of vignettes with very young children is the complexity associated with a child *imagining* a scenario and then applying a strategy or behavioural response to the scenario. More specifically, vignettes may only provide an indication of young children's behavioural response when presented with a similar social situation in the real world.

A young child's understanding of a vignette is also dependant on their verbal capabilities and their memory. Studies using vignettes to explore young children's normative beliefs about different social behaviours (e.g., Huesmann & Guerra, 1997; Werner & Hill, 2010) often present children with abstract concepts or situations that

may be difficult to understand. Similarly, these scenarios often also present children with a lot of information that they are required to remember and retrieve in order to answer the questions accurately. Using the vignette of Huesmann and Guerra (1997) as an example, the child needs to process information about the gender of the two children involved; that Julie said something bad about Tom *first*, and that Tom obviously did not like what Julie said, so he retaliated by choosing to hit her. Based on the underlying tenets of the Social Information Processing Model (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002), the connections between internal processes and behaviours are complex when actively enacting aggression. Thus, encoding and comprehending this social information from a factious vignette would be equally, if not more difficult for children.

The Social Cognitive Interview was developed for Study Four to assess relationally aggressive and typically developing children's normative beliefs and behavioural responses to provocation. This measure extended previous methodologies that have used hypothetical vignettes by using Duplo toy figurines as an interactive approach to stimulate children's understanding of factious aggressive scenarios. The Duplo toy figurines were also used by children to assist them in responding accurately to questions about their normative beliefs and behavioural responses to each of the provocations. Children were also provided with a pictorial scale that was used to assess their normative beliefs about aggression. This methodological approach advances previous methods by providing a developmentally appropriate measure to assess young children's normative beliefs and behavioural responses to different forms of aggression, both of which are complex constructs that are difficult to assess in young children.

5.5 PROCEDURE

Prior to commencement of the research, ethics approval was obtained from the University Human Ethics Review Committee (Reference Number: 5201200783; see Appendix H). The Directors of the seven participating early childhood centres provided consent for the project in their centre and also circulated information and consent packages to individual teachers. Those centres who declined participation indicated that teachers would not be available to participate due to other work commitments and that there were few children between the ages of 3 and 5 attending their centre. The researcher attended each centre to explain the procedure of each of

the studies and the participation of teachers, children, and parents. More specifically, teachers of children between the ages of 3 and 5 were advised of their role in the research study, if they chose to participate. Participating teachers signed and returned their consent forms in sealed envelopes to the researcher and it was made clear that any teacher could decline participation. No teacher in any participating centre declined to participate. All information statements and consent forms can be viewed in Appendix I. After teachers had consented to the project, they were responsible for the distribution and collection of information and consent forms from parents. The ethical conditions of the research stated that the researcher could not directly approach parents of children and the identity of parents and children was to remain private until such time they had consented to the research. Parents were provided with the option of returning the consent forms back to the centre in a sealed envelope or using the self-addressed envelope to return their consent forms to the researcher.

After the recruitment phase, the researcher organised a time with the Directors and teachers to commence data collection for each study. There were four separate data collection stages for each early childhood centres (see Figure 5.1). The same sequence was followed for each centre and the data collection began four months after the beginning of the preschool year so children would have formed relationships with their peers and teachers would be good informants of children's behaviours. The procedure for each study is described in detail in each chapter of the four individual studies (Chapters 6-9). At the completion of data collection, all children were thanked for their participation. Each parent received a \$10 Coles Myer Gift Card as a token of appreciation for their time. Each early childhood centre received a participation certificate.

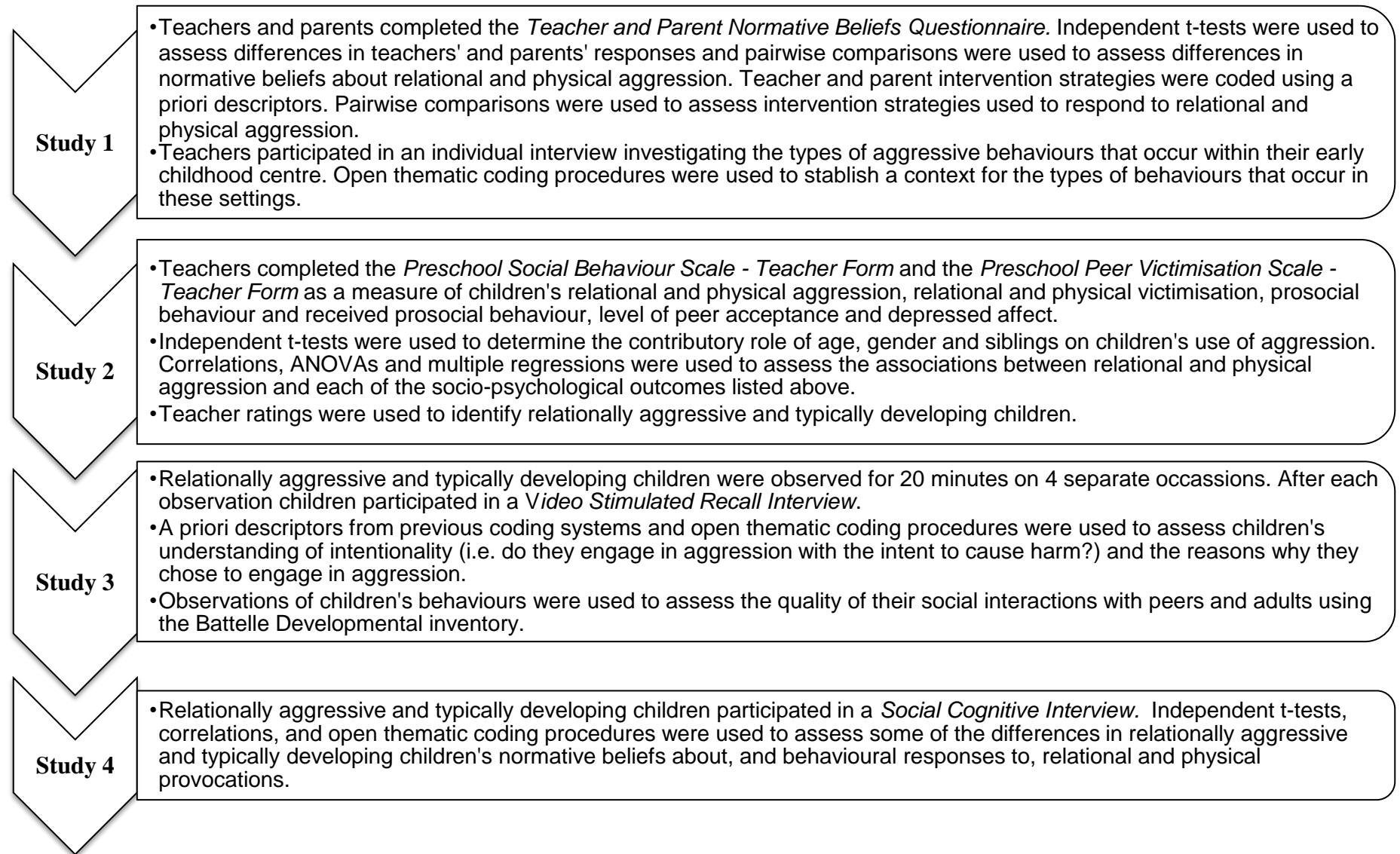


Figure 5.1. Methodological Sequence of the Four Studies

5.6 ETHICAL CONSIDERATIONS AND CHILDREN AS RESEARCH PARTICIPANTS

Unlike other studies conducted internationally on young children's relational aggression, in Australia parents are required to provide written consent for their child's participation. The researcher is also not allowed to contact parents to encourage or facilitate the return of consent forms as the parent's identity must remain confidential until they have provided formal consent. The risk of these consent procedures are low return rates due to the simple failure to read and return consent forms, hence the low return rate of 27% for this study. Gaining consent from adults for a child's participation can clearly limit researchers' access to children (Smith, 2011). Thus, some studies assessing relational aggression in early childhood have adopted blanket consent procedures (e.g., Crick et al., 2006) while others have used passive consent procedures with older children (e.g., Werner & Nixon, 2005). These procedures are not available in Australia when recruiting children to participate in research studies. Also, the explicit nature of the research explanation required by ethics committees may also cause some concern for parents about having their children's aggressive behaviours assessed by the teacher and researcher.

A strength of the ethical consent procedures in Australia are the requirements to carefully explain the research process to the child and gain the child's verbal consent to participate in the research project. This requires the researcher to explain the research study to the child using plain language. For this thesis, children's verbal consent was obtained at the beginning of each observation session and Video Stimulated Recall Interview and prior to conducting one-on-one Social Cognitive Interviews. While the ethical advantages of this consenting procedure are well established, another important ethical consideration is how children are interviewed by researchers. This is an important consideration because in the past researchers have typically asked for parents' and teachers' perceptions rather than the children themselves. Mahon and colleagues (1996) acknowledged that the power imbalance between adult and child may be more problematic when research is conducted on a one-to-one basis such as interview measures. In light of this ethical consideration, Mahon and colleagues (1996) recommended "the adoption of more varied and imaginative research methods may make it possible to overcome these problems to some extent; for example... interactive research methods such as video and

drawing” (p. 149). The advantage of the methodological innovations of this thesis is that the measures are developmentally appropriate and aim to maximise children’s ability to express their perceptions and understanding of their social interactions. Therefore, these interactive measures may be effective in minimising the power imbalance between the researcher and child and encourage children to participate in the research (Cook & Hess, 2007) whereby the research is no longer on children, but rather *with* children (Christensen & James, 2008; Plowman & Stevenson, 2012).

As indicated previously, the limitations of the ethical requirements and Australian consenting procedures may have contributed to the small sample size and limited the power in this study. However, given the exploratory nature of this research study with an Australian population, the total sample size ($N = 68$) was deemed sufficient in identifying trends in young children’s aggressive and prosocial behaviours. The sample size of the two comparison groups (relationally aggressive $n = 9$; typically developing $n = 9$) was 100% proportionate of those children identified as highly relationally aggressive and typically developing. That is, all children identified with average levels of relational and physical aggression and high levels of relational aggression participated in Study Three and Study Four. Thus, these sample sizes were considered optimal in identifying meaningful differences between the two groups. Moreover, the purpose of this study was not based solely on finding significance, rather the use of intensive interviews and observational data collection methods complemented the quantitative data by providing fine grained details about the development of relationally aggressive behaviours during early childhood that would otherwise be lost if the study was to rely solely on statistical significance.

5.7 DATA ANALYSIS

Convergent parallel mixed method design incorporates the use of qualitative and quantitative data, requiring statistical analysis and a priori thematic analysis. A small amount of open thematic coding was used to explore children’s intentionality and behavioural response choices to provocation, as it offers the flexibility of identifying themes that are important to children as well as commonalities and differences between groups. These themes were considered valuable in their own right and were explored alongside themes relevant to the Social Information Processing Model (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002).

In Study One, teacher interviews were coded and analysed using a priori themes identified in previous studies of teacher's perceptions about aggression (e.g., Bauman & Del Rio, 2006; Boxer, Musher-Eizenman, Dubow, Danner, & Heretick, 2006; Byers et al., 2011). Teacher and parent scores on each of the subscales of the Teacher and Parent Normative Belief Questionnaire were scored and independent t-tests were computed to assess whether there are differences in perceptions for relational versus physical aggression. Teacher and parent intervention strategies were coded using a priori descriptors from previous research (Colwell, Mize, Pettit, & Laird, 2002; Werner et al., 2006) and were statistically analysed to determine whether teachers and parents intervene differently in relational versus physical aggression.

In Study Two, Pearson product-moment correlations, analysis of variances, and a series of multiple regression analyses were computed to examine the associations between teacher rated relational and physical aggression and socio-psychological wellbeing factors related to prosocial behaviour, relational victimisation, physical victimisation, depressed affect, peer acceptance, and received prosocial behaviour. Teacher ratings of children's aggression were summed and two comparison groups were identified for further analysis. Following the procedure adopted by Crick and colleagues (1997), the first subgroup were children with relationally aggressive scores $1+SD$ above the population mean and the second group comprised children with average levels (i.e., within $1SD$ of the mean) of relational and physical aggression. This group is referred to as typically developing children.

A priori behavioural descriptors and open thematic coding were used in Study Three to examine the differences in relationally aggressive and typically developing children's cognitive understanding and reasons for engaging in aggressive behaviours. Paired sample t-tests and Pearson product-moment correlations were computed to examine the differences in relationally aggressive and typically developing children's normative beliefs about relational and physical aggression and to ascertain their behavioural response choices to relational and physical provocation. Open thematic coding procedures were used to analyse children's behavioural response choices and frequency counts of responses were summed for statistical analysis and comparison between the two groups.

5.8 CHAPTER SUMMARY

This chapter presented the design and methodology of the current study. This study adopted a convergent parallel mixed method design with four studies which were developed and sequenced to build on the findings from the previous studies. Data was gathered from multiple sources and perspectives to provide a comprehensive understanding of the development of relational aggression in preschool age children. Some of the ethical considerations when conducting research with young children were acknowledged, and these considerations were upheld, leading to a sufficient sample size that would allow meaningful conclusions to be drawn from the data. The approaches to data analysis ensured that important comparisons could be made between children identified as relationally aggressive (through teacher ratings) and those identified as using average levels of aggression. The data collection and analysis adopted in this study were labour and time intensive, however, extensive in depth quantitative and qualitative data was gathered, allowing for individual social cognitions and experiences to be examined from children's perspective. The following four chapters will present the results of each of the individual studies, with each chapter focusing on different research questions that build on the previous study.

CHAPTER 6

STUDY ONE. TEACHER AND PARENT BELIEFS ABOUT AGGRESSION

6.1 BACKGROUND

Study One was conducted with the aim of establishing a context for the types of prosocial and aggressive behaviours observed within early childhood centres in Australia and teacher and parent normative beliefs about, and intervention strategies used to respond to these behaviours. Extensive research has been conducted within Western cultures on children's social and aggressive behaviours during early childhood (e.g., Murray-Close & Ostrov, 2009; Swit & McMaugh, 2012) and teacher and parent normative beliefs about different forms of aggression (e.g., Bauman & Del Rio, 2006; Byers et al., 2011; Werner et al., 2006). Although there appear to be cultural similarities between Australia and other Western countries such as the United States, there is some evidence suggesting possible differences in the types of aggression used by preschool age children in Australia (Hayward & Fletcher, 2003; Owens, Shute, & Slee, 2000; Russell et al., 2003; Swit & McMaugh, 2012; see Appendix A for publication). These studies have provided additional evidence that gender differences in Australian children's use of relational aggression are minimal if any.

Historically, aggression during early childhood has often been considered normative and the view has been taken that children will grow out of aggressive behaviours (Atlas & Pepler, 1998). However, over the last decade there has been an increase in the number of studies that have examined the extent of aggression in early childhood settings, and there is evidence that young children are engaging in sophisticated forms of aggression, such as relational aggression (Ambrose & Menna, 2013; Gower, Lingras, Mathieson, Kawabata, & Crick, 2014; Nelson et al., 2005). A recent study found approximately one in five preschool age children were identified by their teachers as engaging in high levels of relational aggression (Swit & McMaugh, 2012). While physical aggression is still more frequently and consistently recognised by teachers and parents as negative aggressive behaviour (McEvoy et al., 2003), relationally aggressive behaviours are also quite common in preschooler's peer interactions (Casas et al., 2006; Swit & McMaugh, 2012).

Previous studies exploring teacher's attitudes to aggression have predominately relied on self-report measures (e.g., Bauman & Del Rio, 2006; Hurd & Gettinger, 2011) in which participants respond to vignettes portraying relational and physical aggression. These studies have provided consistent evidence that adults perceive physical behaviours as more aggressive than relational behaviours. Previous researchers have theorised that teachers view physical behaviours as more aggressive because they observe relational behaviours less often, which are often subtle and covert, whereas they more frequently observe physical behaviours, which are more obvious and direct (McEvoy et al., 2003). Craig and colleagues (2000) also proposed that adults may be unaware of the potential negative consequences associated with relational aggression or may view physical aggression as more harmful. While these studies have shown good validity in measuring adult's social cognitions about aggression, this study extends previous studies by employing a unique interview measure with teachers to establish a context for the types of social and aggressive behaviours that occur within early childhood centres in Australia. To this end, teachers were directly asked about the types of behaviours they consider aggressive, prior to answering questions about relational and physical aggression. This is considered an important extension on previous studies as these interview questions directly tap into the teachers' understanding and definition of aggression, providing insight into the types of factors that they consider important when identifying behaviours as aggressive.

In addition, the assessment of teacher and parent normative beliefs about relational and physical aggression has predominately focused on primary and secondary education contexts. Those studies, which have considered early childhood contexts, have relied on either teacher or parent samples, but rarely both, with the exception of Hurd and Gettinger (2011). Together the studies tend to find that teachers and parents have more normative beliefs about relational aggression compared to physical aggression, are more likely to feel empathy for children victimised by physical aggression, and are more likely to intervene immediately in physical aggression compared to relational aggression (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner et al., 2006). Werner and colleagues (2006) also found that mothers viewed social exclusion as less hurtful and more normative than physical aggression, particularly for girls, and researchers have found similar findings for teachers (Bauman & Del Rio, 2006; Hurd & Gettinger,

2011). These normative beliefs about relational aggression may not be helpful in the parenting and teaching context as the literature clearly highlights the significant short and long term consequences associated with relational aggression.

Adult's normative beliefs about aggression and the level of empathy held for victims of aggression have also been linked to the types of intervention responses used when responding to relational and physical aggression (Mishna, Scarcello, Pepler, & Wiener, 2005; Werner & Grant, 2009; Werner et al., 2006). Adults who view relational aggression as normative, typical behaviour are less likely to empathise with the victim, often considering the behaviour as *'just the way students are'* (Young et al., 2006, p. 298). Adults then respond accordingly, usually by not intervening or taking a lot longer to intervene in the situation than they would if responding to physical aggression (Mishna et al., 2005; Werner & Grant, 2009; Werner et al., 2006). For instance, teachers were more likely to use punitive methods in response to physical aggression but do nothing in response to relational aggression (Bauman & Del Rio, 2006; Goldstein & Boxer, 2013; Kochenderfer-Ladd & Pelletier, 2008). Similarly, mothers were more likely to endorse the use of punishment and time out when the aggressive act was physical versus relational in nature (Goldstein & Boxer, 2013; Hurd & Gettinger, 2011; Werner et al., 2006). In line with Social Cognitive Theory (Bandura, 1989; 2001), the use of different intervention strategies in response to relational aggression, compared to physical aggression, may communicate to children that some forms of aggression are more acceptable than others. Similarly, research has shown that adults' lack of empathy and intervention may imply to some victims of aggression that they have brought the behaviour upon themselves (Mishna et al., 2005).

To date, very few studies exploring social and aggressive behaviours in preschool age children in Australia have been conducted (see Russell et al., 2003; Swit & McMaugh, 2012; for examples). Further, researchers are continuing to acknowledge that early childhood teachers play an influential role in creating supportive social climates for children as they are spending an increased amount of time in care (e.g., Hurd & Gettinger, 2011). As such, this study aims to answer the following research questions.

Research Question 1.1 What are teacher's perceptions of aggressive behaviours in the early childhood context?

Research Question 1.2 What are teachers' and parents' normative beliefs about relational and physical aggression?

Hypothesis 1a: Teachers and parents will view physical aggression as more serious, will have higher levels of empathy for victims and be more likely to intervene compared to relational aggression.

Research Question 1.3 What types of intervention strategies are implemented by teachers and parents in relational and physical aggression scenarios?

Hypothesis 1b: Teachers and parents will use more passive intervention strategies when intervening in relational compared to physical aggression.

Research Question 1.4 What is the association between teacher and parent normative beliefs about relational and physical aggression and their level of education obtained?

Hypothesis 1c: Teachers and parents with higher levels of educational attainment will view relational and physical aggression as more serious behaviours than teachers and parents with lower levels of educational attainment.

6.2 METHOD

6.2.1 Participants

6.2.1.1 Teachers

Teacher participants ($N = 18$) were drawn from seven early childhood centres. Teachers were all female, aged between 18 and 63 years ($M = 34.8$ years, $SD = 12.7$ years) with an average of 10.9 years ($SD = 9.6$ years) work experience in early childhood settings. There were no male teachers employed at the early childhood centres participating in this study and this is typical of the gender distribution in this profession in Australia (Richardson & Watt, 2006).

6.2.1.2 Parents

Parents who participated in this study ($N = 68$) were predominately female ($n = 65$) and were aged between 21 and 42 years ($M = 32.2$ years, $SD = 4.6$ years).

6.2.2 Measures

6.2.2.1 Demographic Information

Teachers and parents were asked to provide demographic information about their age, gender, and level of educational attainment. Parents were asked to report the number of siblings in the family. This survey can be found in Appendix J.

6.2.2.2 Teacher Interview about Children's Aggression and Social Behaviours

Each teacher was invited to participate in a semi-structured interview exploring their perceptions and experiences of aggression and social behaviours in the early childhood centre. The primary objective of the interview was to elicit specific examples of aggression and social behaviours that have been seen in preschool age children. The interview consisted of ten opened ended questions that assessed teacher's perceptions about what makes behaviours aggressive, characteristics of aggressive and prosocial children, and the origin or source of children's aggressive behaviour (the full protocol is reproduced in Appendix D). Teachers were presented the interview questions in sequential order and additional prompting questions were asked if the researcher needed further clarification about teachers' responses. Teacher interviews were recorded with their consent and transcribed verbatim. The interview items were based on previous studies exploring teacher's perceptions of aggression through a social cognitive ecological lens (e.g., Boxer et al., 2006) as well as reports of common aggressive and prosocial behaviours in preschool children (Crick et al., 1995; Tremblay, 2000). Examples of interview items include "*What sort of behaviours would you call aggressive?*" and "*Where do you think children learn these behaviours?*"

6.2.2.3 Teacher and Parent Normative Beliefs Questionnaire

Teacher and parent normative beliefs about aggression were assessed with two vignettes portraying physical aggression and two vignettes portraying relational aggression. These vignettes were adapted from Bauman and Del Rio's (2006) Bullying Attitude Questionnaire to reflect scenarios more applicable and relevant for an early childhood population. For example, the original survey scenario reflecting physical aggression described an act whereby a child smacks another child over the head, demanding to use an eraser. A child is less likely to use erasers in the

preschool setting and was replaced with a scenario describing a child hitting another child on the arm, demanding to use the toy. Following each vignette, three subscales assessed teacher and parent perceptions of the a) seriousness of the aggressive act; b) empathy for the victim, and c) likelihood of intervention. The seriousness rating served as the indicator of normative beliefs about aggression in that rating aggressive behaviours as 'not at all serious' or 'less serious' is proximal to normative beliefs about aggression that also indicate more acceptance of aggression. All responses were reported on a 5-point Likert scale (e.g., 1 = 'Not at all serious' and 5 = 'Very serious'). Lower scores indicated normative beliefs about aggression, less empathy and less likelihood of intervention.

Consistent with the scoring from Bauman and Del Rio (2006), teacher's and parent's scores on each of the subscales were obtained by taking the mean score of their responses to the relational aggression scenarios and the physical aggression scenarios. The original Bauman and Del Rio (2006) measure has shown good validity and reliability. Reliability for this study was good-high for seriousness of the aggressive act ($\alpha = 0.69$; $\alpha = 0.81$), empathy for the victim ($\alpha = 0.72$; $\alpha = 0.87$), and likelihood of intervention ($\alpha = 0.71$; $\alpha = 0.80$) in relational and physical aggression respectively. The full measure including the 5-point Likert scale can be found in Appendix C.

6.2.2.4 Teacher and Parent Interventions

An open-ended response item invited teachers and parents to report the intervention strategies they would use (hypothetically) to respond to each vignette described in the measure. The procedure for coding teacher and parent intervention strategies was based on the categories described by Colwell and colleagues (2002) and Werner and colleagues (2006). For example, responses indicating that the teacher or parent would do nothing were coded as 'non-intervention'. Responses focused entirely on the victim in the situation were also coded as 'non-intervention'. Responses that focused on the aggressor were considered interventions. Following the scoring procedure of Werner and colleagues (2006), each intervention strategy received a rating on four dimensions that have been shown to be associated with children's social competence: discussion, power assertion, encouragement, and rule violation. Interventions associated with the '*discussion*' dimension indicated that the teacher or parent would directly communicate with the child who perpetrated the

aggressive act and would ask the child to consider possible solutions to the problem. '*Encouragement*' was identified if the teacher or parent response involved communication about the importance of prosocial and positive play with other children. '*Power assertion*' was identified if the intervention strategy attempted to change the child's behaviour. The '*rule violation*' dimension was identified if the teacher or parent clearly communicated to the child that their behaviour violated social or moral rules. A score for each intervention dimension (discussion, encouragement, power assertion, rule violation) was calculated for each participant by calculating the mean score on each dimension for relational aggression and physical aggression scenarios. A second researcher coded a random sample of 25% of responses and inter-rater reliability was high (ICC's > .89).

6.2.3 Procedure

This study was reviewed and approved by the University Human Ethics Review Committee before commencement (Reference Number: 5201200783, see Appendix H). The teachers in the classrooms of children between the ages of three and five received a teacher information and consent package (see Appendix I) and were invited to participate in the current study. Teachers completed the demographic information survey followed by the teacher interview. Each of the teacher interviews were conducted by the student researcher. Using a semi-structured interview, teachers were presented the interview questions in sequential order and additional prompting questions were asked if the researcher needed further clarification about teachers' responses. Teacher interviews were recorded with their consent and transcribed verbatim.

Upon completion of the interview, teachers completed the Teacher and Parent Normative Beliefs Questionnaire. This measure was completed last to ensure the vignettes portrayed in the questionnaire did not influence their responses to the interview questions. The interview and survey were completed in a quiet and private location at the early childhood centre.

Teachers distributed parent information and consent packages (see Appendix I) to the parents of each child in the classroom. Each package also contained the demographic information survey and the Teacher and Parent Normative Beliefs Questionnaire. Consenting parents returned their consent form and the completed

questionnaires to the school in a sealed envelope. The parents also had the option of completing the questionnaires in an online survey using *Qualtrics*, with two parents selecting this option. The final participation rate for parents was 27%. As a token of appreciation, each family received a \$10 gift card as compensation for their time.

6.3 RESULTS

The results presented here address the research questions associated with teacher's perceptions of aggression and teacher and parent normative beliefs about relational and physical aggression. Descriptive statistics of teacher and parent demographics are presented, followed by the findings arising from the teacher interview and assessment of teacher and parent normative beliefs.

6.3.1 Demographic Information

6.3.1.1 Teachers

The teachers had between 1 and 42 years' experience working within early childhood settings ($M = 10.9$ years, $SD = 9.6$ years) and most teachers had or were in the process of obtaining a University qualification (see Table 6.1). All of the teachers reported that they had received some form of behaviour management training throughout their career.

Table 6.1

Education Characteristics of Teachers and Parents

Highest Level of Education Attained	Teachers (%)	Parents (%)
Completed Secondary Education	0%	21%
Completed TAFE	33%	41%
Completed University	56%	32%
Currently Completing TAFE	6%	0%
Currently Completing University	6%	0%
Completed Master Degree	0%	3%
Completed Doctorate Degree	0%	3%

6.3.1.2 Parents

The highest level of education attained by parents is shown in Table 6.1. Parents reported that most children had one or more siblings (94%) while 6% had no siblings. Three parents did not complete the Teacher and Parent Normative Beliefs Questionnaire and were omitted from the analysis, resulting in a final sample of 65 parents.

6.3.2 Teacher's Perceptions of Aggressive Behaviours in the Early Childhood Context

This analysis addressed research question 1.1: What are teacher's perceptions of aggressive behaviours in the early childhood context? These analyses are based on a semi-structured teacher interview and responses are coded and analysed using a priori themes from previous research (e.g., Bauman & Del Rio, 2006; Boxer et al., 2006). These themes included definitions and descriptions of aggression and causes of aggression.

6.3.2.1 Typical Positive and Negative Behaviours

Typical positive behaviours described by teachers included sharing, turn taking, communicating, helping one another and cooperative play. Some of the common negative behaviours included pushing, deliberately hurting other children, yelling, biting, and the use of nasty language.

6.3.2.2 What Makes a Behaviour 'Aggressive'?

Teacher perceptions about the nature of aggressive behaviour could be grouped into two categories, *definitions of aggression* and *causes of aggression*, with identifiable themes in both categories.

6.3.2.1.1 Definition of aggression. Frequency counts and examples of quotes for each of the themes generated from teacher interviews about the definition of aggression are presented in Table 6.2. Teachers identified that aggression is intentional and ongoing behaviour and is usually delivered using physical force.

Intent to cause harm. Teachers ($n = 6$) acknowledged that there needed to be intent to cause harm in order for negative behaviour to be considered aggressive. A sample interview response includes "*I think when there is that intent there that's*

when it crosses that line of being aggressive” (Participant 2, University trained, 14 years teaching experience).

Ongoing behaviour. Teachers ($n = 2$) also indicated that behaviour should be ongoing to be considered aggressive, that *“the behaviour isn’t just a one-off”* (Participant 6, TAFE trained, 26 years teaching experience).

Form of the behaviour. Most of the teachers ($n = 12$) identified that aggression is delivered using physical force, compared to the four teachers who identified relational, emotional or psychological harm to be aggressive. Of the three teachers who identified relational behaviours as a form of aggression, two teachers commented that physically aggressive behaviours were more serious than relationally aggressive behaviours. For example, one teacher specifically differentiated physical and relational acts of aggression: *“[It’s being] pushed or shoved, like a physical type of behaviour... It actually needs to be more than just saying ‘I don’t want to be your friend’ and that sort of thing. I mean these words are bad, but they happen with kids all the time... It needs to be more than that”* (Participant 10, TAFE trained, 7 years teaching experience). These comments illustrate that some teachers perceive relational and physical behaviours differently and consider physical behaviours as more aggressive when compared to behaviours consistent with relational aggression.

Table 6.2

Themes and Frequency Counts from Teacher Interviews about the Definition of Aggressive Behaviour

Theme	n	Exemplar Interview Responses
Intention to Harm Others	6	“I think when there is that intent there that’s when it crosses that line of being aggressive. You know an accidental bump is different to a full on shove where someone else gets hurt” Participant 2, University trained, 14 years teaching experience.
Ongoing Behaviour	2	“If it’s a continuation and they come in one day and then the next day the behaviour continues, that’s aggressive” Participant 6, TAFE trained, 26 years teaching experience.
Physical Aggression	12	“Aggressive behaviour is hitting, kicking, pushing, throwing things unnecessarily... when they lose their temper they’ll pick up things and throw them across the room” Participant 3, University trained, 10 years teaching experience.
Relational Aggression	4	“The intimidation is a big thing... No one wants to feel like that... I think that can sometimes be worse, the emotional and that type of bullying... because if you carry that with you, it doesn’t give you much self-confidence” Participant 10, TAFE trained, 7 years teaching experience.

6.3.2.1.2 *Causes of aggression.* Frequency counts and examples of quotes for each of the themes generated from teacher interviews about the causes of aggression are presented in Table 6.3. Teachers identified that aggression is caused by developmental characteristics associated with the child, the child's basic needs are not met, and/or the child is defiant.

Development of the child. Most teachers ($n = 14$) believed that aggression was related to developmental characteristics of the child. That is, the child lacked developmentally appropriate skills such as language or social skills and this was the primary cause of the child's aggressive behaviour: *"Children get aggressive because they don't have the language or social etiquette..."* (Participant 12, University trained, 42 years teaching experience). Teachers also identified age and temperament as characteristics that may cause some children to engage in aggression.

Basic needs not met. Teachers ($n = 2$) also indicated that children who were not having their individual basic needs met as a cause of their aggressive behaviour: *"Depending on what happens before they come to preschool... that can be a big trigger I think... like lack of sleep and what they ate for breakfast if anything"* (Participant 8, University trained, 10 years teaching experience). These beliefs appear to indicate that young children may be less capable of controlling their behaviours when their needs such as hunger and sleep are not met.

Defiance and choice. One teacher stated that children's aggression was a result of defiance and refusal to follow rules despite being aware of them. More specifically, this teacher identified that the child who engages in aggressive behaviour is *"aware of the rules and they're not accepting of that"* (Participant 12, University trained, 42 years teaching experience), suggesting that children willingly choose to engage in aggression.

Table 6.3

Themes and Frequency Counts from Teacher Interviews about the Causes of Aggressive Behaviour

Theme	<i>n</i>	Exemplar Interview Responses
Development of the Child	14	<p>“If it was an older child who was doing it really forcefully then it would be called aggressive, but if it was a younger child lashing out then it would be age appropriate.” Participant 1, University trained, 7 years teaching experience.</p> <p>“Children get aggressive because they don’t have the language or the social etiquette, or they don’t have the capacity to communicate and this is their way of speaking and showing people this is what they want” Participant 12, University trained, 42 years teaching experience.</p>
Basic Needs Not Met	2	<p>“Depending on what happens before they come to preschool... that can be a big trigger I think. You know, like the lack of sleep and what they ate for breakfast, if anything... things like that” Participant 8, University trained, 10 years teaching experience.</p>
Defiance and Choice	1	<p>“When they have an awareness of the rules and they’re not accepting of that and they’re not using the messages that they’ve been taught to control their emotions... they know the rules” Participant 12, University trained, 42 years teaching experience.</p>

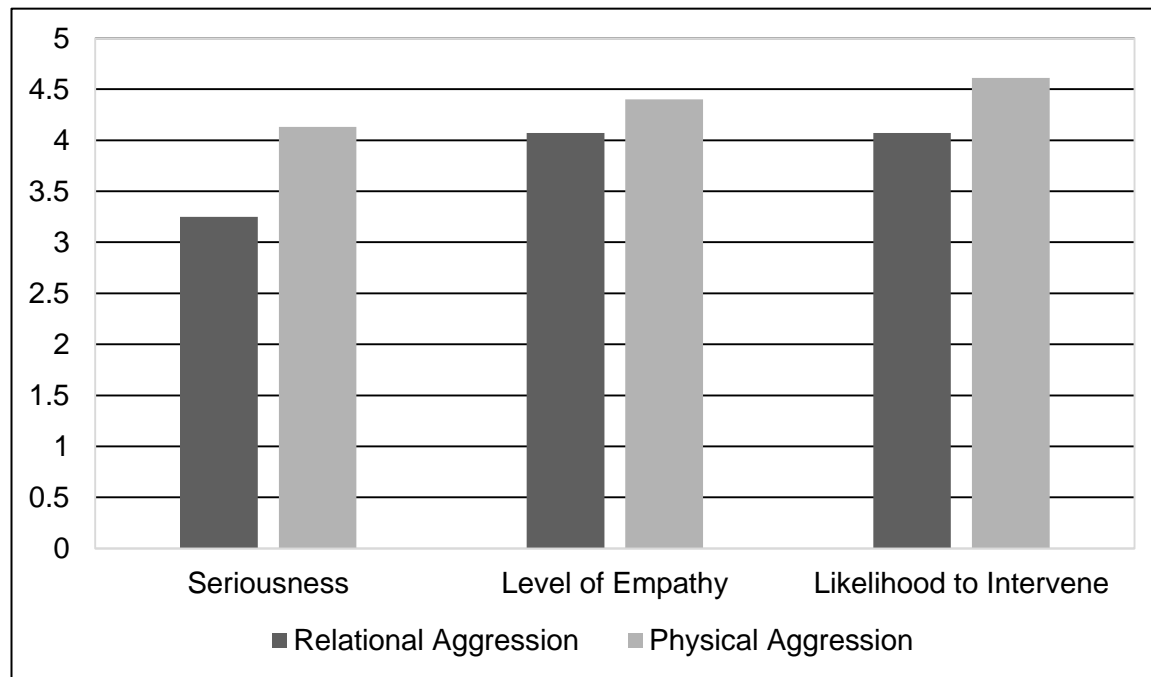
6.2.3 Teachers’ and Parents’ Normative Beliefs about Relational and Physical Aggression

This analysis addressed research question 1.2: What are teacher’s and parents’ normative beliefs about relational and physical aggression? These analyses are based on teacher and parent mean scores on the Normative Beliefs Questionnaire. It was predicted that teachers and parents would view physical aggression as more serious, would have higher levels of empathy for victims and would be more likely to intervene compared to relational aggression (**hypothesis 1a**).

6.2.3.1 Seriousness

There was no difference between teacher ($M = 3.42$, $SD = 0.83$) and parent ($M = 3.20$, $SD = 0.77$) ratings of the seriousness of relational aggression ($t(81) = 1.04$, $p = .30$, partial $\eta^2 = .01$). Similarly, there was no difference between teacher (M

= 4.22, $SD = 0.73$) and parent ($M = 4.06$, $SD = 0.80$) ratings of the seriousness of physical aggression ($t(81) = 0.61$, $p = .55$, partial $\eta^2 = .00$). However, teachers and parents (combined) ratings of the seriousness of relational aggression ($M = 3.25$, $SD = 0.78$) compared to physical aggression ($M = 4.13$; $SD = 0.71$) were significantly different ($t(82) = -11.39$, $p = .00$; see Figure 6.1). That is, relational aggression was



viewed as less serious (more normative) than physical aggression.

Figure 6.1. Mean Ratings of Teacher's and Parent's Responses to Relational and Physical Aggression

6.2.3.2 Level of Empathy

No difference was found between teacher ($M = 4.14$, $SD = 0.51$) and parent ($M = 4.05$, $SD = 0.70$) ratings of empathy for the victim of relational aggression ($t(81) = 0.48$, $p = .63$, partial $\eta^2 = .00$). Similarly, there was no difference between teacher ($M = 4.28$, $SD = 0.52$) and parent ($M = 4.44$, $SD = 0.67$) ratings of empathy for the victim of physical aggression ($t(81) = -0.94$, $p = .35$, partial $\eta^2 = .01$). However, teacher and parent (combined) ratings of empathy for victims of relational aggression ($M = 4.07$, $SD = 0.66$) compared to physical aggression ($M = 4.40$; $SD = 0.64$) were significantly different ($t(82) = -4.90$, $p = .00$; see Figure 6.1). That is, higher levels of empathy were felt for victims of physical aggression and lower levels of empathy for victims of relational aggression.

6.2.3.3 Likelihood to Intervene

No difference was found between teacher ($M = 4.11$, $SD = 0.65$) and parent ($M = 4.06$, $SD = 0.80$) ratings of likelihood to intervene in relational aggression ($t(81) = 0.24$, $p = .81$, partial $\eta^2 = .00$). Similarly, there was no difference in the likelihood to which teachers ($M = 4.69$, $SD = 0.35$) and parents ($M = 4.59$, $SD = 0.58$) would intervene in physical aggression ($t(81) = 0.77$, $p = .45$, partial $\eta^2 = .00$). However, teacher and parent (combined) ratings of likelihood to intervene in relational aggression ($M = 4.07$, $SD = 0.77$) compared to physical aggression ($M = 4.61$; $SD = 0.54$) were significantly different ($t(82) = -7.19$, $p = .00$; see Figure 6.1). That is, adults were more likely to intervene in physical aggression and less likely to intervene in relational aggression.

6.2.4 Intervention Strategies Used to Respond to Relational and Physical Aggression

This analysis addressed research question 1.3: What types of intervention strategies are implemented by teachers and parents in relational and physical aggression scenarios? These analyses are based on a teacher and parent qualitative responses about the types of intervention strategies they would use, if any, in response to relational and physical aggression. It was predicted that teachers and parents would use more passive intervention strategies when intervening in relational compared to physical aggression (**hypothesis 1b**). Preliminary analyses revealed differences between teacher and parent responses on three of the four intervention strategies for relational aggression. As such, analyses assessing the types of intervention strategies used to respond to relational and physical aggression were conducted separately for teachers and parents.

6.2.4.1 Discussion

A significant difference was found between teacher ($M = 2.18$, $SD = 0.51$) and parent ($M = 1.65$, $SD = 0.62$) use of discussion in response to relational aggression ($t(81) = 3.27$, $p = .00$, partial $\eta^2 = .12$), with teachers suggesting more discussion than parents (see Figure 6.2). In contrast, there was no difference between teacher ($M = 1.53$, $SD = 0.33$) and parent ($M = 1.46$, $SD = 0.50$) use of discussion in response to physical aggression ($t(81) = 0.56$, $p = .58$, partial $\eta^2 = .00$). Teachers were more likely to use discussion responses for relational aggression ($M = 2.18$, $SD = 0.51$)

compared to physical aggression ($M = 1.53$; $SD = 0.33$) ($t(17) = 6.27$, $p = .00$). Similarly, parents were more likely to use discussion responses for relational aggression ($M = 1.65$, $SD = 0.63$) compared to physical aggression ($M = 1.46$; $SD = 0.50$) ($t(64) = 2.49$, $p = .02$).

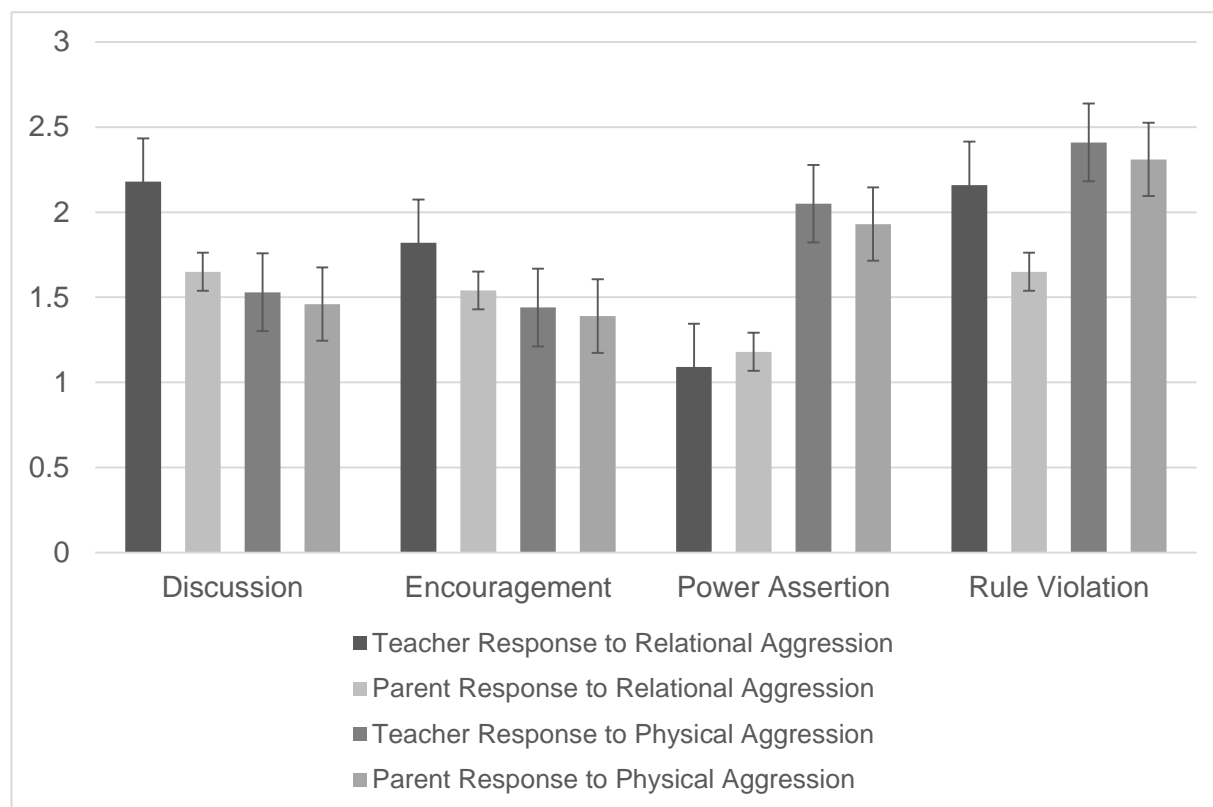


Figure 6.2. Teacher Qualitative Intervention Strategies to Relational and Physical Aggression

6.2.4.2 Encouragement

A significant difference was found between teacher ($M = 1.82$, $SD = 0.34$) and parent ($M = 1.54$, $SD = 0.49$) use of encouragement in response to relational aggression ($t(81) = 2.27$, $p = .03$, partial $\eta^2 = .06$), with teachers suggesting more encouragement than parents (see Figure 6.2). In contrast, there was no difference between teacher ($M = 1.44$, $SD = 0.20$) and parent ($M = 1.39$, $SD = 0.38$) use of encouragement in response to physical aggression ($t(81) = 0.60$, $p = .55$, partial $\eta^2 = .00$). Teachers were more likely to use encouragement responses for relational aggression ($M = 1.82$, $SD = 0.34$) compared to physical aggression ($M = 1.44$; $SD = 0.20$) ($t(17) = 4.15$, $p = .00$). Similarly, parents were more likely to use encouragement responses for relational aggression ($M = 1.54$, $SD = 0.49$) compared to physical aggression ($M = 1.39$; $SD = 0.38$) ($t(64) = 2.72$, $p = .01$).

6.2.4.3 Power Assertion

No difference was found between teacher ($M = 1.09$, $SD = 0.21$) and parent ($M = 1.18$, $SD = 0.42$) use of power assertion in response to relational aggression ($t(81) = -0.92$, $p = .36$, partial $\eta^2 = .01$; see Figure 6.2). Similarly, there was no difference between teacher ($M = 2.05$, $SD = 0.40$) and parent ($M = 1.93$, $SD = 0.63$) use of power assertion in response to physical aggression ($t(81) = 0.77$, $p = .44$, partial $\eta^2 = .01$). However, teacher and parent (combined) ratings of power assertion used in response relational aggression ($M = 1.16$, $SD = 0.38$) compared to physical aggression ($M = 1.95$; $SD = 0.59$) were significantly different ($t(82) = -14.16$, $p = .00$). That is, adults were more likely to use power assertion in response to physical aggression and fewer power assertive responses for relationally aggressive behaviours.

6.2.4.4 Rule Violation

A significant difference was found between teacher ($M = 2.16$, $SD = 0.57$) and parent ($M = 1.65$, $SD = 0.62$) use of rule violation in response to relational aggression ($t(81) = 3.13$, $p = .00$, partial $\eta^2 = .11$), with teacher responses communicating higher levels of rule violation than parent responses (see Figure 6.2). In contrast, there was no difference between teacher ($M = 2.41$, $SD = 0.37$) and parent ($M = 2.31$, $SD = 0.60$) use of rule violation in response to physical aggression ($t(81) = 0.67$, $p = .51$, partial $\eta^2 = .01$). Teachers were more likely to communicate rule violation in response to relationally aggressive acts ($M = 2.16$, $SD = 0.57$) compared to physically aggressive acts ($M = 2.41$; $SD = 0.37$) ($t(17) = -2.15$, $p = .05$). Similarly, parents were more likely to communicate rule violation in response to relationally aggressive acts ($M = 1.65$, $SD = 0.62$) compared to physically aggressive acts ($M = 2.31$; $SD = 0.60$) and this difference was a lot stronger for parents ($t(64) = -9.39$, $p = .00$).

6.2.5 Teacher and Parent Normative Beliefs and Educational Attainment

This analysis addressed research question 1.4: What is the association between teacher and parent normative beliefs about relational and physical aggression and their level of education obtained? A Pearson product-moment correlation was computed to assess the relationship between teachers' and parents' level of education and their normative beliefs about relational and physical aggression. It was predicted that teachers and parents with higher levels of

educational attainment would view relational and physical aggression as more serious behaviours compared to teachers and parents with lower levels of educational attainment (**hypothesis 1c**).

There was no significant relationship between teacher level of education and normative beliefs about relational ($r = .11, p = .66$) or physical ($r = .12, p = .64$) aggression. Similarly, there was no significant relationship between parent level of education and normative beliefs about relational ($r = -.05, p = .67$) or physical ($r = -.13, p = .31$) aggression.

6.4 DISCUSSION

The aim of this study was to establish a context for the types of prosocial and aggressive behaviours observed within early childhood centres in Australia and teacher and parent normative beliefs about, and intervention strategies used to respond to these behaviours. This sample of Australian early childhood teachers and parents viewed relational aggression as more normative and had less empathy for, and less likelihood of intervening in relationally aggressive behaviours compared to physically aggressive behaviours. They also recommended more passive intervention strategies towards relationally aggressive children and more direct strategies towards physically aggressive children. This is the first known study to use this methodology to explore normative beliefs and intervention responses in a sample of Australian preschool teachers and parents. These findings accord with previous international research with other teacher and parent populations which similarly found that relational aggression is viewed differently (i.e., more normative) to physical aggression (e.g., Bauman & Del Rio, 2006; Craig, Henderson, & Murphy, 2000; Hurd & Gettinger, 2011; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006),

Teacher responses indicated that they associated aggression with observable physical behaviours such as pushing, kicking and biting. Teachers and parents considered relational aggression to be more normative compared to physical aggression. They had less empathy for victims of relational aggression and were less likely to intervene in relationally aggressive acts compared to physically aggressive acts, providing support for the first hypothesis. These findings provide evidence that preschool teachers and parents hold different beliefs about the acceptability of relational and physical aggression whereby relational aggression is viewed as less

problematic or serious when compared to physical aggression (Goldstein & Boxer, 2013; Hurd & Gettinger, 2011). In line with Social Cognitive Theory (Bandura, 1989; 2001), Script Theory (Huesmann, 1986;1998), and the General Aggression Model (Anderson & Bushman, 2002) these normative beliefs may communicate different messages to children about the acceptability of relational and physical aggression. This is of concern because relational aggression is a serious form of aggression that leads to serious consequences for victims and perpetrators (e.g., Card et al., 2008; Crick et al., 1997; Murray-Close, et al., 2007; Prinstein et al., 2001).

This study also demonstrated that teachers and parents in this Australian sample employed different intervention strategies for relational and physical aggression, as has been demonstrated in international studies assessing the types of interventions used to respond to different forms of aggression (e.g., Mishna et al., 2005; Werner & Grant, 2009; Werner et al., 2006). As hypothesised, teachers and parents reported the use of more passive strategies such as discussion when intervening in relational aggression and more direct strategies such as communicating that a rule had been violated when intervening in physical aggression. While these findings are consistent with previous research (e.g., Hurd & Gettinger, 2011; Werner & Grant, 2009), they are also noteworthy because few prior studies have explored preschool teachers' intervention responses alongside mothers' responses to relational and physical aggression. In line with Social Cognitive Theory (Bandura, 1973), Script Theory (Huesmann, 1986; 1998), and the General Aggression Model (Anderson & Bushman, 2002), the types of intervention strategies that teachers and parents use in response to relational and physical aggression will either reinforce the child's behaviour (i.e., the child has been successful in achieving a goal or the behaviour has not led to a negative outcome) or prevent the behaviour from reoccurring in the future (i.e., the child has been deterred from engaging in that behaviour as it is seen as unacceptable or inappropriate). When a teacher or parent communicates to a child that their behaviour is unacceptable (through interventions of power assertion or communicating that a rule had been violated), the child is likely to internalise values that support the use of prosocial behaviours rather than aggressive behaviours (Anderson & Bushman, 2002; Crick & Dodge, 1994; Huesmann, 1998). Similarly, if a teacher or parent ignores an aggressive situation or uses more passive interventions such as telling the child to play somewhere else, the child may interpret that behaviour as more acceptable (i.e., that the behaviour was

not wrong) and is likely to engage in similar behaviours in the future. This is one of the only studies to show that for this Australian population there is a consistency in teacher and parent beliefs and practices in regard to child aggression, possibly indicating a broader societal standard.

Teacher interview responses provided insight into their perceptions of the causes of aggression in preschool age children. Most teachers believed that children engaged in aggression because of developmental or internal characteristics such as lack of language or communication skills, lack of social skills, or the age and temperament of the child. This does not explain, however, why teachers differentiate between the seriousness of relationally and physically aggressive behaviours. The results from interviews suggest that teachers view observable physical behaviours as more aggressive than subtle relational behaviours. During early childhood, relationally aggressive behaviours can be direct and indirect (Nelson et al., 2005), therefore, it is important that teachers are aware of the types of relationally aggressive behaviours children use during the preschool years in order to ensure they intervene in preventing these behaviours. It remains that most teachers and parents in this study viewed relational aggression as a more 'normative' behaviour for children in this age group compared to physical aggression. This is in keeping with local and international evidence (predominately in older child populations) that suggests teachers and parents may lack an understanding of the consequences of relational aggression or may be reflective of societal and cultural standards of behaviour (Bauman & Del Rio, 2006; Craig et al., 2000; Owens et al., 2000).

It is notable that no teacher participants commented on ways that adults, the situation or context may potentially contribute to children's aggressive behaviour. Rather, teacher's interview responses were focused on the individual child and their developmental or behavioural deficits as a cause of their aggressive behaviour. A sizable body of evidence indicates that external factors such as the quality of children's relationships with caregivers during early childhood contribute significantly to their social development (Pianta, 1999; Pianta & Stuhlman, 2004). For example, negative student-teacher relationships in Kindergarten have been linked to increases in aggressive behaviour with peers (Birch & Ladd, 1998) and adult responses to aggression have been shown to influence current and future aggressive behaviour of children (De Wet, 2007; Yoon, 2004). In line with the underlying tenets of Social Cognitive Theory (Bandura 1989; 2001), teacher and parent beliefs and behaviours

may be contributing to the socialisation and development of children's aggressive behaviours in early childhood settings. As children are spending increased time in care during the preschool years (Hurd & Gettinger 2011), it is crucial that early childhood teachers (and parents/caregivers) are aware of the contributing role they play in children's social development and this information may be particularly beneficial for the teachers in this study.

The early childhood developmental period is crucial in children's development of social norms. Therefore, it is important for future research to continue to explore the direct and indirect ways teachers and parents may be influencing the socialisation of children's use of aggression. In this study, all teachers reported having received some form of behaviour management training throughout the career. However, based on the findings from this study, it can be assumed that these professional development courses have not been sufficient in highlighting the significance of both relational and physical aggression during early childhood. As such, curriculum development at University may be a starting point in ensuring that all teachers receive training on relational and physical aggression and the types of intervention strategies that are appropriate in communicating to children that these behaviours are not acceptable. It is expected that through further education and ongoing professional training, adult's normative beliefs will be adapted to more appropriate beliefs towards relational and physical aggression. If these beliefs are targeted during early childhood, young children are less likely to develop similar normative beliefs about relational aggression and will be less likely to engage in these behaviours.

Further, early childhood settings and home contexts should be adopting evidence-based intervention programs such as the Early Childhood Friendship Project (Ostrov et al., 2009) to promote prosocial behaviours and friendship skills in young children. While these intervention programs may not immediately translate to more prosocial behaviour and better outcomes (Leff et al., 2010), adults are still able to reinforce and practice the principles and strategies related to better problem solving and alternative strategies to aggressive behaviour.

As with previous research this study is limited to mother reports (e.g., Hurd & Gettinger, 2011; Werner & Grant, 2009; Werner et al., 2006). While this study attempted to recruit more fathers, only three chose to participate, making adequate

analyses of possible gender effects difficult. It is recommended that future research explores father's normative beliefs and intervention strategies as research has shown that fathers differ significantly in their rating and understanding of relationally and physically aggressive behaviours (e.g., Casas et al., 2006). It may be expected that they will also differ in their normative views of aggression and responses to aggression.

In summary, this is the first Australian study to measure preschool teachers' and parents' normative beliefs about relational and physical aggression. The conclusion can be drawn that like other international studies, different types of aggression (i.e., relational and physical aggression) are associated with different types of intervention responses used by Australian preschool teachers and parents, suggesting differential attitudes towards the two aggression types. Indeed, these findings provide evidence that teachers and parents need to be educated and informed about the negative consequences associated with relational aggression during the early childhood period to ensure this aggression type is not inadvertently communicated as acceptable behaviour.

CHAPTER 7

STUDY TWO. PRESCHOOL CHILDREN'S USE OF AGGRESSION AND SOCIO-PSYCHOLOGICAL WELLBEING FACTORS

7.1 BACKGROUND

The previous study established that teachers observe relational and physical aggression in Australian preschool age children. The findings also revealed that teachers and parents are more likely to view relational aggression as less serious than physical aggression. These normative views of relational aggression may contribute to young children's beliefs about the differential acceptability of aggressive behaviours, and this, in turn, may influence the frequency of relational aggression in preschool age children. To establish whether this is the case, Study Two takes the first step of establishing the frequency of relational and physical aggression in this sample of preschool age children. This study also examines socio-psychological wellbeing factors that are associated with relational and physical subtypes of aggression.

Although relational and physical aggression have been shown to be highly correlated (Cillessen & Mayeux, 2004; see Lansford et al., 2012 for a review), displays of physical aggression peak between the age of two and four years (Tremblay et al., 2004). Research suggests that as children's verbal and social cognitive skills develop aggressive behaviours begin to change their form from being physical to relational in form (Brendgen, 2012; Vitaro, Brendgen, & Barker, 2006). For example, children as young as three have been observed refusing to listen to another peer, threatening to not play with another peer unless certain needs/demands are met, and not allowing another peer to enter the play group (Crick & Grotpeter, 1995; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Little et al., 2003; Nelson et al., 2005; Vaillancourt, Hymel, & McDougall, 2003). These findings reveal that relational and physical aggression are two forms of aggression which are clearly evident in some preschool age children's social interactions. Thus, it is important for researchers to include both relational and physical forms of aggression in the assessment of young children's aggression, as this is a crucial period when children

are learning about the types of aggressive behaviours they can use within their social contexts to achieve different social goals.

7.2 AGGRESSION AND GENDER

Research on gender differences in young children's use of relational aggression has found equivocal results. Some studies report that girls engage in higher levels of relational aggression compared to boys (Crick & Grotpeter, 1995; McEvoy et al., 2003; Putallaz et al., 2007) while other studies have found no differences between boys' and girls' use of relational aggression (Card et al., 2008; Morine et al., 2011; Swit & McMaugh, 2012). In contrast, gender differences in physical aggression are much more pronounced, with extensive research identifying that boys engage in higher levels of physical aggression compared to girls (Archer, 2004; Lansford et al., 2012; Lussier, Corrado, & Tzoumakis, 2012; McEvoy et al., 2003). These gender differences are much less pronounced when the effect of provocation is taken into consideration (see Bettencourt & Miller, 1996 for a review). That is, when provoked, both boys and girls are likely to engage in reactive physical aggression.

7.3 AGGRESSION AND SIBLINGS

Study One found that teachers and parents view relational aggression as more normative compared to physical aggression and are less likely to intervene in relational forms of aggression. Previous researchers have proposed that these normative beliefs may influence children's use of relational and/or physical aggression (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006). Similarly, studies have found that siblings can influence young children's use of aggression (Duncan, 1999; Ostrov et al., 2006). Ostrov and colleagues (2006) found that young children who had relationally aggressive older siblings were more likely to direct relational aggression towards their peers. The same relationship was found for physical aggression. These findings provide evidence that support a Social Cognitive Theory of behavioural learning (Bandura, 1973) whereby teachers, parents, and siblings effectively model relational or physical aggression as a strategy to gain an object or have desires met.

7.4 AGGRESSION AND SOCIO-PSYCHOLOGICAL WELLBEING FACTORS

Aggression is a significant risk factor for maladaptive socio-psychological wellbeing factors such as lower levels of prosocial behaviour, peer rejection, victimisation, and internalising consequences such as depressive symptomology, loneliness and exclusion (Crick & Grotpeter, 1995; Ostrov, 2008; Paul & Cillessen, 2003; Preddy & Fite, 2012). While the link between relational and physical aggression and socio-psychological wellbeing has been well established during childhood and adolescence (see Chapter 3 for a review), less is known about the associations between prosocial behaviour, peer victimisation, peer rejection, and depressive symptomology with relational and physical aggression during early childhood, particularly in Australian samples.

7.4.1 Prosocial Behaviour

Studies have reported significant negative relationships between relational and physical aggression and young children's use of prosocial behaviours (Renouf et al., 2010; Romano, Tremblay, Boulerice, & Swisher, 2005; Swit & McMaugh, 2012). For example, Swit and McMaugh (2012) found that early childhood teachers reported lower levels of prosocial behaviour in relationally aggressive preschool age children. Similarly, Renouf and colleagues (2010) also found that preschool age children low in prosocial behaviour demonstrate a higher level of indirect and physical aggression.

7.4.2 Peer Rejection and Victimization

Peer rejection and victimisation are positively associated with relational and physical aggression in both concurrent and longitudinal studies in younger and older children (Hodges & Perry, 1999; Ostrov, 2008; Werner & Crick, 2004). In addition, previous research has revealed that relational and physical victimisation are associated with peer rejection (Crick & Bigbee, 1998; Hanish & Guerra, 2002) and increases in aggression over time (Werner & Crick, 2004). More specifically, Werner and Crick (2004) found that during middle childhood rejected children became increasingly relationally aggressive over time, and this association was significant for girls.

More recently, findings have provided support for the *Specificity Hypothesis* of aggression (Crick et al., 1999; Ostrov, 2010) which posits that young children

aggress in kind; that is being a victim of relational aggression is associated with use of relational aggression while being a victim of physical aggression is similarly associated with use of physical aggression. Ostrov and Godleski (2013) found that this relationship is reciprocal in that school age children who engaged in relational aggression were more likely to receive relational victimisation in the future. Reciprocally receiving relational aggression (victimisation) predicted future use of relational aggression. Similarly, Ostrov (2008) found that observed relational aggression predicted increases in future relational victimisation in children aged between 3 and 5 years. The same relationship was found for physical aggression. Given that preschool age boys and girls use both relational and physical aggression, previous researchers (e.g., Ostrov 2008; Salmivalli & Helteenvouri, 2007) have called for future work to explore the moderating effects of gender on the relationship between subtypes of aggression and victimisation to further understand how these relationships may differ for boys and girls during early childhood.

7.4.3 Depressive Symptoms

It is well documented that being a victim of aggression, regardless of its form, is associated with depressive symptoms and ongoing depression (Card et al., 2008; Hawker & Boulton, 2000). Children as young as eight years old have been reported experiencing depressive symptoms associated with relational victimisation (Sourander, Helstela, Helenius, & Piha, 2000) and Kindergarten children have reported significantly higher levels of loneliness as a result of relational aggression (Kochenderfer & Ladd, 1996). Similar associations have been demonstrated for children in middle childhood (Zalecki & Hinshaw, 2004) and for adolescents (Prinstein et al., 2001). There are also considerable consequences for children who perpetrate acts of aggression (Baldry & Farrington, 1998; Broidy et al., 2003; Kumpulainen & Rasanen, 2000). Given the importance of peer relationships and friendship formation during early childhood, assessment of preschool age children's use of aggression need to be considered as these behaviours potentially increase the likelihood of young children experiencing concurrent and future socio-psychological wellbeing factors.

7.5 THE PRESENT STUDY

This study will extend previous research exploring relational aggression in Australian preschool age children (Swit & McMaugh, 2012), by including an assessment of relational and physical aggression, and examining relationships with the socio-psychological wellbeing factors of prosocial behaviour and received prosocial behaviour from peers, relational and physical victimisation, and levels of depressed affect and peer acceptance. The data set generated for this study will provide further evidence of the types of aggressive behaviours that occur in Australian preschool age children and the socio-psychological wellbeing factors associated with these behaviours. These results also provide much needed empirical evidence regarding the relationship between aggression and socio-psychological wellbeing factors in early childhood and about important developmental correlates such as age, gender and the influence of siblings. As such, this study will answer the following research questions:

Research Question 2.1 What is the frequency of relational and physical aggression in preschool age children in this sample?

Research Question 2.2 Do levels of relational and physical aggression vary by age and gender in this sample?

Hypothesis 2a: Older children will receive higher teacher ratings of relational aggression.

Hypothesis 2b: There will be no difference between boys' and girls' relational aggression scores as rated by teachers.

Hypothesis 2c: Boys will receive higher teacher ratings of physical aggression.

Research Question 2.3 What is the association between children's levels of relational and physical aggression and the number and age of their siblings?

Hypothesis 2d: Children with older siblings will have higher teacher ratings of relational and physical aggression.

Research Question 2.4 What are the associations between relational and physical aggression and prosocial behaviour, relational victimisation, physical victimisation, depressed affect, peer acceptance, and received prosocial behaviour from peers?

Hypothesis 2e: Higher levels of relational and physical aggression will predict lower levels of prosocial behaviour, peer acceptance and received prosocial behaviour and higher levels of depressed affect and relational and physical victimisation.

Research Question 2.5 Do these associations between relational and physical aggression and the above socio-psychological wellbeing factors differ by gender?

Hypothesis 2f: There will be no difference in these relationships between boys and girls.

Research Question 2.6 What is the unique contribution of relational and physical aggression to each of the above socio-psychological wellbeing factors?

Hypothesis 2g: Both relational and physical aggression will uniquely contribute to each of the socio-psychological wellbeing factors.

7.6 METHOD

7.6.1 Participants

7.6.1.1 Teachers

The teachers who participated in Study One also participated in Study Two ($N = 18$). If there were multiple teachers from the same class participating in the study, the teacher who was most familiar with the child completed the questionnaire.

7.6.1.2 Children

Sixty-eight children ($n = 36$ girls, $n = 32$ boys) participated in this study. The children were aged between 36 and 63 months ($M = 51$ months, $SD = 6.6$ months) and this did not differ by gender ($t(65) = -1.17$, $p = .25$). The majority of children attended long day care centres ($n = 39$) while the remaining children attended preschool centres ($n = 29$). Sibling ages were recorded on the parent demographic form and a sibling chronologically older than the participant was considered an older sibling and a child chronologically younger than the participant was considered the younger sibling. Most of the children ($n = 63$) had at least one sibling in the family, with 27 children having a younger sibling and 36 having an older sibling.

7.6.2 Measures

7.6.2.1 Teacher report of child aggression and social development

The Preschool Social Behaviour Scale – Teacher Form (PSBS-TF; Crick et al., 1997) was used to assess teacher perceptions of children's aggression and social development. This widely used measure consists of 21 items, including six items that assessed relational aggression (e.g., *'This child tries to get others to dislike a peer'*), six items that assessed physical aggression (e.g., *'This child kicks or hits others'*), four items that assessed prosocial behaviour (e.g., *'This child is helpful to peers'*), two items that assessed peer acceptance (e.g., *'This child is well liked by peers of the same sex'*) and three items that assessed depressed affect (e.g., *'This child doesn't have much fun'*). In the interest of keeping the number of scale items to a manageable level for teachers, only the highest loading item on the depressed affect subscale was used, reducing the measure to 19 items. Teachers rated each child's aggression and social development on a scale from 1 (*never or almost never true of this child*) to 5 (*always or almost always true of this child*). Scores were obtained by summing the ratings of items on each subscale and calculating the mean. Following the procedure adopted by Crick and colleagues (1997), children were considered to be highly relationally or physically aggressive if their scores were one standard deviation above the population mean on the relational or physical aggression subscale. The PSBS-TF has previously been found to have acceptable internal consistency (i.e., Cronbach's $\alpha > 0.70$). Reliability for this study was good-high for relational aggression ($\alpha = 0.91$), physical aggression ($\alpha = 0.86$), prosocial behaviour ($\alpha = 0.82$) and peer acceptance ($\alpha = 0.92$).

7.6.2.2 Teacher report of peer victimisation

Peer victimisation was assessed using a modified version of the Preschool Peer Victimization Measure – Teacher Form (PPVM-TF; Crick et al., 1999). The original measure contains nine items. To reduce the time impact of the questionnaires on teachers, the highest loading items on the relational victimisation (i.e., *'This child gets ignored by peers when they are mad at him/her'*), physical victimisation (i.e., *'This child gets hit, kicked, or pinched by peers'*) and received prosocial behaviour (i.e., *'This child gets help from peers when he/she needs it'*) subscales were used, reducing the measure to 3 items. These items were integrated

into the Preschool Social Behaviour Scale – Teacher Form. Teachers rated the degree to which each participating child received relational and physical victimisation and prosocial behaviours from peers using a 5-point Likert rating scale where 1 = *never or almost never true* and 5 = *always or almost always true*. Previous research has supported the favourable psychometric properties of the PPVM-TF (e.g., Crick et al., 1999) and it has been found to be a reliable measure of victimisation (i.e., Cronbach's $\alpha > 0.70$). The teacher report questionnaire used to assess children's aggressive behaviour and social development can be found in Appendix E.

7.6.3 Procedure

All children between the ages of 3 and 5 in each early childhood centre were invited to participate in the study. Parents provided consent for their children to participate. Teachers completed the Preschool Social Behaviour Scale – Teacher Form (Crick et al., 1997; Crick et al., 1999) for each child. The instructions and rating scale were provided on the questionnaire for teachers. Before teachers completed the questionnaire, it was explained that they should indicate a rating that most accurately reflected their learned impression of the child's behaviour over the time of knowing the child. Children's level of aggression was calculated by summing and obtaining the mean of the items on the subscales relational aggression and physical aggression from the teacher rating scale. Teacher ratings of children's aggression identified highly relationally aggressive and typically developing children for the purpose of subsequent analyses. The first group consisted of children who were rated by their teachers as engaging in high levels of relational aggression (i.e., 1+ *SD* above the population mean). A further nine children with average levels of aggression (at the mean) were age matched with the relational aggression group, however, two children were lost to attrition between the phases of collecting teacher ratings of aggression and assessing children's cognitive processing, leaving seven children in the typically developing comparison group. A small sample ($n = 3$) of children were identified as high on both relational and physical aggression, however, due to the low co-occurrence of the behaviours, these children were screened out of the sample. Previous studies have used this standard deviation procedure to identify higher than normal levels of relational aggression in young children (e.g., Crick et al. 1997; Crick, Ostrov, & Werner, 2006) and more recent research continues to apply this criterion (Gower et al., 2014).

Analyses were conducted to explore the associations between children's levels of relational and physical aggression, as reported by teachers, and the developmental correlates of age, gender, and siblings. Associations were also explored between children's levels of relational and physical aggression and each of the socio-psychological wellbeing factors to determine whether there was a relationship and if these relationships differed for boys and girls.

7.7 RESULTS

This section begins by presenting the findings on the frequency of relational and physical aggression in an Australian sample of preschool age children. Teacher reports of children's use of relational and physical aggression were used to identify children who were highly relationally aggressive as well as those who were considered typically developing (i.e., average levels of aggression). Independent t-tests were performed to determine the contributory role of the developmental correlates of age, gender and presence of older or younger siblings on children's level of teacher reported aggression. Pearson product-moment correlations, analysis of variance (ANOVAs) and multiple regression analyses were computed to assess the associations between subtypes of aggression and each of the socio-psychological wellbeing factors and whether these differed for boys and girls.

7.7.1 Descriptive Statistics

As shown in Table 7.1, descriptive statistics were calculated for relational and physical aggression and each socio-psychological wellbeing factor for the total sample and by gender. The traditional significance criterion of .05 was used in this study to identified significant associations between variables. However, based on recent analyses assessing ranges of standardised effect sizes, Type II error rates and sample size specifications in cognitive and social psychology (Bradley & Brand, 2013), findings that are significant between .05 and .10 will also be reported for analysing smaller groups (for example, when the total population is separated into gender groups). This approach is justified by the argument that a small sample size does not make it is possible to obtain the traditional .05 level of significance and provide accurate estimates of effective sizes (Bradley & Brand, 2013). Similarly, based on the criterion power analyses conducted by Bradley and Brand (2013), it is expected that standardised effect sizes will be between .02 and .05.

Table 7.1

Means, Standard Deviations and Range of Scores for the Preschool Social Behaviour Scale-Teacher Form by Gender

	Boys	Girls	Total Sample	Range
	Mean (SD)			
Relational Aggression	10.03 (5.28)	9.89 (5.17)	9.96 (5.18)	6-24
Physical Aggression	9.94 (3.88)	7.60 (2.59)	8.72 (3.45)	6-19
Prosocial Behaviour	14.52 (3.24)	15.83 (3.05)	15.21 (3.19)	10-20
Depressed Affect	1.78 (0.83)	1.31 (0.72)	1.54 (0.80)	1-4
Relational Victimization	1.69 (0.82)	1.57 (0.74)	1.63 (0.78)	1-4
Physical Victimization	1.59 (0.76)	1.34 (0.54)	1.46 (0.66)	1-3
Peer Acceptance	7.63 (1.62)	8.51 (1.70)	8.09 (1.71)	5-10
Received Prosocial Behaviour	3.50 (0.92)	3.89 (0.83)	3.70 (0.89)	2-5

7.7.2 Frequency of Relational and Physical Aggression

This analysis addressed research question 2.1: What is the frequency of relational and physical aggression in preschool age children in this sample? Teachers reported 63.2 percent ($n = 43$) of children engaged in average levels of relational aggression (i.e., within 1SD of the mean) while 13.2 percent ($n = 9$) of the children engaged in high levels of relational aggression (i.e., 1+ SD above the population mean). Teachers reported that 61.8 percent ($n = 42$) of children engaged in average levels of physical aggression (i.e., within 1SD of the mean) while 17.6 percent ($n = 12$) of children received physical aggression scores one or more standard deviations above the population mean. An additional 4.4 percent ($n = 3$) of children were identified as both relationally and physically aggressive. A total of 33.8 percent ($n = 23$) of children were rated by teachers as typically developing. Descriptive analyses showed that similar numbers of girls ($n = 5$) and boys ($n = 4$) were identified as highly relationally aggressive in this sample of preschool age children. However, the high physical aggression group consisted mainly of boys ($n = 8$) and the nonaggressive group had a higher number of girls ($n = 14$). Consistent with past research (e.g., Crick et al., 1997) children with aggression scores one

standard deviation above the population mean on the relational aggression subscale were classified as aggressive for the purposes of future analyses.

Previous studies that have assessed relational and physical aggression during early childhood using the Preschool Social Behaviour Scale – Teacher Form (Crick et al., 1997) have reported relational aggression mean scores ranging between 9.3-12.7 and physical aggression mean scores between 8.2-11.0 (Ambrose & Menna, 2013; Gower et al., 2014; McEvoy et al., 2003; Swit & McMaugh, 2012). As such, the population means identified in this study (see Table 7.1) are similar to the mean levels of relational and physical aggression in previous studies.

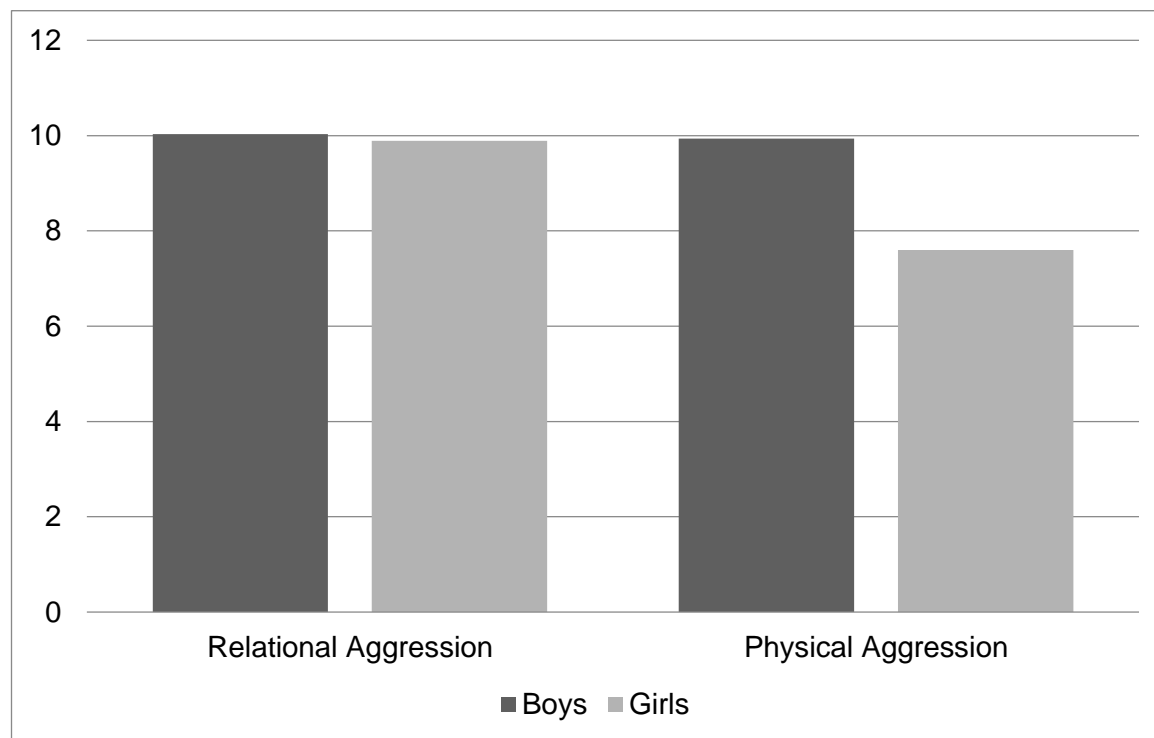
7.7.3 Relational and Physical Aggression, Age, and Gender

This analysis addressed research question 2.2: Do relational and physical aggression differ by age and gender in this sample? A Pearson product-moment correlation assessed the relationship between the child's age (in months) and relational and physical aggression. It was predicted that older children would receive higher levels of teacher-rated relational aggression (**hypothesis 2a**). No significant relationships between age and relational ($r = .19, p = .12$) or physical aggression ($r = .07, p = .56$) were found.

It was predicted that there would be no difference between boys' and girls' relational aggression scores, as rated by teachers (**hypothesis 2b**). No significant differences were found between teacher ratings of boys' ($M = 10.03, SD = 5.28$) and girls' ($M = 9.89, SD = 5.17$) use of relational aggression ($t(65) = -0.11, p = .91$, partial $\eta^2 = .00$).

It was predicted that boys would receive higher teacher ratings of physical aggression (**hypothesis 2c**). Teacher ratings of boys' use of physical aggression ($M = 9.94, SD = 3.88$) were significantly higher than ratings for girls ($M = 7.60, SD = 2.59$) ($t(65) = -2.92, p = .01$, partial $\eta^2 = .12$). The mean teacher ratings of boys' and girls' use of relational and physical aggression are presented in Figure 7.1.

Figure 7.1. Teacher Ratings of Boys' and Girls' Use of Relational and Physical Aggression



7.7.4 Relational and Physical Aggression and the Presence of Siblings

This analysis addressed research question 2.3: What is the association between children's levels of relational and physical aggression and the number and age of their siblings? A Pearson product-moment correlation assessed the relationship between children's level of relational and physical aggression, as rated by teachers, and the number of siblings in their family. There was no significant association between children's use of relational ($r = -.20$, $p = 0.11$) and physical ($r = -.07$, $p = 0.59$) aggression and the number of siblings in their family.

It was predicted that children with older siblings will have higher levels of teacher-rated relational and physical aggression (**hypothesis 2d**). Children's use of relational aggression was significantly higher if they had older siblings ($M = 10.60$, $SD = 5.68$) compared to younger siblings ($M = 8.48$, $SD = 3.83$) ($t(60) = -1.75$, $p = .09$, partial $\eta^2 = .14$). This relationship was significant at the criterion level of .10 and the effect size was large (Cohen, 1992), suggesting that having older siblings may influence the use of relational aggression. Children's physical aggression ratings were not significantly different whether they had older siblings ($M = 8.89$, $SD = 3.52$) or younger siblings ($M = 8.48$, $SD = 3.25$) ($t(60) = -0.46$, $p = .65$, partial $\eta^2 = .09$).

7.7.5 Relational and Physical Aggression and Socio-Psychological Wellbeing

This analysis addressed research question 2.4: What are the associations between relational and physical aggression and prosocial behaviour, relational victimisation, physical victimisation, depressed affect, peer acceptance, and received prosocial behaviour from peers? Pearson product-moment correlations measured the associations between relational and physical aggression and each of the socio-psychological wellbeing factors: prosocial behaviour, relational victimisation, physical victimisation, depressed affect, peer acceptance, and received prosocial behaviour from peers. While this analysis should be considered exploratory because of the limited empirical associations identified in previous literature between these factors and aggression in preschool age populations, it was predicted that higher levels of relational and physical aggression would be associated with lower levels of prosocial behaviour, peer acceptance and received prosocial behaviour and higher levels of depressed affect and relational and physical victimisation (**hypothesis 2e**).

The association among relational and physical aggression and each socio-psychological wellbeing factor were first evaluated with correlation coefficients for the total sample, and separately for boys and girls (following the procedures of Crick & Bigbee, 1998 and Prinstein et al., 2001; See Table 7.2). Children rated by their teachers as using relational forms of aggression were more likely to be rated as engaging in physical aggression if they were boys ($r = .67, p < .0005$) compared to girls ($r = .40, p = .02$), with the overall correlation being moderate ($r = .52, p < .0005$).

Analyses revealed that, for both boys and girls, relational aggression was significantly related to lower levels of prosocial behaviour and higher levels of relational and physical victimisation (see Table 7.2). The association between relational aggression and relational and physical victimisation was stronger for girls compared to boys.

Analyses revealed that, for girls, physical aggression was significantly related to lower levels of prosocial behaviour and higher levels of relational and physical victimisation (see Table 7.2). For boys, physical aggression was associated with lower levels of prosocial behaviour and higher levels of relational and physical victimisation (see Table 7.2). The association between physical aggression and relational victimisation was stronger for boys and there was little gender difference in

the association between physical aggression and physical victimisation (see Table 7.2).

Children with higher physical aggression scores received significantly fewer prosocial behaviours and this did not differ for boys and girls. No significant correlations were found between relational and physical aggression and depressed affect and peer acceptance (see Table 7.2). No significant correlations were found between relational aggression and received prosocial behaviour from peers (see Table 7.2).

Table 7.2

Pearson's Correlation Coefficients between Aggression and Socio-Psychological Wellbeing Factors for the Total Sample, for Boys, and for Girls

Type of Aggression	Prosocial Behaviour	Depressed Affect	Relational Victimisation	Physical Victimisation	Peer Acceptance	Received Prosocial Behaviour
Total Sample ($N = 67$)						
Relational	-.46**	-.19	.48**	.41**	-.01	.01
Physical	-.64**	-.02	.53**	.42**	-.17	-.25*
Boys ($n = 32$)						
Relational	-.42**	-.25	.34*	.25	.13	.09
Physical	-.65***	-.14	.60***	.40*	-.24	-.18
Girls ($n = 35$)						
Relational	-.50**	-.16	.62***	.64***	-.12	-.07
Physical	-.59***	-.12	.46**	.35*	.12	-.21

* $p < .10$, ** $p < .01$, *** $p < .001$

7.7.6 Relational and Physical Aggression, Socio-Psychological Wellbeing and Gender

This analysis addressed research question 2.5: Do these associations between relational and physical aggression and the above socio-psychological wellbeing factors differ by gender? Correlational analyses revealed a number of differences in the pattern of associations between relational and physical aggression

and socio-psychological wellbeing factors for boys and girls (see Table 7.2). As a result, a series of ANOVAs were conducted to explore gender interactions in order to assess whether the socio-psychological wellbeing factors associated with relational and physical aggression might vary by gender. The between subject variable was gender and the independent variables were the mean relational and physical aggression scores obtained from teacher ratings. Children's scores on each socio-psychological wellbeing factor were used as the dependent variable in each analysis.

It was predicted that there would be no difference in these relationships between boys and girls (**hypothesis 2f**). This analysis yielded a significant gender main effect for relational aggression and relational victimisation and physical victimisation. A significant gender main effect for physical aggression and prosocial behaviour, relational victimisation and physical victimisation was also found. These findings indicated that relational and physical aggression are differentially related to several socio-psychological wellbeing factors for boys and girls. At high levels of relational victimisation girls tend to be more relationally aggressive than boys, but at low levels of relational victimisation girls have lower levels of relational aggression ($F(1,66) = 9.97, p < .000$; see Figure 7.2). At high levels of physical victimisation girls were considerably more relationally aggressive than boys, but at low levels, there were no gender differences ($F(1,66) = 7.12, p = .00$; see Figure 7.3).

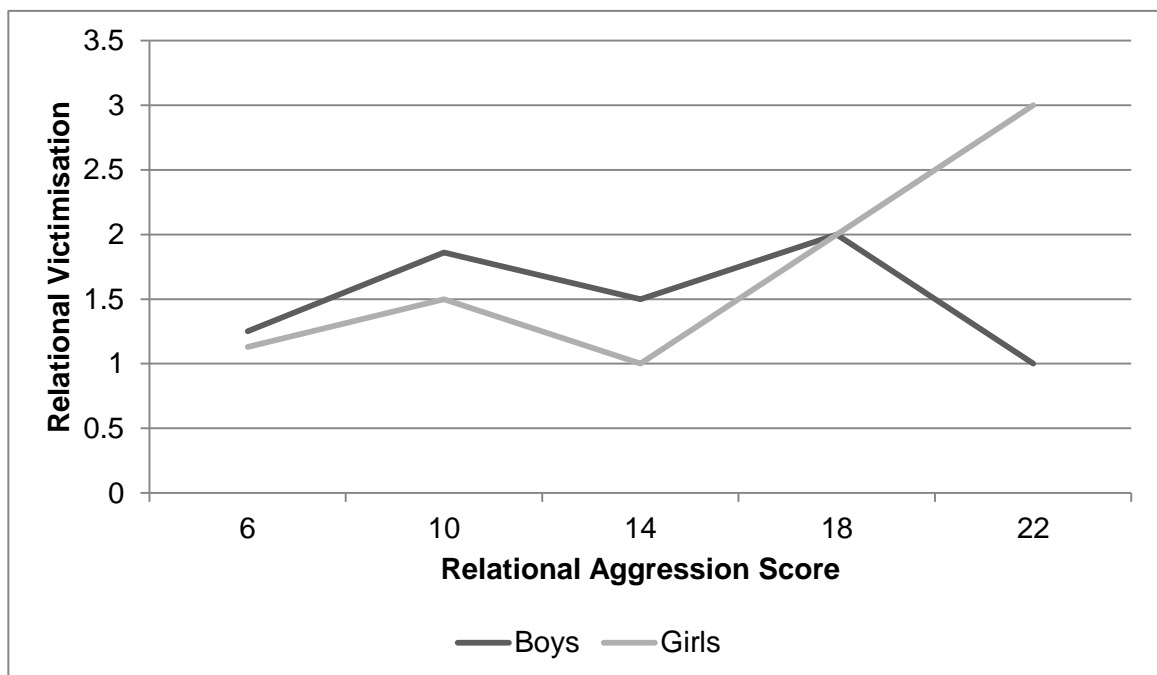


Figure 7.2. Interaction between Gender and Relational Aggression on the Level of Relational Victimization

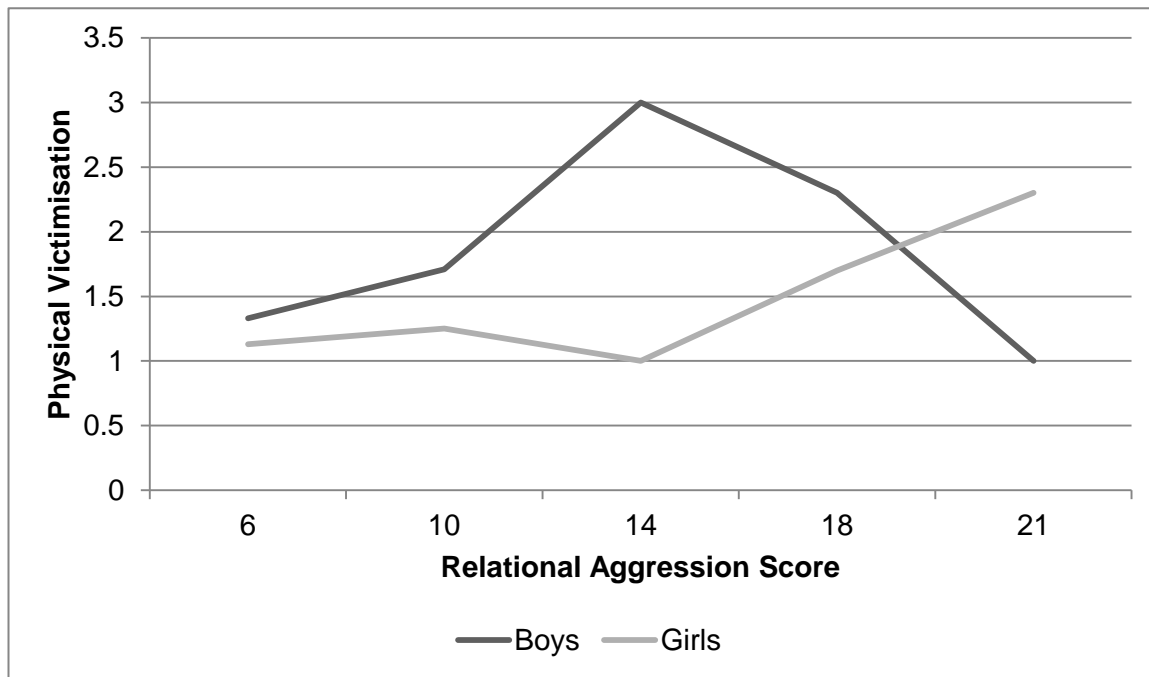


Figure 7.3. Interaction between Gender and Relational Aggression on the Level of Physical Victimization

At low levels of prosocial behaviour boys tended to be more physically aggressive than girls but at high levels of prosocial behaviour boys had lower levels of physical aggression ($F(1,65) = 19.41, p < .000$, see Figure 7.4). At high levels of relational victimisation boys were considerably more physically aggressive than girls but at low levels, there were no gender differences ($F(1,66) = 12.98, p < .000$, see Figure 7.5). Further, at high levels of physical victimisation boys were considerably more physically aggressive than girls but at low levels, there were no gender differences ($F(1,66) = 5.41, p = .02$, see Figure 7.6).

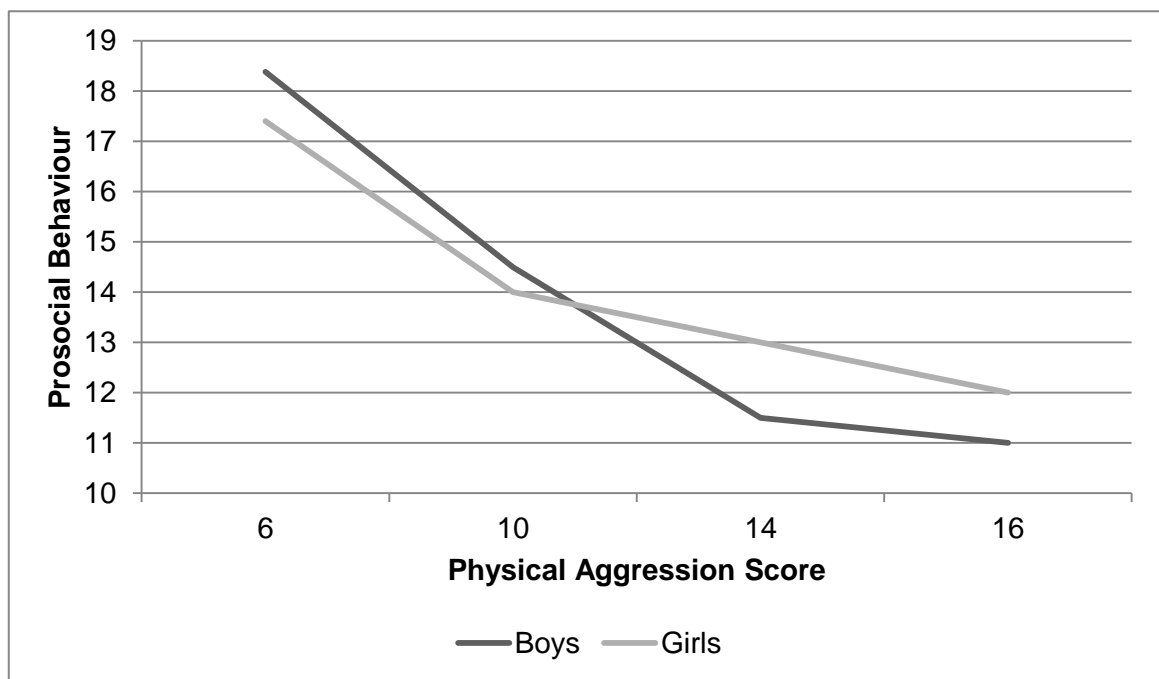


Figure 7.4. Interaction between Gender and Physical Aggression on Prosocial Behaviour

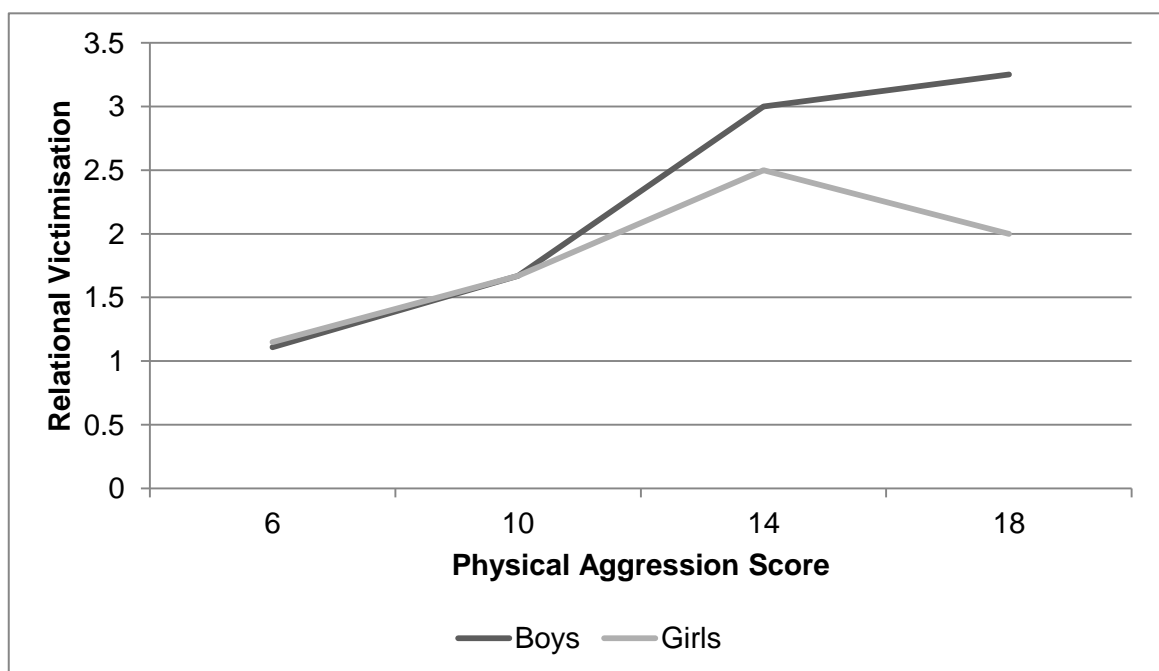


Figure 7.5. Interaction between Gender and Physical Aggression on the Level of Relational Victimization

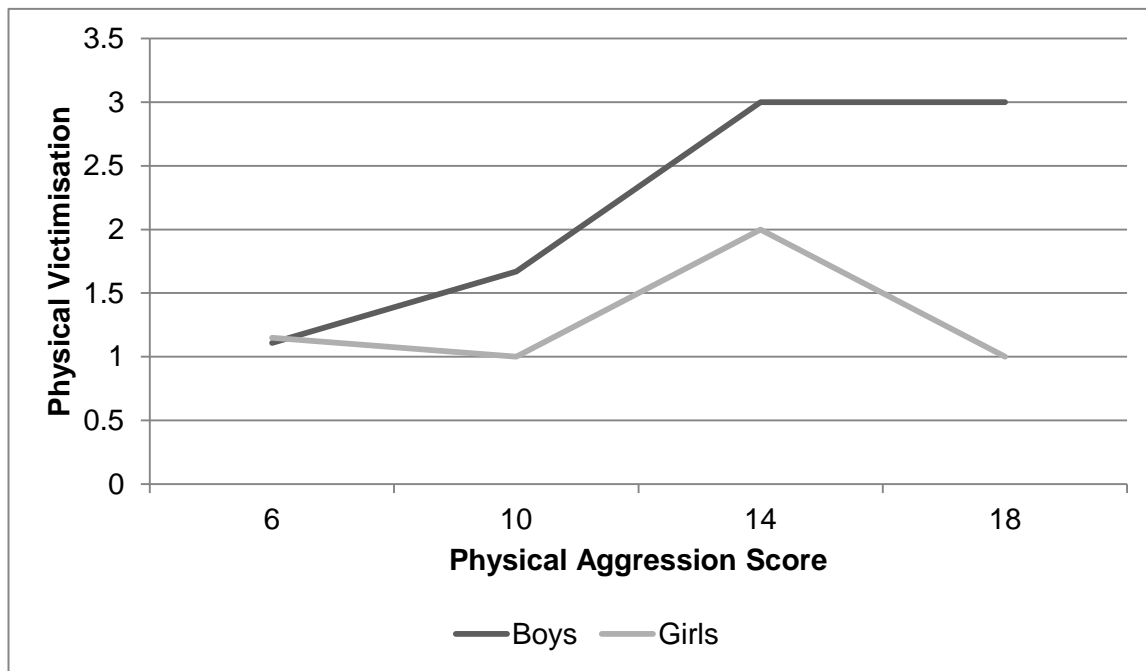


Figure 7.6. Interaction between Gender and Physical Aggression on the Level of Physical Victimization

7.7.7 Relative Contribution of Relational and Physical Aggression to Socio-Psychological Wellbeing

This analysis addressed research question 2.6: What is the unique contribution of relational and physical aggression to each of the above socio-psychological wellbeing factors? Given the high correlation between relational and physical aggression, hierarchical linear regressions were conducted to examine whether each subtype of aggression added significant explained variance in children's prosocial behaviour, depressed affect, relational and physical victimisation, peer acceptance and received prosocial behaviour from peers above and beyond the contribution of the other subtype of aggression. Each regression model was conducted separately for girls and boys because there were a number of significant gender interactions identified (as reported in Research Question 2.5). Predictor variables used in this regression model included children's relational and physical aggression scores and gender (girls, boys). Outcome variables were the individual socio-psychological wellbeing factors (prosocial behaviour, depressed affect, relational victimisation, physical victimisation, peer acceptance, and received prosocial behaviour from peers). Based on previous literature, it was predicted that

both relational and physical aggression would uniquely contribute to each of the socio-psychological wellbeing factors (**hypothesis 2g**).

7.7.7.1 Unique Role of Relational Aggression to Socio-Psychological Wellbeing

Physical aggression was entered at Step 1, followed by relational aggression at Step 2, to reveal the incremental explained variance in relational aggression after controlling for physical aggression. Due to the small sample size in this study, Adjusted *R* Square has been reported as it provides a better estimate of the true population value (Tabachnick & Fidell, 2007). As shown in Table 7.3, for girls, relational aggression was a significant predictor of reduced prosocial behaviour, relational victimisation and physical victimisation, after controlling for the variance associated with physical aggression. Most notably, relational aggression explained more than twice as much variability in girls' concurrent physical victimisation after controlling for physical aggression (see Table 7.3). For boys, relational aggression added significantly to the prediction of peer acceptance after controlling for the variance associated with physical aggression.

A number of notable gender differences were also identified. First, a larger effect on reduced prosocial behaviour was identified for girls compared to boys whereby relational aggression predicted less prosocial behaviour in girls after controlling for physical aggression and a trend towards more prosocial behaviour was identified for boys, after controlling for physical aggression (see Table 7.3). Second, relational aggression predicted positive peer acceptance for boys after controlling for physical aggression, however, a trend towards negative peer acceptance was identified for girls, after controlling for physical aggression.

Table 7.3

Unique Contribution of Relational Aggression to the Prediction of Concurrent Socio-Psychological Wellbeing Factors

	Step 1: R ² for Physical				Step 2: ΔR^2 for Relational				
	β	<i>t</i>	R	<i>R</i> ²	β	<i>t</i>	R	<i>R</i> ²	ΔR^2
Girls									
Prosocial Behaviour	-.59***	-4.22	.59	.33	-.32**	-2.20	.66	.40	.09
Depressed Affect	-.12	-0.70	.12	-.02	-.14	-0.73	.18	-.03	.02
Relational Victimisation	.46**	2.98	.46	.19	.52***	3.58	.66	.40	.23
Physical Victimisation	.35**	2.17	.35	.10	.59***	4.02	.65	.38	.29
Peer Acceptance	.12	0.66	.12	-.02	-.19	-1.02	.21	-.02	.03
Received Prosocial Behaviour	-.21	-1.25	.21	.02	.02	0.08	.21	-.01	.00
Boys									
Prosocial Behaviour	-.65***	-4.58	.65	.40	.02	0.08	.65	.38	.00
Depressed Affect	-.14	-0.80	.14	-.01	-.28	-1.14	.25	-.00	.04
Relational Victimisation	.60***	4.13	.60	.34	-.12	-0.62	.61	.33	.01
Physical Victimisation	.40*	2.38	.40	.13	-.04	-0.18	.40	.10	.00
Peer Acceptance	-.24	-1.35	.24	.03	.53*	2.35	.46	.15	.15
Received Prosocial Behaviour	-.18	-1.01	.18	.00	.39	1.65	.34	.06	.08

Note. Adjusted R-squared has been reported

* $p < .10$, ** $p < .01$, *** $p < .001$

7.7.7.2 Unique Role of Physical Aggression to Socio-Psychological Wellbeing

Relational aggression was entered at Step 1, followed by physical aggression at Step 2, to reveal the incremental explained variance in physical aggression after controlling for relational aggression. For girls, physical aggression was a significant predictor of reduced prosocial behaviour and relational victimisation, after controlling for the variance associated with relational aggression. For boys, physical aggression was a significant predictor of all the socio-psychological wellbeing factors, with the exception of depressed affect, after controlling for the variance associated with relational aggression (see Table 7.4). That is, physical aggression was a significant predictor of reduced prosocial behaviour, relational victimisation, physical victimisation, reduced peer acceptance, and received prosocial behaviour from peers. Most notably, physical aggression explained more than twice as much variability in boys' prosocial behaviour and relational victimisation, and a significantly high proportion of unique variance in peer acceptance and received prosocial behaviour, after controlling for relational aggression (see Table 7.4).

Gender differences were identified for peer acceptance and depressed affect. More specifically, physical aggression predicted less peer acceptance in boys, after controlling for relational aggression, whereas an opposite trend was identified for girls. That is, physical aggressive girls may be more accepted by their peers while physically aggressive boys are less accepted by their peers. Moreover, a trend towards lower levels of depressed affect was identified for physically aggressive girls, after controlling for relational aggression, while physically aggressive boys may be more likely to experience higher levels of depressed affect, after controlling for relational aggression.

Table 7.4

Unique Contribution of Physical Aggression to the Prediction of Concurrent Socio-Psychological Wellbeing Factors

	Step 1: R ² for Relational				Step 2: ΔR^2 for Physical				
	β	<i>t</i>	R	<i>R</i> ²	β	<i>t</i>	R	<i>R</i> ²	ΔR^2
Girls									
Prosocial Behaviour	-.50**	-3.34	.50	.23	-.47**	-3.23	.66	.40	.18
Depressed Affect	-.16	-0.96	.16	-.00	-.65	-0.34	.18	-.03	.00
Relational Victimisation	.62***	4.52	.62	.36	.26*	1.77	.66	.40	.06
Physical Victimisation	.64***	4.75	.64	.39	.12	0.82	.65	.38	.01
Peer Acceptance	-.12	-0.68	.12	-.02	.19	1.01	.21	-.02	.03
Received Prosocial Behaviour	-.07	-0.41	.07	-.03	-.22	-1.16	.21	-.01	.04
Boys									
Prosocial Behaviour	-.42*	-2.51	.42	.15	-.66**	-2.51	.65	.38	.24
Depressed Affect	-.25	-1.40	.25	.03	.04	0.17	.25	-.00	.00
Relational Victimisation	.34*	1.96	.34	.08	.69**	3.44	.61	.33	.26
Physical Victimisation	.25	1.39	.25	.03	.43*	1.85	.40	.10	.10
Peer Acceptance	-.13	0.70	.13	-.02	-.59**	-2.66	.46	.15	.19
Received Prosocial Behaviour	.09	0.50	.09	-.03	-.44*	-1.88	.34	.06	.11

Note. Adjusted R-squared has been reported

* $p < .10$, ** $p < .01$, *** $p < .001$

7.7.7.3 Contribution of Relational and Physical Aggression on Socio-Psychological Wellbeing

By examining the relative contributions of both relational and physical aggression in a multiple regression model, it was possible to determine which of these forms of aggression was most strongly associated with each socio-psychological wellbeing factor after controlling for their shared variability. Relational and physical aggression scores were entered as predictors in one block of the multiple regression and the socio-psychological wellbeing factors served as outcome variables, for a total of six multiple regression models. This analysis is summarised in Table 7.5, which reports the semi-partial correlation coefficients and the standardised regression coefficients (β) for relational and physical aggression when entered together as a block in one step of the multiple regression. Following the procedures of Prinstein and colleagues (2001), the part correlations for relational and physical aggression were squared and summed, providing a result of shared variance between relational and physical aggression that was associated with each of the socio-psychological wellbeing factors as well as the unique variance that was added by either relational or physical aggression beyond their shared variability.

Several consistent findings across gender were revealed. First, the models accounted for a sizable portion of the variance in each measure of children's socio-psychological wellbeing factors. As a block, relational and physical aggression accounted for 1% to 13% of the variance in girls' socio-psychological wellbeing and 2% to 18% in boys' socio-psychological wellbeing. In addition to this shared variability among the predictors, several significant associations for each individual predictor emerged. The combination of unique and shared variability (i.e., total R^2 ; see Table 7.5) accounted for 3% to 42% of the variance in preschool age children's socio-psychological wellbeing. Of the predictors that accounted for the most significant variability, physical aggression was the most consistent contributor of unique variance to the prediction of girls' and boys' prosocial behaviour and relational victimisation, after partialing out the shared variability with relational aggression. Relational aggression was uniquely associated with relational and physical victimisation for girls and peer acceptance for boys, after partialing out the shared variability with physical aggression.

It is noteworthy that the gender differences for peer acceptance remained when the contribution of both relational and physical aggression was considered. Relational aggression showed a trend towards predicting less peer acceptance for girls and more peer acceptance for boys. An opposite trend was revealed for physical aggression whereby physically aggressive girls were more accepted by their peers and physically aggressive boys were less accepted by their peers.

Table 7.5

Relative Contribution of Relational and Physical Aggression to the Prediction of Concurrent Socio-Psychological Wellbeing Factors

	Relational Aggression	Physical Aggression	Total R ²	Total Shared Variance
Girls				
Prosocial Behaviour	-.29 (-.32)*	-.43 (-.47)**	.40***	.13
Depressed Affect	-.13 (-.14)	-.06 (-.07)	.03	.01
Physical Victimisation	.54 (.59)***	.11 (.12)	.38***	.08
Relational Victimisation	.48 (.52)***	.24 (.26)*	.40***	.11
Peer Acceptance	-.18 (-.19)	.18 (.19)	.04	-.02
Received Prosocial Behaviour	.01 (.02)	-.20 (-.22)	.05	.01
Boys				
Prosocial Behaviour	.01 (.02)	-.49 (-.67)**	.42***	.18
Depressed Affect	-.20 (-.28)	.03 (.04)	.06	.02
Physical Victimisation	-.03 (-.04)	.32 (.43)*	.16*	.06
Relational Victimisation	-.09 (-.12)	.51 (.69)**	.37***	.10
Peer Acceptance	.39 (.53)*	-.44 (-.59)**	.21*	-.14
Received Prosocial Behaviour	.29 (.39)	-.33 (-.44)*	.12	-.07

Note. Numbers are part correlations (and betas)

*p< .10, ** p< .01, *** p<.001

7.7.7.4 Summary of the Relative Contribution of Relational and Physical Aggression to Socio-Psychological Wellbeing

Relational aggression uniquely predicted reduced prosocial behaviour, relational victimisation and physical victimisation in girls that was not accounted for by physical aggression. Relational aggression added significantly to the prediction of peer acceptance in boys that was not accounted for by physical aggression.

Physical aggression uniquely predicted reduced prosocial behaviour and relational victimisation in girls that was not accounted for by relational aggression. Physical aggression added significantly to the prediction of reduced prosocial behaviour, relational victimisation, physical victimisation, reduced peer acceptance, and fewer received prosocial behaviour from peers in boys that was not accounted for by relational aggression.

When the relative contributions of both relational and physical aggression in predicting socio-psychological wellbeing were explored, relational aggression significantly contributed to the prediction of relational victimisation and physical victimisation in girls and peer acceptance in boys. Physical aggression significantly contributed to the prediction of girls' and boys' reduced prosocial behaviour and relational victimisation.

7.8 DISCUSSION

Results of this study confirmed and extended the literature in several significant ways, and highlighted the frequency and socio-psychological wellbeing factors associated with relational and physical aggression in a sample of Australian preschool age children. First, teachers were able to identify relational and physical aggression in children aged between 36 and 63 months and reported that approximately one in eight children within this sample engaged in high levels of relational aggression (i.e., 1+ *SD* above the population mean). The population mean levels of relational and physical aggression reported in this sample was similar to one previous study in Australia (Swit & McMaugh, 2012) and similar studies overseas (Ambrose & Menna, 2013; Gower et al., 2014; McEvoy et al., 2003). These findings provide confirmation of the earlier Australian study (Swit & McMaugh, 2012) that relationally aggressive behaviours in Australian early childhood contexts are similar

to levels observed in international contexts. Physical aggression is often identified as more common during early childhood than other forms of aggression (Tremblay, 2000; 2012), however it is noteworthy that in this sample of preschool age children, the population mean was higher for relational aggression compared to physical aggression (see Table 7.1) suggesting that relational aggression was more commonly identified at higher levels by teachers than physical aggression in this sample of children.

7.8.1 Developmental Correlates of Aggression

7.8.1.1 Age

As expected, younger and older children in this sample engaged in similar levels of physical aggression. Contrary to the hypothesis, no significant relationship was identified between relational aggression and age indicating that younger and older children in this sample engaged in similar levels of relational aggression. These findings highlight that in this preschool age sample, younger and older children may be using a combination of relationally and physically aggressive behaviours within their social contexts.

7.8.1.2 Gender

No gender differences were identified in teacher's ratings of relational aggression, however, teachers reported significantly higher levels of physical aggression in boys. Several studies suggest boys use physical aggression more often than girls (Lussier et al., 2012; McEvoy et al., 2003), however, mounting evidence, including this study, finds no gender differences in young children's use of relational aggression (Card et al., 2008) highlighting the need for researchers and adults to include both subtypes of aggression when assessing boys' and girls' use of aggression.

7.8.1.3 Siblings

As expected, children with older siblings received higher teacher ratings of relational aggression compared to those children with young siblings. These results confirm previous evidence that having an older sibling may facilitate children's use of relational aggression (Ostrov et al., 2006; Stauffacher & DeHart, 2005). This finding is in line with the Social Cognitive Theory (Bandura, 1973) and the General

Aggression Model (Anderson & Bushman, 2002) which posits that young children learn behaviours through observation, modelling, imitation, and reinforcement that occurs in their immediate contexts. As such, it is important for teachers and parents to be aware of the potential older sibling effects that may influence the development of young children's aggressive behaviours. Also, existing intervention programs targeting relational aggression are delivered in early childhood contexts and only focus on the aggressor (see Leff et al., 2010 for a review). It seems that intervention programs should consider treating all siblings in a family group context as an isolated intervention program targeting an individual sibling alone may not be as effective if the role modelling influence from an older sibling is not being addressed.

7.8.2 Aggression and Socio-Psychological Wellbeing Factors

The most salient findings of this study are in regard to the socio-psychological wellbeing factors associated with relational and physical aggression during early childhood. In particular, the results show that concurrent relational and physical aggression are associated with both relational and physical victimisation. This is similar to the findings of Ostrov in early childhood populations (Ostrov, 2008). More specifically, relational aggression was a significant predictor of relational and physical victimisation for girls while physical aggression was a significant predictor of relational and physical victimisation for boys. This is the first known empirical study to reveal that associations between subtypes of aggression and victimisation may be different for boys and girls during early childhood. The implications of victimisation may be particularly worse for girls as previous research has shown that adolescent girls are more likely to experience negative internalising outcomes such as depression, loneliness, and self-esteem as a consequence of victimisation (Prinstein et al., 2001). Thus, the examination of the associations between aggression and victimisation for boys and girls is important in understanding different socio-psychological trajectories and critical periods of psychological risk.

These findings are complemented by the correlational findings for relational and physical aggression and each socio-psychological factor for the total sample and by gender in this sample of young children (see Table 7.2). Consistent with the *Specificity Hypothesis* (Crick et al., 1999; Ostrov, 2010), relational victimisation was associated with higher levels of relational aggression, however, contrary to the *Specificity Hypothesis*, physical victimisation was also associated with higher levels

of relational aggression in girls. Relationally aggressive girls were more likely to experience both relational and physical victimisation than relationally aggressive boys. In these early social interactions, girls seem to use relational aggression to hurt their peers, but in this sample were also more likely to be victims of relational and physical aggression.

When both relational and physical aggression were investigated together, relational aggression remained the strongest predictor of physical victimisation for girls. This finding highlights that during early childhood, high use of relational aggression increases girls' risk of physical victimisation. When a girl receives physical aggression she may choose to respond with relational aggression as this is a more subtle and harder to detect form of aggression, thus reducing the potential for retaliation as relational aggression does not openly appear to be mean (Xie, Swift, Cairns, & Cairns, 2002). This may reflect sophisticated social cognitive processing and socially skilled behaviour. Relationally aggressive girls may also be cognisant of the punitive consequences that are often associated with physical aggression and may avoid using this form of aggression as retaliation (Kochenderfer-Ladd & Pelletier, 2008).

Significant gender differences were also identified between physical aggression and relational and physical victimisation. Physically aggressive boys were more likely to receive higher levels of relational and physical victimisation whilst physically aggressive girls were more likely to receive relational victimisation only, after controlling for relational aggression. Interestingly, the association between physical aggression and received relational and physical victimisation was significantly stronger for boys than girls. The strength of this association is to be expected given that teachers identified that the boys in this sample engaged in significantly higher levels of physical aggression compared to girls. These findings may also be indicative of the socio-psychological wellbeing factors associated with gender non-normative aggression (Crick, 1997; see Chapter 2 for a review) whereby children who engage in forms of aggression that are not typical of their gender (i.e., girls engaging in physical aggression) experience different socio-psychological wellbeing outcomes. For example, Dhami and colleagues (2005) reported that girls who engaged in gender non-normative behaviours (e.g., physical aggression) were more likely to experience increased victimisation a year later. Similar findings have been presented by other researchers (e.g., Kupersmidt & Dodge, 2004; Schwartz et

al., 1999; Thorne, 1993) and suggest that young girls who are more approving of aggression are more likely to interact and socialise with other like-minded children. This, in turn, increases the likelihood of experiencing victimisation within the peer group (Dhami et al., 2005). An alternative explanation may relate to the gender-linked model of aggressive behaviour (Ostrov & Godleski, 2010). The findings of this study highlight that there is little difference in boys' and girls' engagement in relational aggression during early childhood. However, boys engage in significantly higher levels of physical aggression compared to girls. This suggests that boys use both relational and physical aggression during this developmental period, which in turn increases the likelihood that they will receive relational or physical victimisation.

When the contribution of both relational and physical aggression to the prediction of victimisation was investigated, relational aggression was uniquely associated with physical victimisation for girls and physical aggression was uniquely associated with relational victimisation for girls and boys. These findings provide additional evidence to suggest that aggressive children are also more likely to be victims of aggression, regardless of the type of aggression. While this might not be surprising given that victimised children may experience fewer opportunities for positive peer interactions (Ostrov, 2010), there is a need to explore the bidirectional relationship between aggression and victimisation, particularly with reference to the age and gender of the child.

The findings from this study revealed that relational aggression predicted positive peer acceptance in boys after controlling for physical aggression. Previous studies have provided evidence to suggest that relational aggression may be associated with a number of positive, adaptive socio-psychological wellbeing factors. For example, peer acceptance and social status has been found to be positively associated with relational aggression in younger and older children (Gower et al., 2014; Nelson et al., 2005; Prinstein & Cillessen, 2003). For the boys in this study, relational aggression may provide one possible means to gain access to social resources such as peer acceptance. Indeed, boys have been shown to be significantly more socially dominant than girls (e.g., Cross & Fletcher, 2011) and have been identified using aggressive behaviours that facilitate the attainment and maintenance of social power and status (Mayeux, 2014). It is also noteworthy that boys' use of relational aggression was not a significant predictor of physical victimisation in this sample of children, suggesting that relational aggression may be

a protective factor for these boys. This result is consistent with the finding that physical aggression has been shown to decrease after children establish dominance within their social groups (Murray-Close & Ostrov, 2009). It is suggested that once social dominance is achieved in the peer group, aggression is no longer necessary (Pellegrini et al., 2007). There is a broad agreement across the theories supporting this study (e.g., Social Cognitive Theory, Bandura, 1973; 1986; 2001; Social Information Processing Model, Crick & Dodge, 1994; Script Theory, Huesmann, 1988; 1998; General Aggression Model, Anderson & Bushman, 2002), that receiving acceptance from peers may reinforce boys' use of relational aggression. This finding contrasts with previous conceptualisations of childhood physical and relational aggression, which has commonly considered aggressive children to be more rejected by their peers and lacking in social skills and social competence (Cillessen & Mayeux, 2004; Coie & Dodge, 1998; Crick et al., 1999).

Depressed affect was not associated with relational or physical aggression in this sample of children. This finding concords with a recent study which found that relationally aggressive preschool age children experienced fewer depressive symptoms and higher levels of peer acceptance in Kindergarten compared to physically aggressive children (Gower et al., 2014). Given that establishing and maintaining social status is often a central goal of relational aggression, relational forms of aggression may prove functional (i.e., useful) or adaptive in establishing and maintaining peer relationships during early childhood (Heilbron & Prinstein, 2008). Further, relationally aggressive acts require social interactions and relationships with peers, therefore, these social contexts are less likely to create feelings of depression. Whilst the findings of this study suggest that aggressive children are using lower levels of prosocial behaviour, these children may still be liked by their peers as preschool age children are still learning about socially appropriate and inappropriate behaviours during this developmental period (Dodge, Coie, & Lynam, 2006).

The findings from this study provide much needed evidence of the socio-psychological wellbeing factors predicted by children's use of relational and physical aggression during early childhood. Whilst other studies have identified a range of maladaptive factors associated with preschoolers' use of relational aggression, such as peer rejection (Crick & Bigbee, 1998; Hanish & Guerra, 2002), it is noteworthy that relational aggression was only related to lower levels of prosocial behaviour and higher levels of relational and physical victimisation in girls while it was related to

higher levels of peer acceptance in boys. The lack of significant associations between relational aggression and the other socio-psychological wellbeing factors assessed in this study contributes to emerging research which suggests that relational aggression may be adaptive for some children (see Heilbron & Prinstein, 2008, for a review). These findings also highlight the importance of analysing the unique contributions of relational aggression, after controlling for physical aggression, as shared variance analyses can give an inaccurate interpretation of the impact of aggression in predicting socio-psychological wellbeing factors. As expected, physical aggression significantly predicted all of the socio-psychological wellbeing factors (with the exception of depressed affect) for boys and lower levels of prosocial behaviour and higher levels of relational victimisation for girls. This suggests that in some social and developmental contexts, relational and physical aggression may be associated with negative as well as positive factors such as higher levels of peer acceptance.

The results of this study hold important implications for intervention and prevention efforts, specifically with regard to preschool age children. More specifically, intervention programs should alert teachers and parents to the presence of relationally aggressive behaviours in very young children and that this form of aggression is not linked to gender. Interventions should also consider the wider family context and aim to include siblings, especially older siblings when targeting relational aggression. It is interesting that relationally aggressive boys experienced higher levels of peer acceptance. If relational aggression is used as a social dominance strategy by boys, then relationship based interventions may be appropriate to teach more prosocial and acceptable ways to gain and maintain friendships. It is also important that teachers and parents be made aware that the socio-psychological wellbeing implications of relational aggression may be worse for girls and they may also be targets of concurrent victimisation by their peers.

It is important to note that the cross-sectional nature of this study does not allow for conclusions to be drawn about the developmental relationships between relational and physical aggression and each of the socio-psychological wellbeing factors measured. Cross-lagged analysis of such data would help increase understanding of the directional associations between aggression and socio-psychological wellbeing and may be helpful for early childhood interventions (similar analyses have been used by Boivin, Petitclerc, Feng, & Barker, 2010; Ostrov et al.,

2013). As has been highlighted in this study, the relationship between aggression and victimisation is complex. Previous research has attempted to delineate the associations between relational and physical aggression and victimisation by considering the functions of children's aggression. This is considered a promising avenue for future research in attempting to understand the potential adaptive and maladaptive correlates associated with relational and physical aggression. The complexities associated with relational and physical aggression and relational and physical victimisation also highlight some of the sophisticated social cognitive processing and skilful strategies that are employed when children decide to aggress. A review conducted by Heilbron and Prinstein (2008) acknowledged the skilfulness of relationally aggressive children and called for a closer examination of the various adaptive and maladaptive functions that relational aggression serves. The review also recommended that future research employs observational methods that allow for the exploration of the social cognitive processes and functions of children's aggression. In making an original contribution to current empirical studies and theories of aggression, Study Three will explore the social cognitions of high relationally aggressive and typically developing children by observing them during free unstructured play and asking them to explain why they choose to engage in relational and/or physical aggression.

7.8.3 Conclusion

To conclude, this study is the first known empirical investigation to examine children's use of relational and physical aggression in predicting socio-psychological wellbeing factors in a sample of preschool age children in Australia. The results from this study highlight the importance of exploring the socio-psychological wellbeing factors related to relational and physical aggression and whether these associations differ for boys and girls. While previous studies have identified the association between relational and physical aggression and victimisation, few have explored the gender effects of these associations. The findings from this study revealed that relational aggression contributed to relational and physical victimisation for girls and physical aggression contributed to relational victimisation in girls and relational and physical victimisation in boys. The findings from this study extend previous studies by highlighting important gender differences associated with relational and physical aggression in predicting socio-psychological wellbeing factors in boys and girls. In particular, relational aggression contributed to higher levels of peer acceptance for

boys. Empirical findings from this study also concord with a growing base of evidence which suggests that relational aggression might serve an adaptive function during early childhood (i.e., assisting children to establish their social status within their peer groups). To understand more of the nuances in relationally aggressive and typically developing children's social interactions and cognitive processing, Study Three will ask relationally aggressive and typically developing children why they engage in aggression and will observe their social interactions with peers and adults to determine whether the qualities of these interactions are different for relationally aggressive and typically developing children.

CHAPTER 8

STUDY THREE. UNDERSTANDING THE INTENTIONALITY AND FUNCTION OF YOUNG CHILDREN'S AGGRESSIVE BEHAVIOUR

8.1 BACKGROUND

In Study Two, teachers identified high relational aggression in approximately 1 in 8 children in this sample. This high frequency of relational aggression is concerning given that the findings also revealed lower levels of prosocial behaviour and higher levels of relational and physical victimisation was associated with this form of aggression during early childhood. The key findings from Study Two challenged and extended previous conceptualisations of aggression which have commonly linked aggression with maladaptive consequences (Coie & Dodge, 1998; Crick et al., 1999) by identifying that relational aggression may also be associated with some adaptive functions. For example, the findings indicated that relational aggression was associated with higher levels of peer acceptance in boys. This proposition is supported by previous findings that relational aggression may be adaptive or, at least, functional for some children because the social status that is often gained from relational aggression may protect them from experiencing peer rejection (Gower et al., 2014; see Heilbron & Prinstein, 2008 for a review).

Researchers have identified that aggression may serve proactive and reactive functions (Anderson & Bushman, 2002; Coyne et al., 2011; Dodge, 1991; Geen, 2001; Ostrov et al., 2013). Proactive aggression is a deliberate behaviour that is used to obtain a desired object, outcome or self-serving goal while reactive aggression is often hostile behaviour used in response to a perceived threat. When considering the potential adaptive purpose of young children's aggression, it is useful to explore the functions of children's aggressive behaviour to ascertain why they engage in aggression. For example, the findings from Study Two identified an association between relational aggression and relational and physical victimisation. Children who engaged in high levels of teacher reported relational aggression were more likely to receive higher levels of relational and/or physical victimisation and this relationship was particularly significant for girls. While causal analyses were not possible in Study

Two, functions of aggression may provide plausible explanations for the associations between relational aggression and victimisation.

For instance, relational aggression has typically been considered a proactive form of aggression as these behaviours frequently lead to self-serving goals such as obtaining a desired object or achieving social status and control within a peer group (Dodge, 1991; Little et al., 2003; Ostrov & Crick, 2007; Smith, 1991). Therefore, some children might be more likely to use proactive forms of aggression to protect their social status. This is supported by evidence that proactive relational aggression may be associated with adaptive behaviours such as social competence, more advanced social skills and leadership skills (Hawley, 2003; Little et al., 2003; Nelson et al., 2005; Vitaro et al., 1998). Reactive aggression, on the other hand, has been associated with peer rejection, a lack of social skills in leadership and cooperation and higher levels of social withdrawal (Poulin & Boivin, 2000) indicating poorer relationships with peers. As such, relational and physical aggression can be reactive or proactive, however, the extent to which a young child chooses to engage in relational aggression instead of physical aggression in response to provocation (i.e., reactive aggression), may be associated with the perceived benefits or adaptive functions of such behaviour. While evidence has suggested that some children may use relational aggression to advance their social standing, these studies have focused on social status, peer liking, and superiority as a measure of children's social interactions with peers (Grotzinger & Crick, 1996; Hawley, 2003; Johnson & Foster, 2005; Nelson et al., 2005). However, little is known about other indicators (such as personal-social development) of relationally aggressive children's social interactions with peers and adults. This study aims to address this lack of information by assessing relationally aggressive and typically developing children's personal-social development using a well validated measure (i.e., Battelle Developmental Inventory) as an indicator of the quality of children's social interactions with peers and adults.

A number of studies have provided empirical evidence of the potential adaptive function of children's aggression. Hawley (2003) found that preschool age children who reported using both aggressive and cooperative strategies in social contexts were well liked by their peers and had more advanced social skills. Further, Nelson and colleagues (2005; 2010) found that children's use of relational aggression was associated with higher peer status ratings during early childhood. As such, children's use of relational aggression may prove functional in strategically

manipulating their social contexts and relationships to achieve certain goals. From a social cognitive perspective (Bandura, 1973), proactive relational aggression may be reinforced by the social group as children gain social dominance and earn status within their peer group (Bandura, 1973; Prinstein & Cillessen, 2003). Indeed, Bandura (1979) argued that understanding what aggression is will only be possible when we understand why people classify some behaviours as aggressive and others as not. However, few empirical studies have explored the reasons why young children use aggression, whether they consider these behaviours 'right' or 'wrong', and whether these behaviours may be indicative of adaptive or maladaptive developmental processes during early childhood. One of the difficulties in the measurement of young children's aggression relates to a conceptual issue, that is, the concept of intentionality.

A defining element of aggression is the intent to cause harm (Berkowitz, 1993). In the past, researchers have speculated about the age of onset of intentionality and young children's ability to engage in aggression with the intent to cause harm (Flavell & Miller, 1998; Hanish et al., 2004; Zelazo et al., 1996). However, more recent research suggests that children develop an understanding of intentions as young as two to three years of age (see Rosset & Rottman, 2014, for a review; Wellman & Liu, 2004). In particular, Katsurada and Sugawara (1998) have shown that preschool age children are capable of making intentional and unintentional attributions about another person's actions and these attributions differ for aggressive and less aggressive children. Aggressive children were more likely to interpret unintentional behaviours as intentional compared to less aggressive children. As such, it is now understood that preschool age children can make judgements about the intent to cause harm when engaging in aggression, however, given the rapid development of social cognition and the varying functions of children's aggression during this developmental period, children's understanding of intentionality may vary considerably. Less is known about whether young children understand the intentionality of sophisticated and potentially covert behaviours such as relational aggression.

Among the current available measures of young children's understanding of intent, it is common to employ hypothetical scenarios or vignettes. For example, measures arising from the theoretical perspective of Social Information Processing generally employ fictitious hypothetical scenarios to understand children's intent

attributions. This is demonstrated in Ziv and Sorongon's (2011) development of a 20 minute structured interview to assess preschool age children's social information processing. The interview presents a series of four hypothetical vignettes using a storybook easel and illustrations of bears. At certain points in the vignette, the researcher stops and poses questions to the child that address social information processing such as the perceived intentions of the protagonist's behaviour. These methods have typically been developed and employed with older children and may pose more of a challenge for very young children because of the hypothetical or abstract nature of the vignettes or scenarios. These methods often do not consider the linguistic capabilities of a very young child and often underestimate very young children's understanding of intentionality (Wellman & Liu, 2004). Indeed, Katsurada and Sugawara (1998) found that preschool age children were capable of distinguishing between intentional and unintentional behaviour when the provocation was concrete and familiar to them.

Moreover, observations of children's use of aggression rely on an observer's judgement of intentionality (e.g., Ostrov & Keating, 2004) while teacher and peer reports have also been dependent on the subjective judgements of others (e.g., Little et al., 2003; Ostrov & Crick, 2007). These methods often involve attributing generic meanings to children's behaviour by using standardised coding systems. These generic observer coding systems often do not allow for the investigation of different functions or reasons for children's aggressive behaviour within diverse social contexts because the behaviours are coded based on one single observation of behaviour and children are not asked to explain their behaviour. As such, it is necessary to develop novel measures that are developmentally appropriate for very young children and are sensitive to the key components of intentionality and other social cognitive processes in early childhood contexts. No research to date has examined young children's own explanations of intent and this may be due to some of the methodological difficulties in the assessment of these complex social cognitive processes in young children. As noted in Study Two, Heilbron and Prinstein's (2008) review called for future research to employ fine grained observational methods to assess the function of young children's aggression as these approaches provide a more comprehensive insight into why young children engage in aggression and the various adaptive outcomes associated with early use of these behaviours. Polman and colleagues (2007) also recommended that researchers explore young children's

social interactions through an antecedent-behaviour-consequences pattern to understand the reasons why children engage in aggression. As a result, a developmentally appropriate and novel method was developed for the purpose of Study Three, taking into consideration the recommendations of previous research.

In contrast to external observer assessment of behaviour, video stimulated recall methodologies have also been used to assess an individual's *subjective* social cognitive understanding of their own behaviours, interactions and experiences (see Welsh & Dickson, 2005 for a review). Video stimulated recall methodologies allow the individual to view and reflect on their actions and other people's responses to their behaviour. In particular, these methods and procedures may be developmentally appropriate because of the tangible and visual nature of the prompt which may be more suitable for the very young child. The study of the individual's subjective understanding, through the use of video stimulated recall methodologies, acknowledges the emotional experiences associated with an event, the individual's perceived purpose or intent of the behaviour, and the significance and meaning that is attributed to the event by the individual (Powers, Welsh, & Wright, 1994). Indeed, these factors are similar to an individual's evaluation of their aggressive behaviour and are considered important in understanding the function of children's aggression (Poulin & Boivin, 2000). Therefore, video stimulated recall methodologies may provide a developmentally appropriate approach to assess the functions and intentions of young children's aggressive behaviours, as interpreted by the individual child.

Recent advancement in technology have also assisted researchers in obtaining very fine grained and detailed observational data on very specific behaviours. For example, Hong and Broderick (2003) used Video Stimulated Recall to gain a more in depth researcher perspective on young children's solutions to resolving conflict. It was found that video stimulated recall procedures could be effectively used by teachers to help children reflect on their behaviour and created opportunities for dialogue about possible solutions for solving conflict. Other research has employed Video Stimulated Recall to better understand children's experiences of shared book reading and singing (Makin & Whiteman, 2006) and children's reflective thinking during mathematics (Cheeseman & Clarke, 2007). These studies have shown that very young children are able to recognise themselves in videos and are able to reflect and report on their behaviours and the reactions and emotions of other

children in the video. Research using video stimulated recall methodologies has substantially contributed to our understanding of teacher-student relationships and young children's learning process, however, no empirical research could be located that has used this methodology to explore the social relationships of very young children. As such, the video stimulated recall procedure will be used in Study Three to explore young children's social cognitive understanding about their aggressive behaviours and social interactions with peers and adults whilst assessing whether these behaviours are intentional. This is considered an exploratory, but innovative approach which has taken into consideration the developmental needs of very young children and some of the limitations associated with current methodologies used to assess aggression and intentionality in older children.

In sum, research has provided evidence to suggest that young children may use relational aggression for adaptive purposes, such as maintaining peer status and dominance, without the perceived negative consequences often associated with physical aggression (Hawley, 2003; Nelson et al., 2005; 2010). Children who engage in sophisticated behaviours such as relational aggression may demonstrate more advanced social skills and understanding about their social contexts and how to more effectively harm others while avoiding punishment and potential retaliation from other peers. However, there remains a paucity of empirical research assessing relationally aggressive children's social skills and developmental interactions with peers and adults, particular during early childhood. As such, this study will extend previous research by developing a novel observational and Video Stimulated Recall Interview method to ascertain young children's developmental understanding of intentionality when engaging in aggression, and to explore the reasons why children choose to engage in aggression. The data obtained through these observations will include a comparison with typically developing children (i.e., children with 'average' levels of aggression) and thus will provide further evidence about the unique developmental capacities of relationally aggressive children. Study Three aims to answer the following questions:

Research Question 3.1 Do preschool age children report that they engage in aggression with the intent to cause harm or injure another person?

Hypothesis 3a: Preschool age children will report that they engage in aggression with the intent to cause harm or injure another person.

Research Question 3.2 What are some of the explanations preschool age children (in this sample) provide for engaging in aggression?

Hypothesis 3b: Preschool age children will refer to reactive and proactive functions to explain their use of aggression.

Research Question 3.3 What are the qualities of relationally aggressive and typically developing children's social interactions with peers and adults?

Hypothesis 3c: Typically developing children will have higher quality social interactions with peers and adults compared to relationally aggressive children.

8.2 METHOD

8.2.1 Participants

A total of 68 children were rated by teachers for levels of relational and physical aggression. Of these children, nine (13.2%) were identified by teachers as engaging in high levels of relational aggression (i.e., 1+ *SD* above the population mean) and comprised the high relational aggression subgroup for this study. A further nine children with normative levels of aggression (i.e., at the mean) were age matched with the relational aggression subgroup, however, only seven children had completed the child measures due to consent and attrition. Children who were identified as engaging in both high relational and physical aggression ($n = 3$) were screened out of the sample. Children ranged in age from 36 to 64 months ($M = 51.6$ months; $SD = 5.6$ months). Age and gender distributions for the total sample and each aggression group are described in Table 8.1.

Table 8.1

Age and Gender of the Sample Populations

	Relationally Aggressive Subgroup (<i>n</i> =9)		Typically Developing Subgroup (<i>n</i> =7)		Total Sample (<i>N</i> =68)	
Age (months)	M	SD	M	SD	M	SD
	54.0	5.7	52.3	6.1	51.6	5.6
Gender						
Girls	6		5		36	
Boys	3		2		32	

8.2.2 Measures*8.2.2.1 Social Behaviour during Free, Unstructured Play*

Children's use of aggression was observed using Ostrov and Keating's (2004) Early Childhood Play Project Observation System (ECPPOS) procedure. Each focal child was observed during free unstructured play for 20 minutes on four different occasions over a 1-month period. That is, each child was observed for a total of 80 minutes. Children were asked to give consent on each occasion that observations took place. Similar to a previous study conducted by Pepler and Craig (1995), a digital video camera and wireless microphones were used to capture children's engagement in aggression during free unstructured play. This approach to collecting observational data meant that a complete record of children's behaviours and verbalisations during each observation session could be obtained. This included direct, obvious behaviours and utterances as well as more subtle verbal behaviours that may not have been observed in previous studies. This methodology has been shown to reduce reactivity and allows the researcher to maintain a minimally responsive manner in the playground and classroom (Pellegrini, 2004). Child reactivity is defined here as the focal child approaching and communicating with the researcher; direct eye contact from the focal child; comments about the observation to other peers (Crick et al., 2006). Such reactivity was low to non-existent over the course of the observations in the current ($M < 2.0$, $SD < 1.12$). The use of remote audio-visual observations also allowed the researcher to code the focal child's behaviour and interactions remotely and identify certain behavioural scenarios that

could be used for further explanations about intentionality in the Video Stimulated Recall Interview.

The researcher recorded observed instances of relational and physical aggression during each observation using the ECPPOS coding procedure. In particular, children's behaviour was coded as aggressive or non-aggressive and the function (reactive versus proactive) of their behaviour was also recorded (see Appendix F for the coding system used). Consistent with previous research (Ostrov & Crick, 2007) *proactive* aggression included behaviours motivated to obtain a desired object, outcome or achieve a specific goal such as social status within the peer group. These behaviours were not in response to a perceived threat. In contrast, *reactive* aggression included behaviours that were retaliatory or hostile and were often the result of previous victimisation delivered by another peer. These codes allowed the researcher to identify critical incidences that could be used for the purpose of the Video Stimulated Recall Interview which followed immediately after each observation session. This observation coding system has demonstrated high reliability in past research (e.g., Ostrov & Keating, 2004). Inter-rater reliability in this study was assessed by using two researchers to cross code a random sample of 40% ($n = 26$) of the observations. Reliability was acceptable for relational aggression ($ICC = .87$) and for physical aggression ($ICC = .90$).

8.2.2.2 Children's Intent and Understanding of Their Own Behaviour

This measure employed a Video Stimulated Recall Interview based on the observed video recordings of behaviour described above. This interview was developed specifically for the purpose of this study to assess children's subjective social cognitive understanding of and explanations for engaging in aggressive behaviours. In particular, children's responses were coded for intentionality based on their explanations for their behaviour that suggest an awareness of, and understanding what they are doing, and what they are trying to achieve in different social situations (i.e., functions of their behaviour). The Video Stimulated Recall Interview was employed as a metacognitive measure to provide insight into children's intentions and motives, rather than focusing on recalling events. For the purpose of this study, metacognition is referred to as the "conscious reflection by a child on their own thinking processes" (Morgan, 2007, p. 216). When conducting research with young children, a primary consideration is the extent to which children can self-report

on their own behaviour (Rowe, 2009). The video stimulated recall procedure has been used with very young children and is considered a method in which researchers can more reliably assess children's responses to questions (Morgan, 2007; Rowe, 2009).

First, the ECPPOS coding system was used to identify incidences to replay to the child immediately after each of the observations sessions had finished. The incidences chosen for replay included relationally and/or physically aggressive behaviours used by the focal child that the researcher viewed as intentional, that included, at least, one other peer, and there was little ambiguity about the behaviours being used when reviewing it on the video. The semi-structured Video Stimulated Recall Interview (see Welsh & Dickson, 2005 for a review) was then used to elicit what children were thinking, feeling and doing during each of these incidences. This procedure involved replaying each incident to the child and asking them a series of open-ended questions such as *"Can you tell me what happened there?"*, *"Can you tell me why you chose to do that?"* The purpose of this questioning procedure was to elicit children's perceptions about their intentions and motives when engaged in relational or physical aggression. The researcher replayed two incidences after each observation session, ranging from 50 seconds to 2 minutes in length and the questioning procedure remained the same for each session. From the observations conducted, a total of 46 incidences were replayed during Video Stimulated Recall Interviews. Each child from the two subgroups participated in at least one Video Stimulated Recall Interview, with the majority of the children ($n = 11$) responding to three or more incidences. A criteria of two incidences in each observation session per child was used when conducting the Video Stimulated Recall Interview to ensure each of the incidences would be familiar and relevant to the child.

Children's Video Stimulated Recall Interviews were initially coded, using an open thematic coding approach, for themes relating to children's understanding of their intent and reasons (i.e., functions) for engaging in relational or physical aggression. An advantage of this approach is that it allowed the researcher to assess the child's subjective understanding about their behaviour and identify elements that were particularly salient to the child.

In a small number of interviews children responded to questions about their behaviour with the statement *"I don't know"*. In these interviews, children were

encouraged to elaborate on their response, and with further reflection and processing time, many of these children did elaborate and explain their behaviour. However, there were still a small number ($n = 3$ Video Stimulated Recall Interview questions) of children who continued to respond with “I don’t know”. One of these children may have been using this as an avoidance technique because they also requested to watch another segment of the video, indicating that they did not want to watch the scenario being replayed. Avoidance techniques such as this may suggest that the child is aware of their negative behaviour and is attempting to detract from these behaviours by requesting to move on. The two other responses were children distracted by other events occurring in the early childhood centre. As such, these responses were not included within the analysis.

8.2.2.3 Development of Social Interactions with Peers and Adults

Children’s ability to engage in meaningful social interactions with their peers and adults was assessed using The Personal-Social Domain of the Battelle Developmental Inventory Second Edition (Newborg, 2005). The Personal-Social Domain consists of three subdomains; adult interaction, peer interaction, and self-concept and social role. The Personal-Social Domain was chosen from the Battelle Developmental Inventory as an indicator of children’s personal-social development. Assessment of children’s interactions with other peers and adults was conducted during observation of naturalistic playground and classroom interactions, which allowed for an unbiased assessment of each child’s behaviour. Scoring of children’s interactions followed the instructions and procedures provided in the Battelle Developmental Inventory Second Edition manual. Children’s scores were summed on each subdomain of the Personal-Social Domain and a total score was obtained for the Personal-Social Domain. As prescribed in the manual, the child’s age was used to determine the starting point in which to screen children’s interactions. Within the subdomains, each item was administered in the order that they appeared and basal and ceiling procedures were followed. Children’s final scores were then compared against the age norm developmental descriptors provided in the Battelle Developmental Inventory manual and compared to other children’s performance.

8.2.3 Procedure

Relationally aggressive and typically developing children were invited to participate in recorded observations of their social behaviour during free unstructured play. The observation sessions were 20 minutes in duration over four different time points. On each occasion, the researcher approached the focal child and invited them to participate in the study with the following invitation: *“I am interested in learning about how children play together and I would like to watch you play with your friends. Is that okay?”* Once child consent was obtained, a wireless microphone was attached to the child’s clothing and children were instructed to resume playing with their friends. The audio receiver was connected to the digital video recorder so that the audio and video data were recorded simultaneously.

At the beginning of each observation, the researcher spent a few minutes listening to the child playing to ensure the audio was clear and to give children some time to become comfortable with having the microphone attached to their clothing. When children resumed their regular play the researcher started recording the observation. During each observation, the researcher concurrently observed and coded the child’s behaviour, using the ECPPOS coding system (Ostrov & Keating, 2004) to identify incidences that would be replayed for the purpose of the Video Stimulated Recall Interview. After each 20 minute observation, the focal child was approached by the researcher and the wireless microphone was detached. The child was then invited to participate in the Video Stimulated Recall Interview to with the following invitation: *“I saw you doing some really interesting things with your friends. Do you want to come and watch the video and talk about some of the things you were doing with your friends?”* The incidents selected by the researcher were replayed immediately after each 20 minute observation session to ensure children were able to discuss what they were thinking and trying to achieve in each scenario, rather than focusing on the recall of events.

The Video Stimulated Recall Interview asked children to explain their behaviours and why they chose to engage in these behaviours. Prior to questioning, children were given some ‘giggle time’ (Pirie, 1996) to manage any form of anxiety that they may experience from watching themselves on the video. The Video Stimulated Recall Interviews were coded using the NVivo software program. Each interview was coded with *a priori* themes consistent with the ECPPOS coding system

and the exploration of intention and children's understanding of their own behaviour was coded using open thematic coding procedures.

The researcher completed the scoring of the Battelle Developmental Inventory at the end of the final observation session so as not to influence the researcher's perception or interpretation of the child's behaviour. Quantitative scores on each of the domains were calculated and used for further analysis. Associations between children's aggression scores, as rated by teachers and their scores on the Battelle Developmental Inventory were also computed and explored in further analyses.

8.3 RESULTS

This section presents the analysis of children's responses to the Video Stimulated Recall Interview. Direct quotations and video observation data were used to explore children's understanding of intentionality and some of the reasons (i.e., functions) why they chose to engage in aggression. In order to develop a more comprehensive view of some of the differences in relationally aggressive and typically developing children (i.e., average levels of aggression), independent sample t-tests were computed to assess whether there were any differences between children's level of aggression and the quality of their social interactions with peers and adults.

8.3.1 Young Children's Intentional Use of Aggression

This analysis addressed research question 3.1: Do preschool age children report that they engage in aggression with the intent to cause harm or injure another person? Video Stimulated Recall Interviews were initially screened, using open thematic coding procedures, for themes relating to children's subjective social cognitive understanding of their intentions to engage in relational and physical aggression. It was predicted that preschool age children would report that they engage in aggression with the intent to cause harm or injure another person (**hypothesis 3a**).

In the 64 observations that were conducted, 24 aggressive incidences were observed in relationally aggressive children and 22 incidences were observed in typically developing children (average of 3 aggressive incidences per child). In the 46 incidences subject to Video Stimulated Recall Interviews, intentionality was not

coded in three of these videos because the children continued to respond to the interview question by saying “I don’t know.” In 20 of the 23 incidences reviewed with relationally aggressive children, these children acknowledged that their behaviour was intentional. An example of intentional behaviour was identified in the following description of an incident involving a 55 month old male identified as relationally aggressive.

Incident: The focal child approached another child who was playing with a cooking pot. The focal child forcefully snatched the pot from the child and walked away. The other child started crying.

Interviewer: “Did you take the pot on purpose or by accident?”

Focal Child: ‘By purpose... I just knew I had to have that pot from the baby.’

In 15 of the 20 incidences reviewed with typically developing children, these children acknowledged that their behaviour was intentional, as described in the following description of an incident involving a 53 month old male identified as engaging in typical levels of aggression.

Incident: The focal child and another child were playing in a life size car. The focal child was singing and the other child asked him to stop singing, but the focal child continued singing. The child hit the focal child on the head and the focal child responded by hitting the child on the head forcefully, making the other child cry.

Interviewer: “Did you hit her on the head on purpose or by accident?”

Focal Child: ‘On purpose... She hit me first so it’s okay to hit her back.’

Figure 8.1 shows that the proportion of the incidences acknowledged as intentional was higher for relationally aggressive children compared to typically developing children. A higher proportion of unintentional (i.e., by accident) incidences were identified by typically developing children compared to relationally aggressive children. All children acknowledged that they were aware of the aggressive behaviour(s) they were using and in 35 of the 46 (76%) replayed incidences, children acknowledged the behaviour was wrong. In a small number of incidences ($n = 8$) children indicated that their aggression was acceptable and justified (such as the

above example where the focal child justified his aggression because he was hit by his peer first).

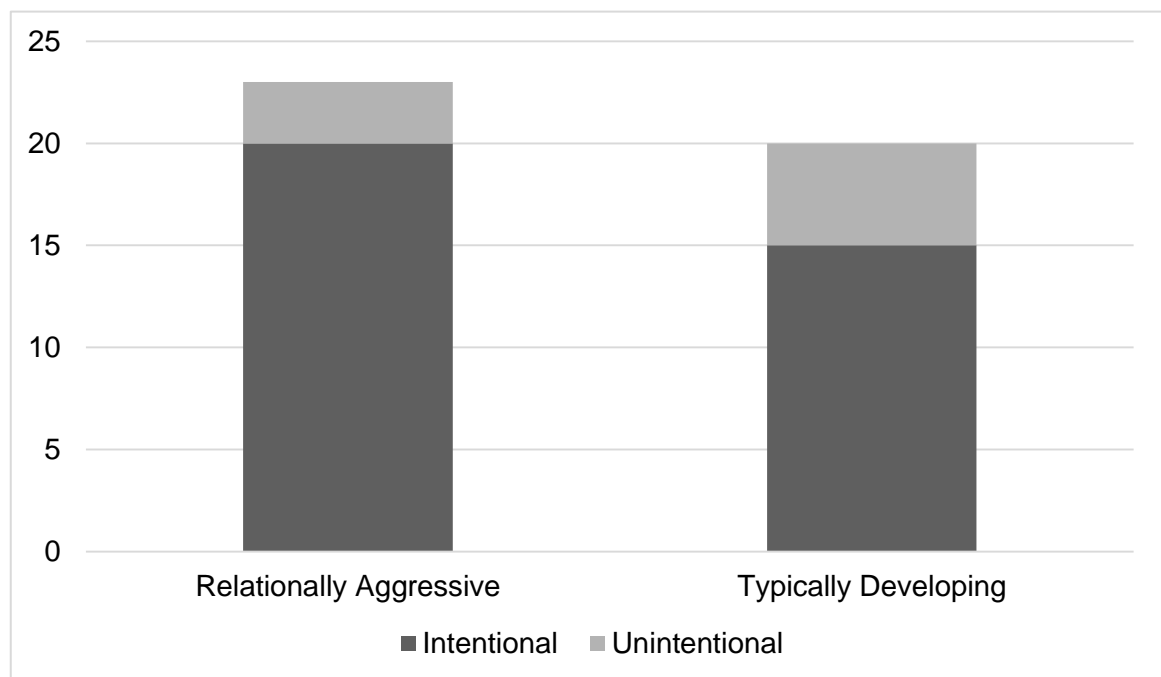


Figure 8.1. Intentional and Unintentional Behaviours of Relationally Aggressive and Typically Developing Children

8.3.2 Young Children's Explanations for Engaging in Aggression

This analysis addressed research question 3.2: What are some of the explanations preschool age children (in this sample) provide for engaging in aggression? Previous research has shown that preschool age children use relational and physical aggression for reactive and proactive functions. As such, Video Stimulated Recall Interviews were analysed based on the common functions of children's behaviour identified in previous research and in the ECPPOS coding system (e.g., Hart & Ostrov, 2013; Murray-Close & Ostrov, 2009; Ostrov et al., 2013; Ostrov & Keating, 2004; Ostrov & Crick, 2007). It was predicted that relationally aggressive and typically developing children would refer to reactive and proactive functions to explain their use of aggression (**hypothesis 3b**). First, relationally aggressive and typically developing children's behaviours were described and objectively classified by the researcher and an interrater as serving reactive or proactive functions and relational or physical forms of aggression. Based on this analysis, children's reasons for engaging in aggression included reactive relational

aggression, proactive relational aggression, reactive physical aggression and proactive physical aggression. A fifth category that identified children choosing to enact the behaviour “Because I wanted/did not want to” was also included in the analysis. A descriptive analysis of each of the categories is presented in the following sections.

8.3.2.1 Relational aggression

Coding of behaviour identified 16 acts of relational aggression in the relationally aggressive subgroup of children (see Table 8.2). Nine of these behaviours could be classified as reactive and the remainder ($n = 7$) classified as proactive functions of relational aggression. In the typically developing subgroup of children, six acts of relational aggression were identified. Four of these behaviours could be classified as reactive and the remainder ($n = 2$) classified as proactive functions of relational aggression.

Table 8.2

Relationally Aggressive and Typically Developing Children’s Explanations for Engaging in Aggression

Subtypes and Functions of Behaviour	Relationally Aggressive Subgroup ($n = 24$)	Typically Developing Subgroup ($n = 22$)
Reactive Relational Aggression	9	4
Proactive Relational Aggression	7	2
Reactive Physical Aggression	4	10
Proactive Physical Aggression	3	4
Because I Wanted/Did Not Want To	1	2

Explanations of reactive relational aggression. Children typically explained reactive relational aggression by referring to a perceived insult or event that caused them harm. For example, the following explanation for reactive aggression was provided by a 54 month old female identified as relationally aggressive.

Incident: The focal child was playing with blocks on the floor and another child intentionally kicked the blocks over while also playing on the floor. The focal child stood up and said to the child “I’m not going to be your friend anymore if you don’t stop it” and then walked away.

Interviewer: “Why did you say you weren’t going to be his friend anymore?”

Focal Child: “Because he was kicking the blocks away and that’s not nice.”

This is an example of reactive relational aggression where the focal child clearly used relational aggression in response to the other child’s behaviour. In this example, there was no indication that the relational aggression was premeditated or planned. The focal child’s explanation for her use of relational aggression referenced concrete and obvious provocation (i.e., the other child kicking the blocks over) and she was clearly frustrated by the other child’s behaviour. The incident and aggression were also very quick and immediate (the incident was carried out in 26 seconds) and there was no reaction from the other child.

Explanations of proactive relational aggression. An explanation of proactive relational aggression was identified in the following description of a Video Stimulated Recall Interview response by a 48 month old female identified as relationally aggressive.

Incident: As shown in Transcript 1 (Transcript 1 is provided in Appendix K), two girls were riding on a bike. A girl, “AJ” was steering the bike and the other girl “ML” was riding on the back. The focal child wanted to join in and requested a turn on the bike. One of the girls who was already on the bike explained that they should take turns. The focal child responded by following the girls around telling them that she would not be their friend unless she was immediately allowed a turn on the bike. She added further statements such as “Did you know if you go down that hill you will hurt yourself? ML will hurt herself” (This can clearly be seen in Transcript 1 when the focal child repeatedly says to the girls “You will hurt yourself”).

Interviewer: “Why did you tell them you wouldn’t be their friend?”

Focal Child: “Because I wanted to go on the back of AJ... I didn’t want to wait my turn”.

Interviewer: Do you think it is okay to tell your friends that you won’t be their friend?

Focal Child: "I don't care...but I was supposed to have a turn after ML and I didn't want to have a turn after ML. ML isn't my friend. AJ only wanted to be ML's friend."

As shown in Transcript 1, there is clear evidence that the focal child's use of relational aggression was premeditated and reflective as she continued to instigate a range of relationally aggressive strategies until she got a turn on the bike. These relationally aggressive strategies and phrases are accompanied by the focal child's heightened negative emotions every time she re-enters the interaction. The length of this incident (2.54 minutes) also indicated the premeditated and reflective processes of the focal child and the purposefulness of her aggression in achieving her goal. Once she achieved her goal, the focal child displayed positive emotions and affect and appeared satisfied with the outcome, indicating a positive evaluation of her relationally aggressive strategies. It is also evident in Transcript 1 that the teacher did not intervene in the incident despite ML seeking teacher assistance.

The explanations for these relationally aggressive incidences provide evidence that relational aggression serves proactive and reactive functions. When children use proactive relational aggression there may be an understanding of what will harm the other child(ren) as seen in Transcript 1 when the focal child continues to enter the situation using different relationally aggressive strategies until she achieves her goal. The ongoing manipulation and threat of friendship termination suggest the purposefulness of the focal child's behaviour and that she expected this behaviour or strategy to work. In six of the nine proactive relational aggression incidences, the child showed clear evidence of satisfaction or gained social dominance of the play situation or of the object. In all nine incidences of proactive relational aggression, no child was reprimanded or stopped in their behaviour by teachers. The reactive relationally aggressive behaviours were less premeditated and sophisticated. That is, the relational aggression was immediate and used in response to a perceived event that caused the focal child harm (i.e., another child kicking blocks). In this reactive incident, the focal child was clearly frustrated by the other child's actions and responded in a way that she felt was appropriate. In 10 of the 13 incidences of reactive relational aggression, no child was reprimanded or stopped in their behaviour by teachers.

8.3.2.2 Physical aggression

Coding of behaviour identified 7 acts of physical aggression in the relationally aggressive subgroup of children (see Table 8.2). Four of these behaviours could be classified as reactive and the remainder ($n = 3$) classified as proactive functions of physical aggression. In the typically developing subgroup of children, 14 acts of physical aggression were identified. Ten of these behaviours could be classified as reactive and the remainder ($n = 4$) classified as proactive functions of physical aggression.

Explanations of reactive physical aggression. An explanation of reactive physical aggression was identified in the following description of a Video Stimulated Recall Interview response by a 55 month old male identified as engaging in typical levels of aggression.

Incident: The focal child loses his temper and pushes a boy aggressively through a piece of play equipment shaped like a tunnel.

Interviewer: "Why did you push the boy through the tunnel?"

Focal Child: "I didn't like it when he was being too slow on purpose and I wanted to rush. I pushed him to make him hurry up."

This example of reactive physical aggression shows the focal child clearly reacting with physical force because he did not approve of the other child "being too slow." Like the previous reactive example (p. 163) there was no indication that the physical aggression was premeditated or planned, however, the focal child's behaviour reflected frustration at the other child's behaviour. The focal child's explanation for his use of physical aggression confirmed that the behaviour was immediate and used in frustration and the recording of the incident lasted 13 seconds indicating that the provocation and reactive aggression was quick.

Explanations of proactive physical aggression. An explanation of proactive physical aggression was identified in the following description of a Video Stimulated Recall Interview response by a 58 month old male identified as relationally aggressive.

Incident: A group of boys were playing in the sandpit. A boy was playing roughly and sand went into another child's face, resulting in the child crying. The focal child whispered (while covering his mouth with his hand) to the crying child "Go on, hit him."

Interviewer: "Why did you tell him to hit him?"

Focal Child: "Because he needs to go away and not play with our toys."

This example of proactive physical aggression showed the focal child manipulating another child by suggesting the child carry out physically aggressive behaviour. This type of manipulation took advantage of the vulnerability of the other child in order for the focal child to achieve his personal goals. In this incident, the focal child was an observer of the social interactions between his peers and used these to instigate his own proactive physical aggression. This incident took place over 1.56 minutes indicating that this incident was planned and purposeful. The focal child also used behaviours such as whispering and covering his mouth with his hand to try and conceal his behaviour from his teachers, peers, or from the researcher.

The explanations in these physically aggressive incidences provide evidence that physical aggression serves proactive and reactive functions. When children use proactive physical aggression there is evidence of peer manipulation and forward thinking and planning about how aggression will be used to achieve a personal goal. This is evidenced in the proactive physical aggression example when the focal child took advantage of the vulnerability of another peer and instructed that peer to carry out physical aggression. In six of the seven proactive physical aggression incidences, no child was reprimanded or stopped in their behaviour by teachers. The physically aggressive behaviours used in reactive incidences were immediate, obvious and used out of frustration. In five of the fourteen incidences of reactive relational aggression, no child was reprimanded or stopped in their behaviour by teachers.

8.3.2.3 Summary of Children's Explanations for Engaging in Aggression

A key finding in children's explanations for their aggression was relationally aggressive children ($n = 10$) indicated more proactive explanations for their aggressive behaviour compared to typically developing children ($n = 6$) (see Table 8.2). Relationally aggressive children ($n = 13$) and typically developing children ($n =$

14) responded with similar amounts of reactive explanations for their aggressive behaviour (see Table 8.2). In the interviews where reactive relational or physical aggression were discussed, the children emphasised the reactive function of their behaviour. That is, the focal child used aggression in response to a provocation (perceived or real) or incident that included another child and these responses were usually associated with frustration. The focal child's behaviour was immediate and the video recordings of these incidences were also very quick (between 13 – 26 seconds). In contrast, children's explanations of proactive relational and physical aggression referred to purposeful behaviour used to obtain an object or achieve a social goal. In these responses, the focal child's behaviour indicated forward thinking and planning and positive evaluations of aggression were also discussed (i.e., satisfied with the outcome of the behaviour). The purposefulness and planning used to engage in proactive aggression are further evidenced in the length of these incidences (between 1.56 – 2.54 minutes).

8.3.3 Qualities of Children's Social Interactions with Peers and Adults

This analysis addressed research question 3.2: What are the qualities of relationally aggressive and typically developing children's social interactions with peers and adults? Relationally aggressive and typically developing children were screened using the Battelle Development Inventory to determine whether there were any differences in their personal-social development as indicated by the quality of their social interactions with peers and adults. The differences in the two groups' mean scores on the Battelle Developmental Inventory were assessed using independent sample t-tests. It was predicted that typically developing children would have higher quality social interactions with peers and adults (**hypothesis 3c**).

Relationally aggressive ($M = 75.33$, $SD = 7.35$) children's score on the Battelle Personal Social Domain was significantly higher than typically developing children ($M = 64.38$, $SD = 10.51$) children ($t(15) = -2.52$, $p = .02$, partial $\eta^2 = .30$) suggesting that relationally aggressive children in this study had higher quality social interactions with their peers and adults than do typically developing children.

8.4 DISCUSSION

Study Three sought to investigate very young children's developmental understanding of intentionality and some of the reasons why they engage in

aggression. It was also important to assess relationally aggressive and typically developing children's social interactions with peers and adults to ascertain whether the qualities of these interactions differed according to aggression status. The results show that very young children can provide clear explanations and justification of their relationally and physically aggressive behaviour that provides further indication of intentionality and understanding that aggression serves a functional purpose in their lives. Relationally aggressive children in this sample had higher quality interactions with their peers and adults compared to typically developing children. These results support research that relationally aggressive children may experience positive social interactions with their peers and adults and this may be related to the function that their aggression serves (Hawley, 2003; Heilbron & Prinstein, 2008). That is, relationally aggressive children in this sample may use proactive aggression to achieve their personal goals while maintaining higher quality social interactions with peers and adults. This is the first known study to assess the quality of relationally aggressive children's social interactions with their peers and adults and compare these with typically developing children. Indeed, these findings challenge previous conceptualisations of the aggressive child lacking social skills and social competence (Coie & Dodge, 1998; Crick et al., 1999; Hawley, 2003).

Previous researchers (e.g., Wellman & Liu, 2004) have suggested that understanding of young children's intentionality has been underestimated due to the limitations associated with methodologies used to assess young children's social cognitive understanding. A unique contribution of this study was the development and successful use of a validated observational measure and a Video Stimulated Recall Interview to access children's intentions and explanations for their own behaviour. More specifically, relationally aggressive and typically developing children acknowledged that their use of aggression was intentional and wrong. A small number of children indicated that their aggressive behaviour was acceptable and justified and these situations were related to aggressive behaviours used in response to provocation. This is the first known study to directly ask children about their intentions when engaging in actual aggressive behaviour. Thus, the use of observations of children's actual behaviour followed by video stimulated recall procedures allowed for a more reliable assessment of children's intentionality, as children were reviewing their own behaviour, rather than responding to fictitious or abstract hypothetical scenarios (Welsh et al., 2005). These findings suggest that

there is value in directly asking children about their intentions rather than relying only on observer's judgement of intentionality.

It is notable that majority of children indicated that their aggressive behaviour was wrong but then justified their own behaviour, saying that was okay to hurt another child to achieve their own personal goal. This inherent moral contradiction in children's responses is an example of moral disengagement whereby children may perceive some types of aggression as reasonable or justified in some circumstances, even if they have internalised moral values and beliefs that prohibit these behaviours (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Indeed, research has shown that preschool age children have the cognitive capacity to morally disengage (Bandura, 2002) and aggressive behaviour in childhood and adolescence have been associated with higher moral disengagement (e.g., Bandura et al., 1996). However, the association between aggression and moral disengagement during early childhood is less clear and warrants further investigation.

The results provide evidence that relationally aggressive and typically developing preschool age children can explain and justify their aggressive behaviours. When responding with proactive explanations for aggressive behaviour children were able to articulate their personal goals and the reasons for their behaviour. Children were also 'keen critics' of other children's behaviours as illustrated in the example of the focal child instructing another child to "Go on, hit him." Relationally aggressive children in this sample provided more proactive reasons for engaging in aggression compared to typically developing children. The examples of children's explanations for their aggression show evidence of young children's ability to purposefully plan their aggressive behaviours in an attempt to obtain an object or achieve a social goal. For instance, the scenario presented in Transcript 1 (p. 163), and the focal child's responses to the Video Stimulated Recall Interview indicate evidence of intentionality and forward thinking and planning as the focal child entered the social situation numerous times, using different relational strategies and phrases until she achieved her social goal. The child's positive emotional reactions are indicative of her positive evaluation of aggression and its consequences that are often identified in proactive aggressors (Poulin & Boivin, 2000). These findings are particularly relevant to the General Aggression Model (Anderson & Bushman, 2002) which posits that heightened emotional states and cognitive reflections may facilitate proactive uses of aggression. In Transcript 1 the

focal child clearly engaged in cognitive reflection when she exits and re-enters the social interaction delivering different relationally aggressive behaviours to try and achieve her goal (i.e., proactive aggression). Throughout the interaction, her negative emotions increase and she continues to employ different relational behaviours until she achieves her goal. Once she achieved her goal, she displays positive emotions, indicating that she is satisfied with the outcome of her aggression.

Further, in the majority of the proactive incidences, the focal child showed clear evidence of satisfaction or social dominance gained from their aggressive behaviours. Thus, the examples of proactive aggression in this study provide some of the first empirical evidence on the potential adaptive purpose and advanced social cognitive understanding associated with very young children's aggression, particularly relationally aggressive children. For example, the incident presented in Transcript 1 indicates a child who appears to be aware of her social status and chooses to use proactive relational aggression as a means to achieve personal goals. Indeed, the proactive examples identified in this study also indicate that these relationally aggressive children may have more advanced social skills as they are cognisant of the behaviours that will more effectively harm their peers. These advanced social skills may be more evident in relationally aggressive children in this sample because these children provided more proactive reasons for their aggressive behaviour compared to typically developing children. These conclusions are also supported by the key finding that relationally aggressive children were rated as having higher quality social interactions with their peers and adults compared to typically developing children. This key finding is consistent with a small number of recent studies which suggest that relationally aggressive children may not lack social skills and may have more developed social cognitive understanding than previously thought (Hawley, 2003; Little et al., 2003; Nelson et al., 2005; Vitaro et al., 1998). In particular, Hawley (2003) referred to children who used prosocial and coercive strategies in their social interactions as bistrategic controllers and these children are preferred by their peers compared to children who rely on coercive strategies. Based on Social Cognitive Theory (Bandura, 1973) these proactive relationally aggressive behaviours may be reinforced by peers as the aggressor maintains or improves their social status within the peer group (Dodge, 1991). Further, no teachers intervened in proactive relational aggression incidences suggesting that lack of teacher intervention may also reinforce children's proactive relationally aggressive behaviour.

Thus, it seems important for intervention programs to teach victims of aggression, strategies to more effectively communicate to their aggressors that these behaviours are unacceptable so that their relational aggression does not lead to higher levels of peer status or dominance. Also, teachers need to be made aware of the functions that very young children's aggression may serve and that some children may strategically manipulate their peers to achieve personal goals.

Relationally aggressive and typically developing children indicated a similar number of reactive aggression reasons to explain their aggressive behaviour. The first example (p. 163) indicates that the focal child justified their use of subtle behaviours such as ignoring and the removal of friendship to communicate disapproval of another peer's behaviour. This example also provides evidence that this child views physically aggressive behaviours such as "kicking blocks" as a negative behaviour. Each of the reactive aggression examples in this study provides evidence of very young children's ability to clearly explain and justify their hostile and defensive use of aggression and there did not appear to be any differences in relationally aggressive and typically developing children's reasons for using reactive aggression. Therefore, the extent to which a young child chooses to engage in relational aggression instead of physical aggression when responding to provocation (i.e., reactive aggression) may be associated with the child's beliefs about the acceptability of different forms of aggression (i.e., normative beliefs). Indeed, previous research suggests that relationally aggressive children are more likely to view relational aggression as an acceptable form of aggression and are more likely to use this form of aggression in response to provocation (Werner & Hill, 2010; Werner & Nixon, 2005). However, relationally aggressive and typically developing children in this study provided responses about intentionality that indicated that they did not have normative beliefs about aggression, yet they engaged in the aggressive behaviour anyway, suggesting possible moral disengagement. As has been suggested previously, children internalise attitudes and beliefs about different types of aggression and repeated exposure to models of aggressive behaviour or beliefs may eventually lead to some children becoming morally disengaged from their normative beliefs (Kochanska, 2002). These findings highlight that the Video Stimulated Recall Interview is a novel measure of assessing intentionality that may also reveal young children's normative beliefs about different types of aggression that

the child has enacted, rather than relying on assessing their normative beliefs about hypothetical aggressive behaviours.

The findings in this study indicate that young children recognise that aggression serves a number of functions in their young lives. The examples of proactive aggression highlight that when young children engage in proactive aggression, they appear to explain that the coercion or manipulation was used to deliberately attain a personal goal. That is, aggressors appear to be aware of, and sensitive to, the behaviours that will more effectively harm other children (Werner et al., 2006) and these are critical components of the Social Information Processing Model (Crick & Dodge, 1994) as children choose to enact aggressive behaviours that are likely to lead to a desirable outcome. Proactive aggressors appear to spend more time engaging in the planning and reflective thinking phases of the Social Information Processing Model to develop an 'action plan' for how to effectively achieve their personal goal. In contrast, when these children described their reasons for reactive aggression, it was clear that the degree of automaticity may have been present and they did not spend time in the planning and response generation phases as the proactive aggressors demonstrated in their lengthy episodes of behaviour. As such, the current study makes an important contribution to the literature on relational aggression in that these findings provide the first known empirical evidence to suggest that during early childhood, relationally aggressive children engage in proactive aggression in planned and thoughtful ways and critically, they have a repertoire or 'database' of scripts and behaviours they may employ to respond to provocation or achieve certain goals.

This study also makes an important methodological contribution to the study of young children's aggressive behaviour. The remote audio-visual observations of children's behaviour alongside a Video Stimulated Recall Interview allowed for a gentle probe of children's behaviours and reasoning, highlighting the sophisticated social cognition of relationally aggressive children in particular. Similar findings may not have been captured using traditional, mainstream observational methodologies. The use of remote audio-visual technology allowed for the observation of naturally occurring aggressive behaviours during free unstructured play. Also, because children were reviewing incidences of their actual behaviour, a comprehensive account of their intentions and thoughts during these interactions provided additional information about children's ability to engage in aggression with the intent to cause

harm. While these findings provide evidence that young children can engage in aggressive behaviours with the intent to cause harm, it also highlights the importance of researchers taking into consideration children's explanations of their behaviour alongside generic coding systems and observer's subjective judgement of intentionality. The advantage of this novel methodology avoids the limitations often found in measures employing vignette scenarios and self-report of aggression, relational aggression in particular, which are prone to children responding in a socially desirable manner and underreporting the use of their aggression (Crick & Grotpeter, 1995; Crick & Werner, 1998).

While previous research has shown the direct and covert nature of relational aggression during early childhood (e.g., Crick et al., 1999), the behaviours presented in each of the examples in this study highlight some of the sophisticated subtle and manipulative behaviours young children use in social contexts during early childhood. As noted previously, young children may use more subtle forms of aggression such as relational aggression to avoid the punishment that is often associated with physical aggression (e.g., Goldstein & Boxer, 2013). Another explanation is that during this critical period in which young children are learning about socially acceptable and unacceptable behaviours, they are also practising a range of social behaviours and beginning to understand and assess the impact that these behaviours have on other peers. Through this experience, young children may also become more cognisant and aware of how their behaviours impact on the mental states and emotions of other children. However, these explanations should only be considered exploratory and future longitudinal research is needed to develop a more comprehensive understanding of how young children develop sophisticated relationally aggressive behaviours.

Taken together, these findings suggest that relationally aggressive and typically developing children may process social information differently and their social cognitive understanding may influence the quality of their social interactions. During early childhood young children's social cognitive understanding is considered central in understanding why children engage in aggression and how these behaviours are maintained. Given that there remains a paucity of empirical research on the differences in relationally aggressive and typically developing children's social cognition, Study Four will investigate young children's normative beliefs about relational and physical aggression (using a well validated measure that has

previously been used with older children) as this social cognitive element has previously been considered predictive of children's engagement in aggression (Huesmann & Guerra, 1997).

CHAPTER 9

STUDY FOUR. CHILDREN'S NORMATIVE BELIEFS AND BEHAVIOURAL RESPONSES TO AGGRESSION

9.1 BACKGROUND

Study Three provided the first known empirical evidence about relationally aggressive and typically developing children's developmental understanding of intentionality and some of the reasons why they engage in aggression. The key findings from Study Three highlighted that relationally aggressive children reported that they use aggression for reasons that are adaptive and functional, meeting their personal needs and goals. These children also enjoyed higher quality social interactions with peers and adults, and these findings may be indicative of more advanced social cognitive development for these children. However, a further possible explanation for this behaviour may be reflected in children's normative beliefs about aggression which may influence the behavioural choices observed in the previous study. As such, Study Four investigates whether there are any differences in relationally aggressive and typically developing children's normative beliefs and behavioural response choices to relational and physical provocation, using an adapted version of Huesmann and Guerra's (1997) Normative Beliefs about Aggression measure, which has been used extensively with older children. The study of young children's intentionality and reasons for engaging in aggression preceded the study of their normative beliefs to ensure the researcher was not influenced by children's normative beliefs when interpreting children's actual aggressive behaviours.

Script Theory (Huesmann, 1986; 1998) and the Social Information Processing Model (Crick & Dodge, 1994) have been useful in identifying differences in aggressive and non-aggressive children's social cognitive processes. In particular, beliefs that normalise the use of aggression have proven predictive of aggressive behaviour in studies of school age children (Henry et al., 2000; Huesmann & Guerra, 1997; Musher-Eizenman et al., 2004; Werner & Hill, 2010; Werner & Nixon, 2005). In general, the ways in which children process social information have been found to be robust predictors of aggressive behaviour in adolescents and adults (Averdijk, Malti,

Ribeaud & Eisner, 2011; Werner & Hill, 2010). Fewer studies have investigated these social cognitive processes in very young children.

9.2 NORMATIVE BELIEFS ABOUT AGGRESSION

Social cognitive theories and the General Aggression Model hypothesise that people from a young age internalise standards for social behaviours, including aggressive behaviour (Anderson & Bushman, 2002; Crick & Dodge, 1994; Huesmann, 1998). A key component of children's schemas or scripts is the development of attitudes about the acceptability or unacceptability of different forms of aggressive behaviours (Huesmann & Guerra, 1997). Children whose beliefs are more approving of aggression are said to have beliefs that normalise aggressive behaviour, and these normative beliefs have been shown to play a key role in predicting children's engagement in actual aggressive behaviour (Henry et al., 2000; Huesmann & Guerra, 1997; Werner & Nixon, 2005). Children with such beliefs appear to have preferential access to aggressive scripts for resolving conflict and are typically more likely to engage in higher levels of aggressive behaviour than children who believe that it is inappropriate to engage in aggression (Huesmann & Guerra, 1997; Werner & Nixon, 2005). Numerous studies have found evidence that children and adolescents who approve of aggression are more likely to be perceived as aggressive individuals by their parents (Zelli et al., 1999), their teachers (Henry et al., 2000; Huesmann & Guerra, 1997), and their peers (Crane-Ross et al., 1998; Murray-Close et al., 2006). Moreover, research on relational aggression has found evidence that children and adolescents who hold normative beliefs towards relational forms of aggression are more likely to engage in relationally aggressive behaviours (Werner & Hill, 2010; Werner & Nixon, 2005).

The few research studies that have been conducted on young children's normative beliefs about aggression have shown that young children view physical aggression as more serious and less acceptable than relational aggression (Goldstein et al., 2002). Further, research has shown that young children are more likely to view behaviours that result in physical harm as "bad" or unacceptable compared to behaviours that violate interpersonal trust (Tisak, Tisak & Goldstein, 2001). Although previous research suggests that normative aggressive beliefs are predictive of aggressive behaviours, the findings have been limited to child and adolescent populations, there remains a paucity of empirical data exploring these

associations in early childhood populations, and none identified in the Australian early childhood population.

9.3 SOCIAL INFORMATION PROCESSING AND AGGRESSION

According to the Social Information Processing Model (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002) children's social cognitive thought processes and interpretations of social events influence their behavioural responses to different social situations. Both models describe a series of steps believed to be involved in interpreting and responding to social information, and these provide a framework for identifying potential differences in the social cognition of aggressive and non-aggressive children. Early steps include encoding and interpreting social cues from the environment and generating potential responses. People then evaluate these response options and select a response for behavioural enactment. According to the Social Information Processing Theory, children who have a bias or deficit at one or more steps in the sequence are more likely to use aggressive behaviours (Crick & Dodge, 1994). Similarly, the General Aggression Model (Anderson & Bushman, 2002) recognises that some personal and environmental factors will trigger aggressive behaviour in some children and not others. The 'database' of knowledge about social behaviour is integral to these models and reflects the concepts included in schemas or scripts that are stored and recalled by the child to enact certain behaviours. Script Theory (Huesmann, 1988) specifically emphasises the role of such scripts in shaping behaviour.

The focus of the present study is on evaluating young children's selection of response options, the processes that shape a child's behavioural response and enactment in different social situations (Fontaine, Burks & Dodge, 2002). Research has shown that response choices are influenced by the child's normative beliefs (Crick & Dodge, 1994; Huesmann & Guerra, 1997; Werner & Nixon, 2005). More specifically, the behaviours children consider more acceptable are likely to be reflected in their behavioural response when reacting to different social situations (Anderson & Bushman, 2002; Huesmann & Guerra, 1997). Furthermore, according to both the Social Information Processing Theory (Crick & Dodge, 1994) and General Aggression Model (Anderson & Bushman, 2002), behavioural response selection immediately precedes behavioural enactment. Therefore, children's behavioural

response selection should be a good indicator of their aggressive or non-aggressive behaviour.

Empirical data on beliefs, behavioural response selection and behavioural enactment is limited in early childhood populations. Researchers have demonstrated that during childhood and adolescence, aggressive children are more likely to generate and approve of aggressive responses to different social situations (Bellmore et al., 2005; Fontaine & Dodge, 2006; Calvete & Orue, 2010) while non-aggressive children and adolescents generate more prosocial problem solving strategies (Boxer, Tisak & Goldstein, 2004; Lochman & Dodge, 1994). This difference among aggressive children is typically explained in terms of deficits or biases at one or more of the stages of assessing and responding to social situations (Crick & Dodge, 1994; Randall, 1997). Contrary to these findings, several studies assessing relational aggression during early childhood through to adolescence have found that relationally aggressive children may have more sophisticated social cognition than non-aggressive children (e.g., Crick & Rose, 2000; Kaukiainen et al., 1999; Nelson et al., 2005; Nelson et al., 2010; Sutton et al., 1999). Preliminary support for these findings was provided in Study Three whereby relationally aggressive children showed more advanced social cognitive understanding in their use of aggression to achieve proactive personal goals. While it may be the case that relationally aggressive children do not have deficits or biases in social information processing as previously thought, these cognitive processes need to be explored further in early childhood, particularly with reference to normative beliefs and behavioural response choices, where there is little empirical data.

9.4 DEVELOPMENTAL CORRELATES AND NORMATIVE BELIEFS ABOUT AGGRESSION

In Study Two, the influence of the developmental correlates of age and gender were found to be significant in predicting some forms of young children's aggression. As such, it seems particularly important to explore whether age and gender differences are evident in young children's normative beliefs about relational and physical aggression. As children get older and become more aware of social norms and appropriate social behaviours, it is expected that their normative beliefs will reflect this change in social cognitive understanding. Research during middle childhood and adolescence has reported that boys are more likely to approve of

physical aggression compared to girls (Crane-Ross et al., 1998; Crick & Werner, 1998) whereas girls are more likely to hold beliefs approving of relational aggression (Crick & Werner, 1998), compared to boys. However, one study exploring gender differences in preschool children's normative beliefs about relational aggression has shown that girls view relational aggression as less acceptable than boys (Goldstein et al., 2002). These results are yet to be replicated in other studies with preschool age children.

The lack of empirical research on aggression-related normative beliefs and social information processing in early childhood populations may be due to (a) the inherent challenges of assessing very young children's social cognitive processes, and (b) limitations related to young children's ability to understand instructions and express their views. Previous studies of young children's social cognitive processes (e.g., Goldstein et al., 2002) have primarily relied on the verbal delivery of hypothetical vignettes with basic cartoon style pictorial representations of a provocation followed by a verbal questioning procedure. Methods such as this may be considered challenging for some preschool children due to the heavy verbal processing demands required of the procedure. Alternatively, methods that allow children to engage with tangible, meaningful objects to express their thoughts and beliefs might reduce the limitations often associated with the use of verbal protocols with very young children (Pimlott-Wilson, 2012; Stalker & Connors, 2003).

The present study extended prior research by using a purpose-built 'pre-schooler friendly' measure of social cognitions and normative beliefs related to relational and physical aggression. Duplo toy figurines were used to enact the aggression scenarios, and children were also able to use the figurines to illustrate their response to the questions. This procedure aimed to reduce the verbal demands of the research protocol and assist the researcher's understanding of the child's normative beliefs and behavioural responses to provocation. The data obtained through the Social Cognitive Interview will also allow for the comparison between relationally aggressive and typically developing children's normative beliefs about and behavioural responses to relational and physical provocation. Given the lack of previous research on young children's behavioural responses to different forms of aggressive provocation, predictions about responses and use of the new toy-based measure were considered exploratory. Study Four aims to answer the following questions:

Research Question 4.1 What beliefs about relational and physical aggression do preschool age children have?

Hypothesis 4a: Relational aggression will be viewed as more acceptable (i.e., more normative) than physical aggression in this sample.

Research Question 4.2 Do children's normative beliefs about relational and physical aggression differ by age and gender?

Hypothesis 4b: Younger compared to older children will view relational and physical aggression as more acceptable.

Hypothesis 4c: Boys will view physical aggression as more acceptable than girls.

Hypothesis 4d: Girls will view relational aggression as less acceptable than boys.

Hypothesis 4e: There will be no difference in boys' and girls' overall normative beliefs about aggression (both relational and physical aggression).

Research Question 4.3 What are the differences in relationally aggressive and typically developing children's normative beliefs about aggression?

Hypothesis 4f: Relationally aggressive children will view relational aggression as more acceptable compared to typically developing children.

Research Question 4.4 Do relationally aggressive and typically developing children's normative beliefs about aggression differ by gender?

Hypothesis 4g: Boys in both the relationally aggressive and typically developing comparison group will view physical aggression as less acceptable compared to girls in the relationally aggressive and typically developing comparison groups.

Hypothesis 4h: There will be no difference in boys' and girls' normative beliefs about relational aggression, whether they were identified as relationally aggressive or typically developing.

Research Question 4.5 What are relationally aggressive and typically developing children's behavioural response choices to relational and physical provocation?

Hypothesis 4i: Relationally aggressive children will suggest more relationally aggressive behavioural response choices to relational and physical provocation.

Hypothesis 4j: Typically developing children will suggest more prosocial problem solving responses to relational and physical provocation.

9.5 METHOD

9.5.1 Participants

Children identified as relationally aggressive ($n = 9$) and typically developing (i.e., average levels of aggression) ($n = 7$) in Study Three also participated in Study Four.

9.5.2 Measures

9.5.2.1 Children's Normative Beliefs and Behavioural Response Choices

A Social Cognitive Interview measure was developed for the purpose of this study to assess children's normative beliefs about relational and physical aggression and to assess their behavioural response choices to provocation scenarios. Based on social cognitive principles, the interview consisted of two vignettes portraying scenarios that involved a provocative situation where another child had been relationally aggressive and two that involved a situation where another child had been physically aggressive. These vignettes were enacted using Duplo toy figurines as they provide a tangible, developmentally and socially appropriate prompt to stimulate children's understanding of the verbal protocol, and a means by which the child could respond to the vignette scenarios. Cartoon-like drawings were also used to illustrate contextual features of each story, such as a sand pit or play equipment.

An example of a physical aggression vignette described a hypothetical child knocking over another child's block tower on purpose. The protocol first described the aggressive scenario. For example, '*This child is building a block tower. Another child comes over and knocks over the block tower*'. As shown in Figure 9.1, the

accompanying drawings featured a large Duplo block tower to provide the context of the vignette.



Figure 9.1. Duplo Figurine and Contextual Illustration

Duplo toy figurines were used to enact another child entering the play area and knocking the block tower over (see Figure 9.2). The vignettes were enacted and explained so that there was no question that the aggressor's actions were intentional. Story characters were always the same gender as the participant (i.e., each vignette always featured either two girls or two boys). Vignettes were filmed for later coding. A list of the vignettes is presented in Appendix G.



Figure 9.2. Duplo Figurine with Researcher Enacting the Scenario

After the researcher enacted each vignette, children were asked a series of questions designed to assess (1) their normative beliefs about relational and physical aggression and (2) the behavioural responses they thought the victim would use to solve the conflict. These questions were adapted from previous research by Huesmann and Guerra (1997).

To assess normative beliefs children were asked, *“Is it okay to knock someone else’s block tower over?”* After children responded with a “yes” or “no” response, they were then presented with a pictorial rating scale to indicate whether they felt the provocation was ‘a little bit okay’, ‘very okay’, ‘a little bit wrong’ or ‘very

wrong'. This pictorial scale consisted of a small circle and a large circle to indicate the wrongness of the incident. Children were required to point and state how okay or wrong they felt the incident was (see Figure 9.3).



Figure 9.3. Pictorial Scale Representing Young Children's Beliefs about Acceptability

Consistent with the scoring procedures used in previous research (e.g., Huesmann & Guerra, 1997), children's ratings of the wrongness of each behaviour were used as an indicator of their normative beliefs. Their normative beliefs were coded numerically (1 = *Aggression is okay* to 4 = *Aggression is very wrong*) and a total score was obtained by summing the ratings for relational aggression and physical aggression scenarios separately and calculating the mean. Higher scores indicated less normative beliefs about aggression while lower scores indicated beliefs that aggression was more normative. Levels of wrongness have been used previously as a measure of normative beliefs (e.g., Huesmann and Guerra, 1997), however, no studies have employed an assessment of children's normative beliefs that did not require moderate levels of expressive and receptive language skills to indicate the level of wrongness they perceived in the incident. According to Harter (1985), structured alternative formats such as the pictorial rating scale used in this study, allow young children to give accurate perceptions of their beliefs rather than socially desirable responses.

To assess behavioural response selection children were asked, "*What do you think the child [victim] will do now?*" and their responses were video recorded. Two raters independently coded the responses using open thematic coding, guided by Social Information Processing Theory (Crick & Dodge, 1994). Where themes overlapped based on the coding analysis used by the coders, categories were collapsed to create the main themes. Inter-rater reliability was acceptable (ICC's > .82). Children's behavioural responses, based on the Social Information Processing themes, were analysed as frequency counts and included in the quantitative

analyses. Two key themes emerged: (a) problem solving responses (e.g., “Go play with some other toys”) and (b) aggressive responses (e.g., “Throw a block back at him”). These responses were also coded according to provocation type (i.e., relationally aggressive provocation and physically aggressive provocation). Three responses of “*I don’t know*” were given. One of these was a child who could not think of a response and the two other responses were children distracted by other events occurring in the early childhood centre.

9.5.2.2 Pilot Study

A pilot study of the Social Cognitive Interview procedure was carried out with four children aged 3 to 5 years old. It was found that the original scenarios and interview questions (see Appendix L for the pilot study scenarios and questions) were too complex and relied too heavily on the expressive and receptive language skills of the children. However, the use of the Duplo toy figurines during the enactment of the scenarios and the interview process were very effective and the children were actively engaged in the research process. As such, the scenarios used for the Social Cognitive Interview were shortened to include only two relational aggression provocations and two physical aggression provocations rather than the original six in total. The two scenarios for each type of provocation were chosen based on the social situations that the children were most familiar with and were common behaviours within the early childhood setting (Crick et al., 1995). The interview questions were also shortened to ensure that the young children could attend for the whole interview. The questions that remained after the pilot study were open-ended questions about normative beliefs and behavioural response choices that allowed children to elaborate and express their thoughts and beliefs. The pictorial rating scale was included as a measure of children’s normative beliefs to ensure children were able to accurately express their beliefs about the acceptability of relational and physical aggression.

9.5.3 Procedure

On a separate day after the final observation sessions and Video Stimulated Recall Interviews were complete for Study Three, the Social Cognitive Interview was administered to each of the children. Each child in the relationally aggressive and typically developing subgroups were invited to participate in the interview and child

assent was obtained before the interview was conducted. Each interview was conducted in a quiet area of the classroom, where a video camera was set up. The interview took approximately 10 minutes to complete.

First, the researcher introduced the child to the Duplo toy figurines and explained that *“These toys will be used to tell you some stories about children playing.”* The researcher explained that after each story there would be some questions about the story. The researcher presented each of the scenarios to the child and all scenarios were presented in the same sequence for each child (i.e., relational aggression provocation, physical aggression provocation, relational aggression provocation, physical aggression provocation). Children were able to engage with the Duplo toy figurines throughout the interview. At the conclusion, children were thanked for their participation.

Consistent with previous scoring procedures, children’s normative beliefs were coded numerically and scores were obtained by summing the ratings for relational aggression and physical aggression scenarios separately and calculating the mean. Children’s qualitative behavioural response choices to each of the scenarios were coded using open thematic coding, guided by Social Information Processing Theory (Crick & Dodge, 1994). Children’s behavioural response choices were analysed as frequency counts to ascertain whether there were any differences in relationally aggressive and typically developing children’s responses to provocation.

9.6 RESULTS

This section presents the findings on preschool children’s normative beliefs about relational and physical aggression. These initial descriptive statistics were not separated according to relationally aggressive and typically developing subgroups to allow for a general understanding of children’s normative beliefs about relational and physical aggression during early childhood. Independent t-tests and Pearson product-moment correlations were computed to assess the contributory role of age and gender on children’s normative beliefs about relational and physical aggression. Independent t-tests were computed to assess the differences in relationally aggressive and typically developing children’s normative beliefs and behavioural response choices to provocation.

9.6.1 Beliefs about Relational and Physical Aggression

This analysis addressed research question 4.1: What beliefs about relational and physical aggression do preschool age children have? Preschool age children's beliefs about the acceptability of aggression were assessed using the Social Cognitive Interview to identify whether there were any differences in the perceived acceptability of relational and physical aggression. The differences in children's beliefs about relational and physical aggression were assessed using a paired sample t-test. It was predicted that relational aggression would be viewed as more acceptable (i.e., more normative) than physical aggression in this sample (**hypothesis 4a**).

The means and standard deviations of children's beliefs about the acceptability of relational and physical aggression and overall normative beliefs (relational and physical aggression scores) for the total sample and by gender are reported in Table 9.1. Consistent with the scoring procedures used in previous research (e.g., Huesmann & Guerra, 1997), higher scores indicated less normative beliefs about aggression while lower scores indicated more normative beliefs.

Table 9.1

Means and Standard Deviations of Children's Beliefs about Relational and Physical Aggression for the Total Sample, for Boys, and for Girls

	Total Sample M (SD)	Boys M (SD)	Girls M (SD)
Relational Aggression	3.47 (0.57)	3.40 (0.42)	3.50 (0.64)
Physical Aggression	3.56 (0.43)	3.90 (0.22)	3.42 (0.42)
Overall Normative Beliefs	3.51 (0.32)	3.65 (0.14)	3.46 (0.37)

Note. Overall Normative Beliefs is a combined mean score obtained from the relational and physical aggression scenarios.

No significant difference was found between children's beliefs about the acceptability of relational ($M = 3.47$, $SD = 0.57$) or physical ($M = 3.56$, $SD = 0.43$) aggression ($t(16) = -0.47$, $p = .65$). As shown in Figure 9.4, children viewed both relational and physical aggression as unacceptable behaviours.

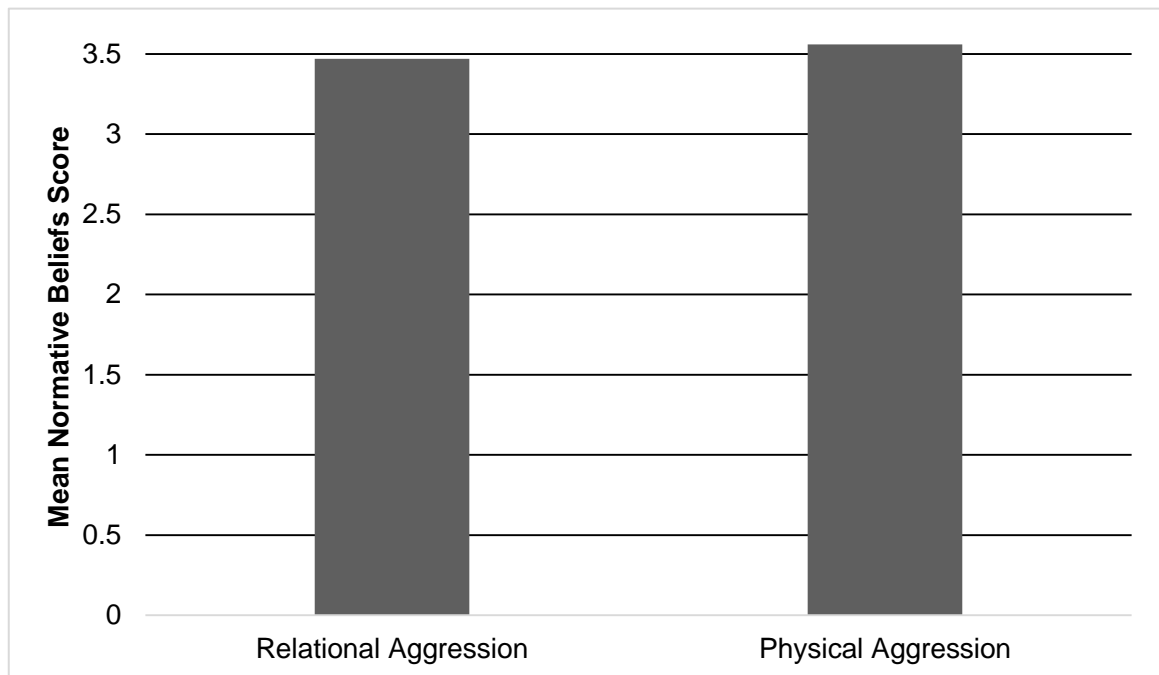


Figure 9.4. Mean Difference in Children’s Belief Scores for Relational and Physical Aggression

9.6.2 Beliefs about Relational and Physical Aggression and Differences with Age and by Gender

This analysis addressed research question 4.2: Do children’s normative beliefs about relational and physical aggression differ by age and gender? Pearson product-moment correlations were computed to assess the relationship between the child’s age (in months) and their beliefs about the acceptability of relational and physical aggression and overall (i.e., combined score for relational and physical aggression) normative beliefs about aggression. It was predicted that younger, compared to older children would view relational and physical aggression as more acceptable (**Hypothesis 4b**).

There was no significant relationship between age and children’s beliefs about the acceptability of relational ($r = .05$, $p = .85$) or physical aggression ($r = -.22$, $p = .39$). However, there was a significant negative relationship between children’s overall normative beliefs about aggression and age ($r = -.49$; $p = .05$), indicating that younger children were more likely to view aggression as acceptable compared to older children.

Study Two and previous literature report significant main effects of gender on physical aggression, with boys reported to have higher levels of physical aggression than girls. Thus, it was predicted that boys would view physical aggression as more acceptable than girls (**hypothesis 4c**). Whilst results from Study Two revealed that teachers reported no difference in boys' and girls' engagement in relational aggression, previous research with preschool age children has found that girls view relational aggression as less acceptable than boys (Goldstein et al., 2002). Thus, it was predicted that girls would view relational aggression as less acceptable than boys (**hypothesis 4d**).

As predicted, there was a significant difference in boys' and girls' normative beliefs about physical aggression ($t(15) = -2.42, p = .03$, partial $\eta^2 = .28$). However, this result was not in the expected direction of the hypothesis. As seen in Table 9.1, boys ($M = 3.90, SD = 0.22$) viewed physical aggression as less acceptable (i.e., less normative) compared to girls ($M = 3.42, SD = 0.42$). No significant differences were found between boys' ($M = 3.40; SD = 0.42$) and girls' ($M = 3.50; SD = 0.64$) normative beliefs about relational aggression ($t(15) = 0.32, p = .75$, partial $\eta^2 = .01$).

The results from Study Two reported that both boys and girls engage in aggression. Therefore, it was predicted that there would be no difference in boys' and girls' overall normative beliefs about aggression (both relational and physical aggression) (**hypothesis 4e**). As expected, boys' ($M = 3.65, SD = 0.14$) and girls' ($M = 3.46, SD = 0.37$) overall normative beliefs about aggression were not significantly different ($t(15) = -1.12, p = .28$, partial $\eta^2 = .08$).

9.6.3 Differences in Relationally Aggressive and Typically Developing Children's Beliefs about Relational and Physical Aggression

This analysis addressed research question 4.3: What are the differences in relationally aggressive and typically developing children's beliefs about aggression? Relationally aggressive and typically developing children were screened for group differences in their beliefs about the acceptability of relational and physical aggression. The differences in the two subgroups' mean scores on the Social Cognitive Interview were assessed using independent t-tests. It was predicted that relationally aggressive children would view relational aggression as more acceptable compared to typically developing children (**hypothesis 4f**).

There was no difference in relationally aggressive ($M = 3.61$, $SD = 0.42$) and typically developing ($M = 3.31$, $SD = 0.70$) children's beliefs about acceptability of relational aggression ($t(15) = -1.08$, $p = .30$, partial $\eta^2 = .07$). Similarly, there was no significant difference in relationally aggressive ($M = 3.50$, $SD = 0.43$) and typically developing ($M = 3.63$, $SD = 0.44$) children's beliefs about the acceptability of physical aggression ($t(15) = 0.59$, $p = .57$, partial $\eta^2 = .02$). That is, relationally aggressive and typically developing children held similar beliefs about relational and physical aggression and viewed both relational and physical aggression as unacceptable social behaviours.

9.6.4 Relationally Aggressive and Typically Developing Children's Beliefs about Aggression and Differences by Gender

This analysis addressed research question 4.4: Do relationally aggressive and typically developing children's beliefs about aggression differ by gender? Analysis of children's normative beliefs, before separating the sample into aggression subgroups, revealed significant differences in boys' and girls' views of relational and physical aggression. Therefore, it is important to explore whether these differences remain significant when relationally aggressive and typically developing children are examined separately. As such, independent t-tests were conducted separately for relationally aggressive and typically developing children to assess whether there were any gender differences in children's beliefs about relational and physical aggression. Based on the results from Research Question 4.2, it was predicted that boys in both the relationally aggressive and typically developing comparison groups would view physical aggression as less acceptable compared to girls in the relationally aggressive and typically developing comparison groups (**hypothesis 4g**). It was also predicted that there would be no difference in boys' and girls' beliefs about the acceptability of relational aggression, whether they were identified as relationally aggressive or typically developing (**hypothesis 4h**).

As shown in Table 9.2, there were no gender differences between relationally aggressive boys' ($M = 3.50$; $SD = 0.50$) and girls' ($M = 3.67$; $SD = 0.41$) beliefs about acceptability of relational aggression (partial $\eta^2 = .04$). However, a significant gender difference was identified in relationally aggressive boys' ($M = 3.83$; $SD = 0.29$) and girls' ($M = 3.33$; $SD = 0.41$) beliefs about acceptability of physical aggression, at the criterion level of .10 (partial $\eta^2 = .33$). This finding suggests that relationally

aggressive boys view physical aggression as less acceptable compared to relationally aggressive girls.

Table 9.2

Independent t-test and Descriptive Statistics for Relationally Aggressive Children's Beliefs about Relational and Physical Aggression by Gender

	Boys		Girls				
	M	SD	M	SD	t	df	p
Relational Aggression	3.50	.50	3.67	.41	0.54	7	.61
Physical Aggression	3.83	.29	3.33	.41	-1.87	7	.10

As shown in Table 9.3, no significant gender differences were found in typically developing boys' ($M = 3.25$; $SD = 0.35$) and girls' ($M = 3.33$; $SD = 0.82$) beliefs about acceptability of relational aggression (partial $\eta^2 = .00$). Similarly, no significant gender differences were found in typically developing boys' ($M = 4.00$; $SD = 0.00$) and girls' ($M = 3.50$; $SD = 0.45$) beliefs about acceptability of physical aggression (partial $\eta^2 = .27$).

Table 9.3

Independent t-test and Descriptive Statistics for Typically Developing Children's Beliefs about Relational and Physical Aggression by Gender

	Boys		Girls				
	M	SD	M	SD	t	df	p
Relational Aggression	3.25	.35	3.33	.82	0.13	6	.90
Physical Aggression	4.00	.00	3.50	.45	-1.50	6	.18

9.6.5 Behavioural Response Choices to Relational and Physical Provocation

This analysis addressed research question 4.5: What are relationally aggressive and children's behavioural response choices to relational and physical provocation? Relationally aggressive and typically developing children's behavioural response choices to relational and physical aggression provocations were assessed using the Social Cognitive Interview. The interviews were initially coded using open thematic coding and two main themes were identified in children's responses. Table

9.4 presents the frequency counts of children's behavioural response choices coded as prosocial problem solving or aggressive responses. Examples of prosocial problem solving and aggressive responses given by relationally aggressive and typically developing children are presented in Table 9.5.

Table 9.4

Frequency Counts of Prosocial Problem Solving and Aggressive Responses of Relationally Aggressive and Typically Developing Children

	Relationally Aggressive Children	Typically Developing Children
Prosocial Problem Solving Responses	19	12
Aggressive Responses	13	19
"I don't know" Responses	1	2

Table 9.5

Relational and Physical Aggression Scenarios and Examples of Qualitative Prosocial Problem Solving and Aggressive Behavioural Response Choices

Relational and Physical Aggression Scenarios	Prosocial Problem Solving Responses	Aggressive Solution Responses
What would the child (victim) do after the other child said “you can’t play with us. Go away!”	“Tell a grown up” “Go play with someone else”	“Say I’m not your friend” “Throw a toy at her and smack her”
What would the child (victim) do after the other child said “No you can’t play with me! You’re not my friend!”	“Go do a painting” “He’s going to find other friends to play with”	“Throw sand in his eyes” “Throw the bucket and shovel”
What would the child (victim) do after the block tower had been knocked over?	“Walk away” “Put the blocks away”	“Knock her block tower over” “Punch him in the belly”
What would the child (victim) do after the other child threw a toy at them?	“Build the tower back up” “Go play with some different toys” “She’s going to go away from her (perpetrator) and do a drawing”	“Throw the blocks at her” “Throw the toy back at her” “Throw another toy back at him and step on him”

Note. Three “I don’t know” responses across the four scenarios were given by children and these were classified as Other category.

Preliminary analyses revealed no differences in relationally aggressive ($M = 1.72$; $SD = 0.44$) and typically developing ($M = 1.56$; $SD = 0.68$) children's responses to relational provocation ($t(15) = -0.58$, $p = .57$, partial $\eta^2 = .02$). No differences were revealed in relationally aggressive ($M = 1.61$; $SD = 0.42$) and typically developing ($M = 1.25$; $SD = 0.53$) children's responses to physical provocation ($t(15) = -1.56$, $p = .14$, partial $\eta^2 = .14$). As such, children's responses to relational and physical aggression provocation scenarios were combined. Associations between relationally aggressive and typically developing children's behavioural response choices were assessed using independent t-tests to ascertain whether there are any differences in their responses to aggressive scenarios. It was predicted that relationally aggressive children will suggest more relationally aggressive behavioural response choices to aggressive provocation compared to typically developing children (**hypothesis 4i**).

Relationally aggressive children suggested more prosocial problem solving responses ($M = 2.56$; $SD = 1.51$) compared to typically developing children ($M = 0.75$; $SD = 1.04$) on all aggressive scenarios ($t(15) = -2.84$, $p = .01$, partial $\eta^2 = .35$). Typically developing children suggested more aggressive responses ($M = 1.33$; $SD = 1.58$) compared to relationally aggressive children ($M = 2.88$; $SD = 1.36$) on all the aggressive scenarios ($t(15) = 2.14$, $p = .04$, partial $\eta^2 = .23$; see Table 9.4). While this finding was in the opposite direction of the hypothesis, both group differences were significant and the effect sizes in both analyses were large (Cohen, 1992), emphasising the robustness of these findings.

9.7 DISCUSSION

This study provides further evidence that relationally aggressive children process and understand social information differently to typically developing children (Anderson & Bushman, 2002; Crick & Dodge, 1994; Huesmann & Guerra, 1997) as shown by the differences in the behavioural responses recommended by relationally aggressive children compared to typically developing children in this sample. Although previous research has found that aggressive children are more likely to approve of aggressive behaviours and choose aggressive behavioural responses to solve social conflict (Henry et al., 2000; Huesmann & Guerra, 1997; Werner & Nixon, 2005), this study with young children provided results that at first seem counter-intuitive. A key finding was that children who engaged in high levels of relational

aggression were more likely to suggest prosocial problem solving behavioural responses when faced with relational and physical provocations, whereas, typically developing children were more likely to recommend more typical aggressive behavioural responses to solve social conflict. This finding suggests that children who engage in relational aggression do not always lack social skills or have hostile biases in their processing of social information. As suggested by previous research (Crick & Rose, 2000; Kaukiainen et al., 1999; Nelson et al., 2005; Nelson et al., 2010; Sutton et al., 1999), relationally aggressive children may be more skilled in processing social information to achieve specific social goals. The findings of this study would appear to support this proposition. It is also possible that children who use relational aggression proactively seek to solve social conflict through positive means in order to protect their reputation or social standing (Hawley, 2003; Heilbron & Prinstein, 2008). This would be supported in the current study by the finding that children who engaged in high levels of relational aggression were more likely to choose prosocial problem solving strategies as a behavioural response to provocation.

Indeed, it is interesting that typically developing children recommended more typical aggressive behavioural responses to provocation. An explanation for these findings may relate to the process of learning aggressive behaviour as described by Social Cognitive Theory (Bandura, 1989; 2001) and Script Theory (Huesmann, 1989; 1998). For instance, in Study One teachers and parents reported using more direct discipline strategies when responding to physical aggression and these findings are supported by previous studies (Goldstein & Boxer 2013; Hurd & Gettinger 2011). It is likely that children may internalise these discipline strategies and thus target their responses to avoid harsher punishments when faced with provocation, whether they are aggressive or typically developing children. Thus, teacher and parent behaviours may provide modelling for young children's use of aggression when responding to provocation.

An alternative explanation may relate to typical levels of aggression. Typically developing children were identified as having average levels of teacher rated relational and physical aggression, therefore, their aggressive behavioural response choices to provocation may not be surprising given that some aggression is typical during early childhood (Alink et al., 2006; Côté et al., 2007; Crick et al., 2006; Tremblay et al., 2004). What is remarkable then is that relationally aggressive

children used less of the typical levels of aggression identified in typically developing children. These findings provide further evidence that relationally aggressive children may process social information differently to typically developing children, however, these differences may not always be associated with deficits or biases. Indeed, relationally aggressive children suggested more prosocial problem solving responses suggesting that they may know how to more effectively use aggression to harm their peers while also maintaining prosocial interactions.

In this study, there was no difference between relationally aggressive and typically developing children's normative beliefs about relational and physical aggression. That is, in this early childhood sample, both relationally aggressive and typically developing children tended to identify relational and physical forms of aggression as wrong behaviours. In terms of relational aggression, these results differ from previous findings that preschool age children hold more approving beliefs of relational aggression (e.g., Giles & Hayman, 2005; Goldstein et al., 2002). An explanation for the differences in these findings may be because this form of aggression is perceived as more normative and teachers and parents may be less likely to intervene in relational aggression during early childhood (see Goldstein & Boxer, 2013; Werner et al., 2006). This finding may differ to earlier findings because of the increased attention given to relational aggression over the last decade (Leff et al., 2014) and a possible change over time in teacher and parent attitudes and practices towards relationally aggressive behaviours. It is also likely that during early childhood, children's normative beliefs about aggression are not yet entrenched or stable, suggesting possible changes in beliefs depending on personal and situational factors as described by the Social Information Processing Model (Crick & Dodge, 1994) and General Aggression Model (Anderson & Bushman, 2002). Future research may seek to explore changes in children's normative beliefs and scripts in a longitudinal design in order to capture such changes in beliefs over time.

This is the first known empirical study to explore gender differences in relationally aggressive and typically developing children's normative beliefs about relational and physical aggression. A key finding was that relationally aggressive boys were likely to view physical aggression as less acceptable than relationally aggressive girls were. Previous research (e.g., Lussier et al., 2012; McEvoy et al., 2003) demonstrates that boys, compared to girls, are more likely to engage in physical aggression and this finding is confirmed in this sample of preschool age

children (see Study Two, Chapter 7). It is possible that relationally aggressive boys in this study have learned that physical aggression is less acceptable and they have chosen to replace physical aggression with more covert behaviours such as relational aggression. Similarly, relationally aggressive girls who tend to engage in less physically aggressive behaviours, may not view physical aggression as less acceptable than boys because they do not engage in physical aggression and are less likely to have been reprimanded for this behaviour.

No gender differences were identified in children's beliefs about the acceptability of relational aggression when both relationally aggressive and typically developing children were considered together. Similarly, typically developing boys and girls viewed relational and physical aggression with similar levels of acceptability. This finding contrasts with previous studies identifying gender differences in young children's beliefs about relational and physical forms of aggression during early childhood (Giles & Heyman, 2005; Goldstein et al., 2002), but accords with more recent Australian research that has identified no differences in boys' and girls' use of different forms of aggression (Swit & McMaugh, 2012). However, the lack of gender differences found in this study may be due to the small sample size. The effect sizes suggest that with a larger sample, gender differences may be statistically significant whereby boys may view physical aggression as less acceptable than girls and girls may view relational aggression as less acceptable than boys.

Consistent with previous research (Huesmann & Guerra, 1997), younger children were found to hold beliefs more approving of relational and physical aggression when compared to older children. This may suggest that as children get older they become more aware of the consequences associated with different forms of aggression and this may influence their view of aggression. This perspective suggests that increased exposure to aggression can either reinforce or hinder the likelihood of a child using aggression in future social situations (Anderson & Bushman, 2002; Crick & Dodge, 1994; Huesmann & Guerra, 1998). It is possible that during early childhood, children's beliefs about the acceptability of different forms of aggression are less stable as children are still developing cognitive understanding and awareness of appropriate social behaviours to use within different contexts. As such, it would be valuable for future research to employ a longitudinal design to explore the development of young children's beliefs about the acceptability of relational and physical aggression to determine when these beliefs become a robust

predictor of aggressive behaviour and when they change to indicate less acceptance of aggressive behaviours.

Taken together, children's Social Cognitive Interview responses highlighted the sophisticated social cognitive abilities necessary for children to engage in social manipulation and aggression. More specifically, relationally aggressive children in this sample may be accessing and processing social information to not only resolve social conflict but to also more effectively harm others when they seek to achieve other social goals. These findings provide further evidence that relationally aggressive children may not have deficits or biases in processing social information, as previously thought, but rather may be more socially skilled in the face of adverse consequences for physical aggression. Finally, this study has demonstrated that the new interactive interview technique, developed for this study, was successful in identifying robust differences in the responses of relationally aggressive children compared to their typically developing peers. This technique holds promise for further research investigating social cognitive beliefs about aggression in young children.

CHAPTER 10

DISCUSSION AND IMPLICATIONS

The stages of research reported in this thesis were designed and sequenced to build on one another with the aim to provide a comprehensive understanding of some of the factors that influence preschool age children's relational aggression. The thesis followed a convergent parallel mixed method approach and each study was cross-sectional, employing a range of standardised quantitative measures as well as developmentally appropriate qualitative data collection methods to assess the constructs central to this thesis. The inclusion of children identified as relationally aggressive and those identified as using average levels of relational and physical aggression by their teachers allowed for the exploration of the reasons why some young children choose to aggress whilst others choose prosocial behavioural strategies. Overall, the results of this study provided insight into the development of aggression in a sample of Australian preschool age children and added to knowledge about some of the internal cognitive processes and ecological influences on very young children's aggressive behaviour. A summary of the key findings is presented below.

10.1 CHILDREN'S NORMATIVE BELIEFS AND BEHAVIOURAL RESPONSES TO PROVOCATION

A key finding in this thesis was the difference in behavioural responses recommended by relationally aggressive and typically developing children to relational and physical provocation. The results of Study Four indicated that relationally aggressive children in this study were more likely to suggest prosocial problem solving strategies to solve social conflict whilst typically developing children were more likely to recommend typical aggressive responses. These findings, at first, seem contradictory to findings of children's normative beliefs. Typically developing children identified both relational and physical aggression as unacceptable behaviours, however, recommended aggressive behaviours as strategies to solve social conflict. It is possible that during early childhood, children's beliefs about the acceptability of different forms of aggression are less stable because they are still developing cognitive understanding and awareness of appropriate behaviours to use within different social contexts (Huesmann & Guerra, 1997). It is possible that such

children perceive relational and physical aggression as wrong in others, but lacking self-awareness, may not hold themselves to this same standard. Alternatively, these young children may be morally disengaged when engaging in actual aggressive behaviour. Thus, young children's normative beliefs may have been less entrenched and more easily altered because of their age. Therefore, the link between normative beliefs and behavioural response choices may not follow as linear an association as previously thought and there may be a number of other internal cognitive processes and environmental factors that may influence young children's choice of behaviour when responding to provocation.

Another key finding was that relationally aggressive children were more likely to recommend prosocial problem solving strategies to solve relational and physical provocations. While this finding was not expected in terms of previous suggestions that relationally aggressive children are more likely to respond to provocation with aggression (Bellmore et al., 2005; Fontaine & Dodge, 2006; Calvete & Orue, 2010), it is in accordance with findings from Study Two and Study Three, which indicated that relationally aggressive children might not always lack social skills. More specifically, relationally aggressive children's use of prosocial problem solving skills may be indicative of social competence and more advanced social skills. This is supported by the finding in Study Three that relationally aggressive children had higher scores on the Personal-Social Domain of the Battelle Developmental Inventory, indicating they had higher quality interactions with peers and adults. Collectively, these findings provide additional evidence that relationally aggressive children in this sample may be more socially advanced and process social information differently compared to typically developing children, as they strategically manipulate their social contexts and peer relationships using higher levels of prosocial problem solving and relationally aggressive behaviours. Complementary to this was the findings in Study Two that relational aggression predicted fewer negative socio-psychological wellbeing factors compared to physical aggression. In particular, the tendency to use relational aggression (as identified by teachers) appeared to be a protective factor for some children, leading to greater peer acceptance, particularly for boys. Indeed, these conclusions challenge the traditional view of the aggressive child lacking social skills (e.g., Cillessen & Mayeux 2004) and suggest that relationally aggressive behaviours may not always relate to maladaptive factors. Thus, some relationally aggressive children may have access to more strategies to solve social conflict and

in some social contexts, these behaviours lead to functionally adaptive factors (i.e., greater peer acceptance and social status). These findings coincide with Hawley's (2003) notion of "bistrategic controllers" whereby these children are able to balance prosocial and coercive strategies to more effectively harm their peers and achieve their own personal goals, and they are preferred by their peers compared to children who use coercive aggressive strategies.

Another explanation for the differences in relationally aggressive and typically developing children's normative beliefs and behavioural response choices may relate to the development of self-regulatory processes and impulse control which are central to positive social interactions during early childhood (Reebye, 2005). Children's self-regulation has been linked to increased cognitive competence (Posner & Rothbart, 2000), allowing children to access a range of prosocial and aggressive strategies when faced with provocation, as indicated by the findings for relationally aggressive children. However, young children who lack self-regulation and impulse control are more likely to have access to fewer alternative strategies, leading to aggressive behaviour (Reebye, 2005). Whilst self-regulation and impulse control were not directly assessed in this thesis, the results of Study Three indicated that typically developing children in this sample used reactive relational and physical aggression more often than relationally aggressive children. These reactive incidences were often used out of frustration, and were immediate and obvious behaviours. In contrast, relationally aggressive children provided more proactive reasons for engaging in aggression that reflected forward thinking and planning, possibly indicating increased cognitive competence. These proactive incidences also generally included positive evaluation of aggression, with the focal child indicating that they were satisfied that their personal goals were met. As such, a distinguishing difference between relationally aggressive and typically developing children in this sample may be their advanced social development and their understanding of the behaviours that can be used to more effectively harm their peers whilst also achieving personal goals.

10.2 CHILDREN'S UNDERSTANDING OF INTENTIONALITY AND REASONS WHY THEY AGGRESS

Study Three explored relationally aggressive and typically developing children's understanding of intentionality and their self-reported explanations about

why they chose to engage in aggression. It was evident from the interview responses reported in Study Three that young children engaged in aggression with the intent to cause harm. Relationally aggressive and typically developing children were able to classify their aggression as intentional in 81 percent of the incidences presented to them and children acknowledged that their behaviour was wrong. These findings are an important extension of previous research because this study directly asked young children about their intentions whereas previous research has typically relied on observer's subjective judgement of intent. The methodological approach used to assess young children's developmental understanding of intentionality confirmed that young child respond to measures that incorporate tangible provocation scenarios that are concrete and familiar to them (Katsurada & Sugawara, 1998).

Some children in this study reported that they engaged in relational and physical aggression for proactive reasons to achieve a goal (e.g., achieving social status or obtaining an object), and this was particularly evident in relationally aggressive children's responses. Children's use of proactive aggression indicated forward planning and thinking about how to harm their peers or force a peer to change their behaviour. Relationally aggressive children's use of proactive aggression also generally included a positive evaluation of their aggression in achieving a personal goal or being satisfied with the outcome of their aggression. The findings from Study Three also provided evidence that these children were cognisant about how their behaviour would impact their peers, reinforcing that their use of aggression was premeditated and intentional. In contrast, while children's responses classified by the researcher as reactive aggression also provided evidence of intentionality, these explanations were less suggestive of forward thinking or planning. Rather, reactive aggression related to hostile and retaliatory behaviours that were used out of frustration at another child's behaviour and were more commonly used by typically developing children. Indeed, these behaviours often appeared more automated and impulsive and this is consistent with a review conducted by Richetin and Richardson (2008) about the types of processes used when engaging in reactive or proactive aggression.

These findings support the propositions made in the previous section that relationally aggressive and typically developing children process social information and respond to social provocation differently. More specifically, these findings highlight the value of exploring the reasons why children choose to aggress. These

responses can then be linked to the internal cognitive processes and environmental factors that may be facilitating children's aggressive behaviour. For example, relationally aggressive children's interview responses that revealed some understanding of harm or coercion of peers may indicate their understanding of emotion knowledge. Emotion knowledge (a central component of the Social Information Processing model) has been linked to socially competent (i.e., prosocial behaviour) behavioural response choices in preschool age children (Denham et al., 2014). However, the findings from Study Three indicated that some relationally aggressive children were cognisant and more aware of the behaviours that can harm other children while allowing them to get what they want, and relationally aggressive children experienced higher quality social interactions with their peers and adults. These findings suggest that the relationally aggressive children in this sample may be able to balance aggressive and prosocial strategies in their interactions with peers (Hawley, 2003; LaFontana & Cillessen, 2002; Nelson et al., 2005; Ostrov et al., 2013; Rose et al., 2004). Thus, the intentionality and function of young children's use of aggression in this sample were successfully communicated to the researcher by the focal child through the use of a Video Stimulated Recall Interview. This methodological procedure was considered successful in exploring some of the internal cognitive processes that may explain why some young children use aggression and how these processes differ for relationally aggressive and typically developing children.

It is notable that the results from the Video Stimulated Recall Interview indicated children's normative beliefs about aggression that they had enacted. Although children acknowledged that their behaviour was wrong, they still engaged in the aggressive behaviour. This contradiction was also identified in young children's normative beliefs and behavioural response choices to relational and physical provocations in Study Four. As noted earlier, these findings may be explained by the fact that during early childhood, children's normative beliefs are less entrenched. Alternatively, these findings highlight the difficulties in assessing complex social cognitive constructs in very young children. The Social Cognitive Interview employed in Study Four asked children to respond to fictitious hypothetical scenarios whereas the Video Stimulated Recall Interview asked children to respond to their actual behaviour. The two different methodological approaches used to assess very young children's normative beliefs indicated that directly asking children about their

aggression may be another method that can be used to assess young children's internal cognitive processes such as normative beliefs.

10.3 TEACHER AND PARENT NORMATIVE BELIEFS AND INTERVENTION STRATEGIES IN RESPONSE TO RELATIONAL AND PHYSICAL AGGRESSION

The results of Study One extend previous literature by identifying that Australian teachers and parents perceive physical aggression as less normative than relational aggression (Bauman & Del Rio, 2006; Byers et al., 2011; Werner & Grant, 2009; Werner et al., 2006; Young et al., 2006). Teachers and parents were more likely to feel empathy for victims of physical aggression than victims of relational aggression and were more likely to immediately intervene when children were physically aggressive. Differences in teacher's perceptions of relational and physical aggression were further explored in interview questions about common aggressive behaviours observed in the early childhood centre. A common theme that emerged from these interviews was that physical behaviours were identified as aggression more often than relational, verbal, or emotional behaviours. Teachers emphasised the importance of identifying and intervening immediately in physically aggressive acts because these were seen as potentially more harmful to other children. The findings from Study One also revealed that teachers and parents were more likely to use more passive (i.e., discussion) strategies in response to relational aggression and more direct (i.e., communicating rule violation) strategies in response to physical aggression. Direct strategies appeared more punitive compared to passive strategies. Indeed, these intervention strategies were reinforced in Study Three when teachers failed to intervene in any of the observed and recorded proactive aggressive incidences, but did intervene in instances of obvious reactive aggression (as noted earlier relational aggression is often proactive and physical aggression is often reactive in children (Dodge, 1991; Little et al., 2003; Ostrov & Crick, 2007; Smith, 1991). The level of education was not related to teachers' or parents' normative beliefs suggesting that these beliefs may be well internalised or entrenched by adulthood and not influenced by behavioural training and professional development. It has been noted in the literature that teachers often feel pressured to increase children's academic performance and tend to feel frustrated when they have to spend considerable time managing aggressive behaviours (see Orphinas, Horne, & Multisite Violence Prevention Project, 2004). Although the teachers in this study reported receiving behavioural training and professional development, these

programs may not target teacher's normative beliefs about different types of aggression.

Early childhood is a critical developmental period when teachers, parents, and siblings communicate to young children about social behaviours that are more or less acceptable. According to Social Cognitive Theory (Bandura, 1989; 2001) and the General Aggression Model (Anderson & Bushman, 2002), expectations about acceptable and unacceptable social behaviours can be communicated through modelling. Thus, the types of intervention strategies teachers and parents use to respond to relational and physical aggression, and the behaviours that they use in their personal relationships, may influence children's cognitions about the types of consequences and outcomes that can be expected when certain behaviours are enacted. In this way, teachers' and parents' everyday behaviours may inadvertently send messages to young children that maintain, rather than discourage, their use of aggressive strategies to solve social conflict. In particular, if teachers and parents usually do not intervene in these types of behaviours, children are less likely to seek out adult assistance in the future (Bauman & Del Rio, 2006; Goldstein & Tisak, 2006). Further, the Social Information Processing Model (Crick & Dodge, 1994) and Script Theory (Huesmann, 1988) suggests that normative beliefs about aggression may facilitate children's enactment of aggressive behaviours. Teachers' and parent's beliefs about the acceptability of relational aggression may also influence children's own normative beliefs about aggression and this association could be explored in future research.

In addition to considering the role of parents and teachers, Study Two also explored whether siblings were another aspect of ecological influence on aggression. As demonstrated, children with older siblings were more likely to engage in relational aggression. The underlying process may be similar to that posited for the influence of teacher and parent behaviour. That is, older siblings may provide training and modelling of relational aggression in the home. Sibling relationships are often close and siblings are usually privy to important information that may be used to effectively harm the other or threaten the relationship. In this way, there appears to be more opportunities for older siblings to use relationally aggressive behaviours towards their sibling (Ostrov et al., 2006; Stauffacher & DeHart, 2006; Tippet & Wolke, 2015), particularly if they are aware that their use of relational aggression is less likely to lead to negative consequences from the parent. As young children are still learning

and developing scripts about acceptable and unacceptable behaviours, they may generalise similar behaviours in other social contexts such as early childhood settings.

10.4 RELATIONAL AND PHYSICAL AGGRESSION AND SOCIO-PSYCHOLOGICAL WELLBEING

Study Two explored preschool children's use of relational and physical aggression, as rated by teachers, and whether these types of aggression were associated with socio-psychological wellbeing factors such as prosocial behaviour, peer acceptance, victimisation, and internalising consequences such as depressive symptomology. The findings of this study confirmed previous empirical findings that relational and physical aggression are associated with maladaptive outcomes (Crick & Grotpeter, 1995; Ostrov, 2008; Paul & Cillessen, 2003; Preddy & Fite, 2012). However, the results also indicated that for boys, relational aggression may also be adaptive with relationally aggressive boys experiencing higher levels of peer acceptance. Relational aggression was also associated with fewer socio-psychological maladaptive outcomes compared to physical aggression, suggesting differential pathways to socio-psychological wellbeing. It is also notable that the relationship between relational aggression and relational and physical victimisation differed significantly for boys and girls. The findings revealed that relational aggression contributed to relational and physical victimisation for girls and physical aggression contributed to relational victimisation in girls and relational and physical victimisation in boys. These findings extend previous empirical studies (e.g., see Card et al., 2008 for a review) by highlighting important gender differences associated with relational and physical aggression in predicting socio-psychological wellbeing factors in boys and girls, however, these findings provide the first empirical evidence available on Australian preschool age children. Indeed, these findings highlight that both relational and physical aggression can lead to concurrent maladaptive socio-psychological wellbeing and may be associated with some adaptive factors for some relationally aggressive children.

10.5 THEORETICAL IMPLICATIONS

The results and relationships identified in and between each of the studies in this thesis can be accommodated within the General Aggression Model (Anderson &

Bushman, 2002), suggesting that the General Aggression Model can be used as an integrative framework for understanding processes that are central to children's use of aggression. While the key components of Social Cognitive Theory (Bandura, 1989; 2001), Script Theory (Huesmann, 1986; 1998), and Social Information Processing Model (Crick & Dodge, 1994) have been acknowledged throughout this thesis, and are key to understanding many of the processes studied here, the General Aggression Model (Anderson & Bushman, 2002), which integrates them all, has wider explanatory ability because it carefully integrates and explains linkages between these processes.

This thesis has demonstrated that the basic components of the General Aggression Model (Anderson & Bushman, 2002) can be applied to understanding young children's aggression and also be used to explain specific types of aggression in young children, such as relational aggression. Further, the General Aggression Model (Anderson & Bushman, 2002) provides a useful framework to understand some of the internal cognitive processes underlying aggressive behaviour in young children such as their intent to cause harm, beliefs about the acceptability of aggression, and behavioural response choices to provocation. This was particularly evident through the successful development and use of video stimulated recall procedures and the Social Cognitive Interview to assess a range of complex cognitive processes in young children. The General Aggression Model (Anderson & Bushman, 2002) was also applied to understand the influence of ecological contexts on children's use of aggression. More specifically, previous research has primarily focused on either teacher's *or* parent's beliefs and behaviours in predicting children's aggression (e.g., Hurd & Gettinger, 2011; Moffitt & Caspi, 2007), however, the central components of the General Aggression Model (Anderson & Bushman, 2002) and the General Learning Model (Buckley & Anderson, 2006) highlight that the collective contribution of both these ecological influences should be explored to gain a comprehensive understanding of aggression during early childhood. More specifically, these models recognise that distal factors such as ecological contexts (i.e., teachers, parents, and siblings) influence children's acquisition of social cognitions, learning of aggressive schemas and scripts, and desensitisation to aggression, all of which increases a child's preparedness to aggress. Finally, this thesis demonstrated that children's aggressive behaviour can be explained by the interrelationship between internal cognitive processes (i.e., intent to cause harm,

normative beliefs, and behavioural responses) and ecological influences (i.e., the influence of teachers, parents, and siblings) thus providing a more comprehensive understanding of some of the factors that may contribute to relationally aggressive and typically developing children's developmental processes that may be central to facilitating aggressive behavioural responses. While domain specific theories are relevant to the study of relational aggression, the General Aggression Model (Anderson & Bushman, 2002) identifies a range of processes that may be more likely to increase young children's preparedness to aggress and can usefully inform interventions to address this behaviour.

10.6 IMPLICATIONS FOR RESEARCH

A number of implications arising from the current study have direct relevance for conducting research with preschool age children as well as their teachers and parents. First, this thesis developed two methodological innovations to explore young children's developmental understanding of intentionality, explanations for their aggressive behaviour, and their normative beliefs and behavioural responses to different types of provocation. A limitation of much previous research has been the availability of methodological approaches to assess cognitive processes underlying aggressive behaviours in very young children. Most available measures have focused on quantitative survey data to explain the internal cognitive processes and environmental influences that relate to children's use of aggression. While psychometrically sound and efficient to administer, these approaches capture limited components of the phenomenon and rely on researchers' preconceived understanding of variables and processes that are considered important. This study extended previous research by developing novel quantitative and qualitative measures to capture a breadth of cognitive processes in this young sample. In this way, it was possible to better understand the interrelationships between internal cognitive processes and ecological influences.

These developmentally appropriate measures demonstrated that young children can offer genuine insight into their intentions, can describe what is important to them in their social interactions, and can recall why they engaged in aggression. The procedure of directly asking young children about their intentions and why they chose to aggress was a valuable procedure through which to investigate some of the differences between relationally aggressive and typically developing children's

understanding of their behaviour, and the function of their aggression. This type of information has not been available in other studies that have used standardised observation coding schemes. This is a significant extension of previous methodological approaches used in the study of aggression, as it has previously proven difficult to include young children's voices and perceptions in this field using age appropriate measures. Thus, the video simulated recall procedure appears to be a method that researchers can reliably use to elicit children's self-reports of their own behaviour (Morgan, 2007; Rowe, 2009). The method also provides a concrete and familiar context that is developmentally appropriate for preschool age children.

In the current study, young children appeared to be most engaged in Study Four when they were presented with hypothetical vignettes portraying relational and physical provocation. Duplo toy figurines and props were used in this study to assess young children's normative beliefs and behavioural responses to hypothetical scenarios. Young children's engagement in this data collection method may have been due to the use of developmentally appropriate and familiar props (i.e., Duplo) that were used throughout the interview. That is, children may have viewed the interview as a more interactive interaction with the researcher as they were actively engaged with the Duplo toys and used them to support their responses. Incorporating developmentally appropriate and familiar props into other data collection methods, such as puppets, has proven useful in other research studies (Ostrov et al., 2009; Werner, Cassidy, & Juliano, 2006). The techniques demonstrated in the current study, illustrate another developmentally appropriate method for engaging young children in research. Similarly, the use of observations, interactive play procedures and props to facilitate child interviews about aggression may allow for a more comprehensive understanding of some of the internal cognitive processes used by very young aggressive children compared to typically developing children. The successful use of a range of data collection methods in this study suggests that future research might explore more interactive and child-centred methods that allow the strengths, skills, and perceptions of young children to be demonstrated.

There were a number of relationships among variables measured in the Video Stimulated Recall Interview and the Social Cognitive Interview that support the validity of these new methodologies. The strong correlation between relationally aggressive children's prosocial problem solving strategies recommended in the Social Cognitive Interview and their social development scores on the Battelle

Developmental Inventory provide support for the validity of the Social Cognitive Interview. The data obtained from the Video Stimulated Recall Interview indicated that children can clearly identify their behaviour as aggressive and majority of the children identified their behaviour as unacceptable. This is in concordance with children's beliefs about the acceptability of relational and physical aggression presented in the Social Cognitive Interview, whereby children identified relational and physical aggression as unacceptable behaviours. Further, the validity of the Video Stimulated Recall Interview and the Social Cognitive Interview is evidenced by the relationship between the reasons children provided for their actual aggressive behaviour and their behavioural response choices recommended in the hypothetical scenarios. Relationally aggressive children reported more proactive reasons for their use of aggression and were also more likely to recommend prosocial problem solving strategies in response to aggression compared to typically developing children. The relationship between the results found in the Video Stimulated Recall Interview, the Social Cognitive Interview, and the Battelle Developmental Inventory provide valid evidence that support the suggestion that relationally aggressive children may not lack social skills and may have more developed social cognitive understanding than previously thought (Hawley, 2003; Little et al., 2003; Nelson et al., 2005; Vitaro et al., 1998).

10.7 PRACTICAL IMPLICATIONS

This thesis demonstrated that relational aggression is viewed as more normative and acceptable by teachers and parents in this sample. Knowing about these cognitive biases may help explain the early socialisation and development of relationally aggressive behaviours in very young children (although this was not directly assessed in this study). Although teachers and parents may not be explicitly conveying such beliefs to young children, they may be implicitly conveying these beliefs through the differential intervention strategies used in response to the two types of aggression. The basic tenets of Social Cognitive Theory (Bandura, 1989; 2001) and the General Aggression Model (Anderson & Bushman, 2002) would clearly predict that this would influence children's social cognitions about aggressive behaviour. It is noteworthy that in Study One no teachers commented on the way that they may potentially facilitate or moderate young children's aggressive behaviours. A large body of evidence indicates that the quality of young children's relationships with caregivers during early childhood contributes significantly to their social development

(Pianta & Stuhlman, 2004). Thus, both teachers and parents need to be cognisant of the impact of their differential attitudes about, and responses to, relational and physical aggression, and about how these responses may impact young children's perceptions of different types of aggression. Research has shown that professional development courses and pre-service teacher training that provides teachers with direct feedback about their interactions with students can be successful in improving the quality of student-teacher relationships (Pianta et al., 2008). Thus, feedback about specific intervention strategies may also be useful in assisting teachers to modify their responses to communicate that relational aggression is not acceptable.

During early childhood, effective social skills such as turn taking, cooperation, sharing, problem solving and conflict resolution skills, as well as friendship formation and effective peer interactions, begin to develop (Cooper, Paske, deHaan & Zuzic, 2003). The importance of the early life development of positive early social skills on later life outcomes has been well documented (e.g., Beauchamp & Anderson, 2010; Gormley, Phillips, Newmark, Welti & Adelstein, 2011). However, emerging literature, as well as key findings reported in this thesis, suggests that positive social skills may also be used by some young children to engage in negative social behaviours such as relational aggression. Clearly, teachers should be promoting the development of social skills and social competence during early childhood but they also need to be aware that these behaviours and skills can be used by some children to more effectively engage in subtle and manipulative aggressive behaviours. As noted in Chapter 7, many of the current intervention programs used to target aggression in young children promote the development of positive social skills. It is important for practitioners to consider the types of intervention programs that may be most effective in reducing negative aggressive behaviours, such as relational aggression, whilst promoting the positive use of these social cognitive skills in those children who already have more advanced social skills and cognitive understanding. As previously recommended, intervention programs focused on training young children in the appropriate regulation and use of social cognitive skills when responding to different provocation scenarios may be effective. Others have also recommended that intervention programs should look for opportunities to allow those children who are more socially advanced to exhibit their social status and leadership skills in a prosocial manner such as with leadership activities (Leff et al., 2010).

Additionally, a review conducted by Harvey and colleagues (2001) recommended that intervention programs should be more focused on the development of more effective social cognitive skills where young children are encouraged to consider the moral reasoning for their actions. It is suggested that such judgements will have more of an impact on the way children interpret and process social information and their behaviours. Moreover, intervention efforts should also focus on helping young children understand the negative consequences associated with relational aggression. Often it is much easier for young children to understand the negative consequences associated with physical, overt behaviours such as hitting and kicking than the subtle, covert effects of peer isolation or friendship termination. However, even if relational aggression is not considered a problem within the educational setting, it is necessary for teachers and parents to promote greater understanding of the consequences of relational aggression so that young children understand that it is a hurtful, damaging, and a serious form of aggression that warrants a response and intervention from adults (Young et al., 2006). Current intervention programs targeting aggression during early childhood have been more effective in preventing physical aggression compared to relational aggression (see Dailey et al., 2015 for a review). This suggests that current intervention programs may be less sensitive to the factors that influence young children's use of relational aggression. The results of this study suggest that early childhood may be an effective period for social cognitive intervention because children have started to form beliefs about the acceptability of aggression and can give explanations for their own behaviour.

Finally, age and sibling effects identified in this study provide additional evidence of some of the early socialisers of relational aggression during early childhood. It is important for teachers and parents to be aware that as young children develop language (Bonica et al., 2003), and a more sophisticated understanding of their social environments, they may be more likely to engage in more subtle forms of aggression, such as relational aggression. Based on Social Cognitive Theory, it seems likely that older siblings may be models of the types of appropriate and inappropriate social behaviours to use in a range of contexts for younger children. In this instance, young children may initially use physical aggression to solve social conflict, but develop the skills to engage in alternative strategies, such as relational aggression, through older sibling influences among others. These behaviours may

then become the central form of aggression that is used when solving social conflict. While children may learn and practice their behaviours initially in the home, they may generalise these behaviours to other social contexts, such as early childhood settings. This raises further practical implications for current intervention programs targeting aggressive behaviours in young children. Existing intervention programs are largely delivered in educational settings such as the early childhood centre or schools. However, as indicated by some findings in this study about parent beliefs and intervention strategies, it would be worth considering the development of interventions for the home setting. Further, it is recommended that intervention programs target the whole familial context. The results from Study Two indicated that relationally aggressive preschool age children are more likely to have older siblings. Based on social learning perspectives, interventions should target relationally aggressive children and their siblings, alongside addressing parent intervention strategies.

10.8 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

A significant limitation to the current study was the difficult recruitment and research consent context encountered. Although eleven early childhood centres were approached, only seven agreed to participate and from these centres, only 27 percent of parent consent forms were returned. In Australia, research cannot occur without explicit written consent from teachers and parents and passive consent procedures are not allowed. All early childhood centres have an independent right to choose to participate and are not compelled by school boards or other directives to participate. Although recruitment efforts continued for one year, it was simply not feasible in the time constraints of this study to engage in ongoing recruitment to enlarge the sample size. This limited the number of children eventually identified as relationally aggressive and thus sample sizes were small (however all children identified by teachers as highly relationally aggressive were used for this study). With these small subgroups of children, cell sizes in analyses were small and lacked sufficient power. As such, caution is warranted when interpreting p-values. Effect sizes have been reported here in all cases to supplement p-values.

For example, the current study found that teachers' and parents' normative beliefs about relational and physical aggression differed significantly, with relational aggression being viewed as more normative and acceptable during early childhood.

Similarly, teachers and parents were more likely to endorse direct intervention strategies in response to physical aggression and more passive and less direct intervention strategies in response to relational aggression. However, the sizes of the subgroups were not sufficient to identify associations between teacher and parent normative beliefs and relationally aggressive and typically developing children's normative beliefs about relational and physical aggression. Thus, it is recommended that future research explores the extent to which teacher and parent normative beliefs and differentiated intervention strategies facilitate young children's normative beliefs and use of aggression. As noted previously, similar empirical research has been conducted with older children but not with preschool age populations. In particular, it is suggested that future research explores these associations in children identified as high and low in their use of relational aggression or identify early childhood centres where the biases toward relational aggression were stronger or weaker. This would provide important information about some of the ecological factors that may facilitate relationally aggressive behaviours.

This study also revealed associations in young children's use of relational and physical aggression and a number of concurrent adaptive and maladaptive socio-psychological wellbeing factors. The current study was cross-sectional and was not able to explore the causal relationship between aggression and socio-psychological wellbeing. Therefore, future longitudinal work is recommended to assess the causal pathways to determine whether relational and/or physical aggression predict socio-psychological wellbeing or visa versa. A unique contribution to our understanding of the impact of relational and physical aggression on predicting young children's concurrent socio-psychological wellbeing is that these associations are uniquely different for boys and girls during early childhood. Replication of these results is needed with larger, more diverse samples and using longitudinal research methods, as other factors such as few peer relationships (due to attending the early childhood setting for a short period of time), difficult home life and other negative experiences may have contributed to these associations between aggression and socio-psychological wellbeing. A single item indicator of depressive symptomology was selected as a global indicator of symptoms but it is possible that this variable did not attain significance because other dimensions of depressive symptomatology were not assessed. To address this limitation, future studies might consider a more comprehensive measure of depression. Further investigation of other early

socialisers (and other social cognitive processes) is warranted to develop a more comprehensive understanding about the main influences responsible for the development of aggressive behaviours in young children.

A unique contribution of this study to our understanding of the differences in relationally aggressive and typically developing children's normative beliefs and social cognitive understanding was the finding that relationally aggressive children were more likely to recommend more prosocial problem solving responses when responding to provocation. These children also had higher quality interactions with peers and adults. While these findings cannot be generalised across populations, they demonstrate the importance of future research in this area. Early conceptualisations of aggression during early childhood have commonly considered aggressive children as lacking social skills and social competence (Coie & Dodge, 1998; Crick et al., 1999; Hawley, 2003). Therefore, future research should consider the potential adaptive factors associated with relational aggression during early childhood and whether advanced social skills are associated with different types of aggression used by young children.

10.9 FINAL REMARKS

The research described in this thesis provides the first known empirical data about the normative beliefs about aggression of teachers, parents, and young children in Australia. Further, it appears to be the first examination of intervention strategies for relational and physical aggression in a sample of early childhood teachers and parents in Australia. This thesis makes a valuable contribution to early childhood aggression literature by highlighting the differences in relationally aggressive and typically developing children's social cognitive understanding of their behaviour and their responses to relational and physical provocations. Further, this thesis has provided evidence that very young children intentionally engage in aggressive behaviours. The importance of directly asking children for their perspectives on their actual behaviour has been shown to be effective in understanding why young children aggress. Very young children were successfully able to articulate the reasons for their aggression and what they expected to achieve from their aggressive behaviour. These observations have merit in that the findings of this thesis have indicated that some relationally aggressive children may be more socially skilled and cognitively advanced compared to typically developing children.

An important question remains about why some children engage in aggression while others use typical levels of aggression. Whilst the differences between aggressive and typically developing children will remain of interest to aggression researchers, it seems imperative to also focus on ecological contexts in preventing aggressive behaviours during the early stages of social development. It seems essential for adults to look for opportunities to teach children positive conflict skills so children do not feel the need to resort to alternative aggressive strategies such as relational aggression. However, young children with advanced social skills and cognition should be given opportunities to practice and use these skills in prosocial activities otherwise some children may use these skills to engage in manipulative behaviours such as relational aggression.

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APPENDICES

APPENDIX A

JOURNAL ARTICLE

Swit, C., & McMaugh, A. (2012). Relational aggression and prosocial behaviours in Australian preschool children. *Australasian Journal of Early Childhood*, 37(3), 30-34.

Relational aggression and prosocial behaviours in Australian preschool children

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Abstract

Relational aggression is a subtle form of aggressive behaviour that uses dyadic relationships and manipulation as a vehicle of harm. Little is known about relational aggression in preschool-age children in cultural contexts outside the United States. This study examined relationally aggressive behaviours and prosocial behaviours in Australian preschoolers. The sample consisted of 60 children aged from three to five years (35 boys, 25 girls). Teachers rated children's social behaviour in terms of relational aggression and prosocial behaviour. Results indicated that teachers report significantly more relational aggression in the oldest age group of children (aged > 4.5 years). Relational aggression was related to lower scores of prosocial behaviour ($p < 0.05$). No significant differences were found between boys' and girls' engagement in relational aggression and prosocial behaviours. Results are discussed in terms of the importance of recognising the prevalence of these aggressive behaviours in Australian preschool-age children and the need for immediate intervention.

Introduction

Since the early 1990s, relational aggression has emerged as a major thematic concern in social contexts. Research has continued to document the short-term and long-term negative effects of aggressive behaviour on later social and emotional development. In an early study by Rigby and Slee (1991) involving 685 students from early primary to middle secondary Australian schools (six–16 years old), it was found that approximately one in 10 children was being subjected to aggressive bullying within the school social context. Similarly, in the early childhood context, teachers report that 10 per cent of preschool-aged children display daily aggressive behaviours related to bullying (Kupersmidt, Bryant & Willoughby, 2000). While there is the suggestion that these behavioural issues may resolve with developmental progression, there is also evidence that these behavioural difficulties may persist throughout childhood and continue to significantly impact on a child's social and emotional development.

More recently, there has been an increased interest in relational aggression in preschool-age children. Stimulated largely by the work of Crick and colleagues (1997) in the United States, studies have also been conducted in other countries including Italy (Nelson, Robinson, Hart, Albano &

Marshall, 2010). As yet, there are no published studies of this phenomenon in Australian preschool children. In these international studies, relational aggression has been identified in children as young as three years. At least 12 per cent of preschool-age children were identified as engaging in relationally aggressive behaviours in the early childhood setting. However, no comparable studies have been reported from the Australian context.

Relational aggression can be defined as interpersonal manipulative behaviours such as social exclusion (e.g., excluding a peer from play or a social group), social alienation (e.g., giving peers the silent treatment), direct control (e.g., saying 'you can't be my friend unless ...'), and rejection (e.g., telling rumours or lies about a peer so that others will reject him or her) which are intentionally and repeatedly used to inflict harm on another person (Crick et al., 1997). When used repeatedly to assert power over another person, relational aggression is also defined as a type of bullying (Monks & Smith, 2006).

Aggression during early childhood has often been considered as normative and the view has been taken that children will grow out of aggressive behaviours. Research has challenged this view, suggesting that relational aggression results in serious emotional and psychological consequences for the victim and the bully (Crick et al., 1997). Victimization by relational aggression may result in low self-esteem (Slee & Rigby, 1993), and poor assertiveness skills (Rigby, 2000). Research evidence also shows that children as young as eight years experience depressive symptoms associated with relational victimisation (Sourander, Helstela, Helenius & Piha, 2000), and kindergarten children report significantly higher levels of loneliness as a result of relational aggression (Kochenderfer & Ladd, 1996). At an interpersonal level, children who experience relational aggression also find themselves excluded from the peer group and experience ongoing peer rejection (Crick & Grotpeter, 1996).

There are also considerable consequences for the children who perpetrate acts of relational aggression. Young children who bully others through relationally aggressive behaviours show higher levels of insecurity, are often considered impulsive, and have poor personal and social skills (Baldry & Farrington, 1998; Kumpulainen & Rasanen, 2000). Recent research has also found that relational aggression is associated with lower levels of prosocial behaviour in preschool-age children (Renouf et al., 2010).

International studies on relational aggression during early childhood suggest that teacher reports of relational aggression show a gender bias in that girls are expected to engage in typical relationally aggressive behaviours more than boys (Crick et al., 1997). Interestingly, Australian studies have found no differences between boys' and girls' engagement in relational aggression at the primary and high school levels (Hayward & Fletcher, 2003; Owens, Shute & Slee, 2000).

Despite the significant consequences associated with relational aggression, research suggests that physical aggression is still reported more frequently and consistently by teachers (Young, Boye & Nelson, 2006). Unfortunately, the lack of teacher attention to relational aggression limits the extent to which identification and intervention in relationally aggressive behaviours occurs. Studies have found that school bullying intervention programs which address only physical aggression

fail to identify more than 30 per cent of children who engage in relational aggression, and approximately 60 per cent of children who are victimised through relationally aggressive means (Crick & Nelson, 2002). Currently, most research investigating relational aggression in Australian populations has focused on primary school-aged children and adolescents (Hayward & Fletcher, 2003; Owens et al., 2000). These studies suggest that relational aggression and victimisation is commonplace in Australian schools. As such, this study provides further insight into this phenomenon by specifically examining relational aggression with a sample of preschool-age children in Australia.

Given that relational aggression is associated with negative outcomes, it seems important to identify the prevalence of relational aggression in order to raise awareness of this behaviour within Australian early childhood populations. As such, the purpose of this study is to identify whether, and to what extent, teachers identify relational aggression and prosocial behaviours in an Australian sample of preschool-age children. For the purposes of this study, preschool-age refers to children between three and five years. Gender and age differences in the use of relational aggression will also be explored in this study.

Methodology

Participants

Participants were 60 children (25 girls; 35 boys) between the ages of 37 and 62 months ($M = 50.0$; $SD = 6.7$) and their teachers. Participants were recruited from eight classrooms in five early childhood centres located in the Western Sydney region. Written parental consent and verbal child assent were sought for each child's participation.

Measures

Teacher ratings of aggression and prosocial behaviours

Teacher ratings of social behaviour were used in this study, as teachers are considered to be valid informants for evaluating aggression, and teacher ratings are the most typical form of assessment with early childhood populations (Bonica, Arnold, Fisher, Zeliyo & Yershova, 2003; Crick et al., 1997). The Preschool Social Behaviour Scale–Teacher Form (PSBS-TF; Crick et al., 1997) was used to assess teacher reports of children's relational aggression and prosocial behaviour. This instrument consists of 10 items, six of which assessed relational aggression (e.g., 'This child tries to get others to dislike a peer'; 'This child tells a peer they won't be invited to their birthday party unless s/he does what the child wants'); and four of which assessed prosocial behaviour (e.g., 'This child is helpful to peers'). Teachers rated the degree to which each participating child exhibited relational aggression and prosocial behaviours towards their peers by using a five-point rating scale (1 = never or almost never true to 5 = always or almost always true). Previous research has supported the favourable psychometric properties of the PSBS-TF (e.g., Crick et al., 1997; Murray-Close & Ostrov, 2009). In the current study Cronbach's alpha was 0.93 for relational aggression and 0.84 for prosocial behaviour, which is similar to previous reports.

Procedure

This study was reviewed and approved by the university research ethics committee before it commenced. Data collection began two months after the beginning of the preschool year so that the children would know each other and teachers would be good informants of their behaviour. Participating teachers completed the Preschool Social Behaviour Scale–Teacher Form (PSBS-TF; Crick et al., 1997) for each participating child. Each participant was assigned a total relational aggression score and a total prosocial score based on teacher assessment of these behaviours.

Results

In order to examine the study objectives, analyses were conducted to: a) examine the associations between teacher ratings of relational aggression and prosocial behaviour; and b) evaluate gender and age differences in relational aggression and prosocial behaviour. Descriptive analyses for relational aggression and prosocial behaviour are reported, followed by analysis of the relationship between relational aggression and prosocial behaviour. Finally, gender and age differences in the manifestation of relational aggression and prosocial behaviour are reported.

Relational aggression and prosocial behaviours

The means and standard deviations of relational aggression and prosocial behaviour for the total sample and by gender and age are presented in Table 1. Teachers reported that 38 per cent ($n = 23$) of the participants engaged in average levels of relational aggression (i.e., at the mean) while 20 per cent ($n = 12$) of the participants engaged in high levels of relational aggression (i.e., 1 *SD* above the mean).

Teachers reported that 70 per cent ($n = 42$) of the participants engaged in average levels of prosocial behaviour (i.e., at the mean) while 25 per cent ($n = 15$) of the participants engaged in high levels of prosocial behaviour (i.e., 1 *SD* above the mean).

Table 1. Descriptive statistics for relational aggression and prosocial behaviour measures

Variable	Total sample ($N = 60$)	Girls ($n = 25$)	Boys ($n = 35$)	Age (3.0–4.4 years) ($n = 38$)	Age (4.5–5.2 years) ($n = 22$)
Relational aggression	11.4 (5.5)	12.6 (6.3)	10.8 (4.8)	9.89 (4.7)	14.45 (5.7)
Prosocial behaviour	15.0 (3.11)	15.2 (3.3)	15.0 (3.0)	15.2 (3.4)	14.9 (2.6)

Association between relational aggression and prosocial behaviour

Bivariate Pearson correlations between relational aggression and prosocial behaviour measures were computed. A statistically significant negative correlation ($r = -0.453$) was found

between teacher ratings of relational aggression and prosocial behaviour ($p < 0.001$), indicating that higher reported levels of relational aggression were associated with lower reported levels of prosocial behaviour.

Gender and age differences in relational aggression and prosocial behaviour

Independent t -tests were conducted to assess potential developmental stage differences in relational aggression and prosocial behaviour. Age groupings were used which heuristically reflect significant early changes to cognitive development, such as theory of mind (e.g., Peterson, Wellman & Liu, 2005), enabling comparison of findings between older and younger age groups. As such, participants were divided into two age groups, the first including participants aged between 3.0 years and 4.4 years, and the second including participants aged between 4.5 years and 5.2 years. Given the developmental differences in these age groupings, children at a younger developmental stage were expected to engage in less relational aggression and prosocial behaviours than developmentally older children.

As expected, teachers reported that older children ($M = 14.4$, $SD = 5.7$) engaged in significantly more relational aggression than younger children ($M = 9.8$, $SD = 4.7$), $t(58) = -3.30$, $p = 0.002$. No significant differences were found in teachers' ratings of prosocial behaviour between older ($M = 15.2$, $SD = 3.4$) and younger age groups ($M = 14.9$, $SD = 2.6$), $t(58) = 0.302$, $p = 0.764$.

Independent t -tests were also used to explore possible gender differences in reported rates of relational aggression and prosocial behaviours. In accordance with previous studies, girls were expected to engage in higher rates of relational aggression in comparison to boys. No gender differences were observed on measures of relational aggression ($t(58) = 1.22$, $p = 0.22$) or prosocial behaviour ($t(58) = 0.172$, $p = 0.86$).

Discussion

This is the first known study to identify the prevalence of relational aggression and prosocial behaviours as reported by teachers in an Australian preschool sample. Consistent with previous research studies in the United States (Crick et al., 1997), and Italy (Nelson et al., 2010), teachers were able to identify and report on relationally aggressive behaviours in an Australian sample of preschool children. Moreover, the incidences of relational aggression in this sample is similar to that reported in the more extensive American study by Crick and colleagues (1997). That is, teachers reported that 20 per cent, or approximately one in five, preschool-age children engaged in high levels of relational aggression. This is concerning, given that empirical evidence shows the preschool period and the early years of school are critical in the development of long-term antisocial and aggressive behaviours (Gagnon, Craig, Tremblay, Zhou & Vitaro, 1995).

Further, analyses of children's relational aggression scores confirmed a significant negative relationship with prosocial behaviour. That is, children who engaged in relational aggression were more likely to have relatively low levels of prosocial behaviour, as viewed by teachers. This finding is consistent with international studies assessing similar behaviours in preschool-age children (Renouf et

al., 2010). While this initial exploratory study did not examine the social skills or adjustment of children identified as relationally aggressive, other findings suggest that young relationally aggressive children may lack positive interpersonal skills, ultimately leading to further adjustment difficulties (Crick & Grotpeter, 1996; Crick et al., 1997). As such, this finding confirms the need for further investigation and follow-up of such behaviours in early childhood contexts.

The final goal of this study was to examine age and gender differences in the display of relational aggression and prosocial behaviour. Previous studies of relational aggression and gender have suggested that teacher reports of relational aggression show a gender bias in that girls may be expected to engage in typical relationally aggressive behaviours (Crick et al., 1997). For the age cohort examined in this study, teacher reports of relational aggression were used, as they provide the single most relevant assessment of relational aggression and have shown good predictive validity (e.g., Crick et al., 1997; Murray-Close & Ostrov, 2009). Interestingly, the results of this study found no significant differences between the amount of relational aggression engaged in by boys and girls as reported by their teachers. While this finding contrasts with other international findings, it is consistent with a small number of Australian studies which have investigated relational aggression in school-aged populations. For example, Hayward and Fletcher (2003) and Owens and colleagues (2000) found no significant differences between Australian boys' and girls' engagement in relational aggression at the primary and high school level. These findings in the early childhood context may support the suggestion that Australian children differ in their engagement in relational aggression when compared to other countries. However, further study with larger populations is needed to confirm this finding.

Results extend prior work with preschool-age children by demonstrating that teachers can identify relational aggression within this age group (Crick et al., 1997). Not surprisingly, results of this study suggest that older children engage in significantly more relational aggression when compared to younger children. This is consistent with previous research, which has suggested that relational aggression increases with age while physical aggression decreases (Björkqvist, Lagerspetz & Kaukiainen, 1992). As such, teachers may need to be more aware of relationally aggressive behaviours in older children within their classrooms.

Strengths and limitations

The present study is the first known empirical investigation to examine relational aggression in young children in Australia. Further, this is the first known study to employ the Preschool Social Behaviour Scale–Teacher Form (Crick et al., 1997) in an Australian sample of preschool children. As such, this study demonstrates the relatively quick and efficient way of assessing relational aggression in Australian early childhood contexts.

While the sample size of the study ($N = 60$) is similar to previous studies assessing relational aggression and prosocial behaviours (Crick et al., 1997; Ostrov, 2006), larger sample sizes may allow for closer examination of age and gender differences within the population. It may also be useful to consider using teacher reports alongside observational, peer, or parent reports. Further, this study

assessed reports of relational aggression and prosocial behaviour as just two types of observable social behaviour. Further assessment of different types of aggression experienced by preschool-age children may provide more information to assist teachers in responding to aggressive behaviours in the preschool context.

Conclusion

The results of this study highlight the prevalence of relationally aggressive behaviours in Australian preschool-age children. It remains a great concern that teachers identified 20 per cent of the participants as highly relationally aggressive. These findings, along with the lack of published research on relational aggression in Australia, highlight the need for further research in this field. Early childhood educators and researchers should continue to explore relationally aggressive behaviours in Australian preschool-age populations to determine the stability of these behaviours and to determine the most effective form of intervention, to ensure the negative consequences of these behaviours are prevented.

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APPENDIX B

CONFERENCE PAPER

Swit, C., & McMaugh, A. (November 2011). Relational aggression in preschoolers: Can Theory of Mind development explain complex forms of social manipulation. Presented at the *Australian Association for Research in Education* Conference, Hobart, Australia.

Abstract

The role of cognitive processes in explanations of aggressive behaviour have challenged the perception of the typical child bully as lacking in social skills (Nicolaidis, Toda, & Smith, 2002), while others have suggested that sophisticated theory of mind may be required to engage in subtle acts of aggression (Sutton, Smith, & Swettenham, 1999a). However, the role of theory of mind in explaining aggressive behaviours is equivocal in that some studies report a significant association between theory of mind and hostile behaviours (Björkqvist, Österman, & Kaukiainen, 2000), while others report a significant association between theory of mind and prosocial behaviours (Watson, Nixon, Wilson, & Capage, 1999). In this study, the relationship between theory of mind development and preschool-aged children's engagement in relational aggression and prosocial behaviours was examined in an Australian sample. Sixty 3- to 5- year old children (35 boys, 25 girls) participated in five theory-of-mind tasks designed to assess their understanding of desires, beliefs, knowledge access, false belief, and real-apparent emotion (Wellman & Liu, 2004). The Preschool Social Behaviour Scale – Teacher Form (Crick, Casas, & Mosher, 1997) was used by teachers to rate children's engagement in relational aggression and prosocial behaviours. Results indicated that teachers identified high levels of relationally aggressive behaviours in 20 percent of the sample ($n = 12$). preschool aged children. Teachers reported significantly more relational aggression in the oldest age group of children (aged > 4.5 years). However, this study did not find a positive correlation between relational aggression and theory of mind development, and no significant differences were found for gender or between younger and older children's theory of mind performance ($p > 0.05$). Relational aggression was related to lower scores of prosocial behaviours ($p < 0.05$). Results are discussed in terms of conceptual and methodological considerations in the use of theory of mind as an explanation of relational aggression and practical implications for Australian early childhood settings and schools are considered.

Historically, preschool-age children (3- to 5-years old) have been considered too young to have the capacity to intentionally harm others. Consequently, preschool children's negative interpersonal aggression and bullying behaviours have often been considered as a developmental stage involving rough and tumble play which they will grow out of (Atlas & Pepler, 1998). This finding implies that early childhood professionals and teachers are unaware of the short and long term consequences of relationally aggressive behaviours. As such, research is continuing to document the need for teachers and early childhood professionals to recognise the severity of this form of aggression and provide effective interventions and implications within early childhood and school social contexts.

Defining Relational Aggression

Relational aggression can be defined as the intentional, hurtful manipulation of peer relationships that inflicts harm on others through interpersonally manipulative behaviours. These behaviours include social exclusion (e.g., excluding a peer from play or a social group), social alienation (e.g., giving peers the silent treatment), direct control (e.g., "You can't be my friend unless..."), and rejection (e.g., telling rumours or lies about a peer so that others will reject him or her) (Crick & Grotpeter, 1996). Preschool children have been observed covering their ears, refusing to listen to another peer; not allowing another peer to play with the group; demanding other children not play with a specific peer; and threatening to not play with another peer unless certain demands are met. These examples of relational aggression are evidence of the sophisticated and subtle nature of relationally aggressive behaviours in early childhood settings. Previous assumptions that relationally aggressive behaviours are 'typical' childhood behaviours, without serious consequences (Atlas & Pepler, 1998) have been replaced by evidence that victimization by relationally aggressive means results in serious emotional and psychological consequences for the victim and the bully (Crick & Grotpeter, 1996; Crick, Casas, & Mosher, 1997).

Outcomes of Relational Aggression

For young children who are bullied through relational means, the consequences relate to both intrapersonal effects and interpersonal damage to relations with other children. Intrapersonal effects of relational aggression include low self-esteem (Slee & Rigby, 1993), and poor assertiveness skills (Rigby, 2000).

Research evidence also shows that children as young as 8-years-old experience depressive symptoms associated with relational victimization (Sourander, Helstela, Helenius, & Piha, 2000), and Kindergarten children report significantly higher levels of loneliness as a result of relational aggression (Kochenderfer & Ladd, 1996). At an interpersonal level, children who experience relational aggression also find themselves excluded from the peer group and experience ongoing peer rejection (Crick & Grotpeter, 1996). There are also considerable consequences for the children who perpetrate acts of relational aggression. Young children who bully others through relationally aggressive behaviours are also more likely to use physical forms of aggression and may lack empathy for their victims. However, these children also show higher levels of insecurity, are often considered as impulsive, and have poor personal and social skills (Baldry & Farrington, 1998; Kumpulainen & Rasanen, 2000).

Teacher Identification of Relationally Aggressive Behaviours

Despite the reported occurrence of relational aggression in younger and older children (Crick & Grotpeter, 1996; Murray-Close & Ostrov, 2009), and the associated negative outcomes for perpetrators and victims, physical aggression is still reported more frequently and consistently by teachers (Young, Boye, & Nelson, 2006). Research has suggested that limited identification of relationally aggressive behaviours by teachers is because the actions of relational aggression tend to be subtle and therefore, not easily observed (McEvoy, Estrem, Rodriguez, & Olson, 2003).

Unfortunately, the lack of teacher attention to relational aggression limits the extent to which identification and intervention in relationally aggressive behaviours occurs. Studies have found that school bullying intervention programs which address only physical aggression fail to identify over 30 percent of children who engage in relational aggression, and approximately 60 percent of children who are victimised through relationally aggressive means (Crick & Nelson, 2002). Others have suggested that teachers' lack of intervention is because teachers are less likely to consider relationally aggressive behaviours as problematic, when compared with physical aggression (Young et al., 2006). Pre-service teachers and professional educators are more likely to punish physical aggression, but do nothing in response to relational aggression (Kochenderfer-Ladd, & Pelletier, 2008). Early childhood

professionals' and teachers' lack of response to relational aggression may communicate to children that relationally aggressive behaviours are acceptable (Young et al., 2006). Similarly, adults' responses to relationally aggressive behaviours may reinforce children's negative behaviours (Young et al., 2006), as their negative behaviour has been successful in achieving a goal (e.g., exclusion of a peer) and/or the negative behaviour has not led to a negative consequence. For example, if a young child threatens another child by saying, 'If you don't give me your toy, I won't be your friend', and the other child provides the toy, and no intervention is provided by the teacher, it is highly likely that the child will continue to engage in such negative behaviour in the future.

Given that relational aggression is associated with negative outcomes and early childhood professionals and teachers may be inadvertently contributing to the occurrence of relationally aggressive behaviours through non-intervention or limited negative consequences for relationally aggressive behaviours, it seems important to raise awareness of this behaviour within early childhood and school populations. Two possible explanations of relational aggression are evident in current research approaches and these will now be explored to better understand why young children engage in relational aggression.

The Development of Relationally Aggressive Behaviours

The development of relationally aggressive behaviours has predominately been associated with social cognitive explanations. First, social information processing explanations suggest that the aggressive child (and potentially the bully) may lack social skills (Crick & Dodge, 1994). In the second explanation, others have considered that bullies may possess a sophisticated theory of mind that makes them quite adept at using their social skills to manipulate social situations to achieve personal goals or obtain a desired object (Sutton, Smith, & Swettenham, 1999a). Crick and Dodge's (1994) reformulated social information processing model proposes that socially competent children are skilled at processing social information according to the six stages of the model, whereas aggressive children attend to fewer social cues and are more likely to attribute a hostile intention to an ambiguous social situation and are more likely to choose an aggressive solution when engaging in social conflicts (Crick & Dodge, 1994).

While deficits in sociocognitive skills have been suggested as important predictors of physical aggression (Crick & Dodge, 1994), it can be argued that social information processing deficits may not explain all types of aggressive behaviours. For example, Hayward and Fletcher (2003) assessed hostile attribution bias and feelings of distress towards relational aggression hypothetical scenarios in an Australian sample of primary and high school students and found that relationally aggressive children did not differ in their social information processing abilities. Further, the use of indirect forms of aggression has been linked to social intelligence (Björkqvist et al., 2000; Kaukiainen et al., 1999) and social competence (Hawley, 2003; Sutton, Smith, & Swettenham, 1999b) in middle childhood and early adolescence. Björkqvist and colleagues (2000) suggest that socially intelligent children choose to act in ways that expose them to the least amount of danger and risks. It is not surprising then that Björkqvist and colleagues (2000) found that children who had higher levels of peer rated social intelligence engaged in higher levels of indirect aggression as this form of behaviour is 'safer' and less identifiable by teachers, leading to fewer behavioural consequences. Similarly, children who engage in prosocial behaviours use their social intelligence to display the required behaviour to achieve their own social goals. This suggests that social cognitive skills typically used to engage in prosocial behaviours may also be used for negative purposes such as aggression.

Given that aggression may be associated with social competence and social intelligence, it is plausible to suggest that children who bully others may also have an intact, superior theory of mind (Sutton et al., 1999b). Theory of mind can be defined as "the ability of individuals to attribute mental states to themselves and others in order to explain and predict behaviour" (Sutton et al., 1999b, p. 436). Research suggests that theory of mind skills are used by children to conceal or clarify their motives in order to manipulate social situations. For example, Ostrov (2006) found that by the age of three children use deceptive behaviours to manipulate others, to gain control of toys or other desired objects, and to avoid responsibility and punishment for bad behaviour. Many of the inconsistencies found in theory of mind and aggression research are related to measurement limitations of theory of mind. Much research exploring the role of theory of mind as a contributor to social behaviours has been limited to using children's understanding on a single false belief task as a marker of their overall theory of mind development (Astington & Jenkins,

1999). However, most researchers are now recognizing that false belief is only one of many aspects of theory of mind development and understanding (e.g., Flavell & Miller, 1998). Therefore, this study will explore young children's understanding of intentions, desires, knowledge, false belief, and emotions to determine if these theory of mind skills contribute to relationally aggressive and prosocial behaviours in an Australian sample of preschool children.

Extensive research has shown that theory of mind and social behaviours develops rapidly during the preschool period (Wellman & Liu, 2004) and variation in theory of mind development and social behaviours is evident in both boys and girls (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). Therefore, the role of age and gender in contributing to theory of mind development and social and non-social behaviours during the preschool period needs to be explored.

Age and gender

Research studies have found evidence suggesting that physical aggression is more common and socially accepted among boys (Crick & Grotpeter, 1996), whereas relational aggression is more reflective of girls' aggressive behaviours (Bjorkqvist et al., 1992). More recently, an Australian study found no difference between boys' and girls' participation in relational aggression during primary and high school (Hayward & Fletcher, 2003).

Despite the lack of gender differences in the display of relational aggression, there is the suggestion that girls' and boys' use of theory of mind skills differ. Villanueva and colleagues (Villanueva, Clemente, & Garcia, 2000) assessed theory of mind and found that girls identified as popular performed better in tasks assessing lying and deception. Interestingly, it was found that girls did not use these theory of mind skills for negative purposes. However, Walker (2005) examined theory of mind in 3 to 5-year-old children and found that boys who scored high on false belief tasks were rated as more aggressive by their teachers. These findings highlight the equivocal nature of theory of mind as a predictor of relational aggression, in that superior theory of mind development is not necessarily used for negative purposes such as aggression. Based on previous research exploring social cognitive skills in aggressive children, it can be argued that the previous perception of the aggressor lacking self-esteem and social skills has been challenged. The current study is

predicated on the notion that during the preschool years, theory of mind development undergoes important development changes (Wellman, Cross, & Watson, 2001). Extensive evidence has been reported to suggest that theory of mind is an important predictor in both adaptive and maladaptive social behaviours. To date, no published research has been conducted exploring the role of theory of mind and prosocial behaviours in predicting relationally aggressive behaviours in Australian preschool-age populations. As such, this study aims to investigate the relationship between early childhood relational aggression and prosocial behaviours and the level of theory of mind development of young children. This study will also evaluate the age and gender differences in the display of relational aggression, prosocial behaviour, and the development of theory of mind to determine whether Australian children differ in this regard.

Methodology

Participants

Participants were 60 children (25 girls; 35 boys) between the ages of 37 and 62 months ($M = 50.0$; $SD = 6.7$) and their teachers. Participants were recruited from eight classrooms in five early childhood centres located in the Western Sydney region. Written parental consent and verbal child assent were sought for each child's participation.

Measures

Teacher ratings of aggression

The Preschool Social Behaviour Scale – Teacher Form (PSBS-TF; Crick et al., 1997) was used to assess teacher reports of children's relational aggression and prosocial behaviour. This instrument consists of 10 items, six of which assessed relational aggression (e.g., "This child tries to get others to dislike a peer," "This child tells a peer they won't be invited to their birthday party unless s/he does what the child wants"); and four of which assessed prosocial behaviour (e.g., "This child is helpful to peers"). Teachers rated the degree to which each participating child exhibited relational aggression and prosocial behaviours towards their peers using a 5-point rating scale (1=never or almost never true to 5=always or almost always true). Previous research has supported the favourable psychometric properties of the

PSBS-TF (e.g., Crick et al., 1997; Hawley, 2003; Murray- Close & Ostrov, 2009). In the current study Cronbach's alpha was .93 for relational aggression and .84 for prosocial behaviour, which is similar to previous reports.

Theory of mind assessment

Theory of mind development was measured using a scaled set of five tasks assessing diverse desires, diverse beliefs, knowledge access, contents false-belief, and real-apparent emotion (Wellman & Liu, 2004). Briefly, diverse desires assesses the child's ability to judge that other people can have differing desires from one's own regarding the same object; diverse beliefs judges differing beliefs about the same object when the truth is unknown; knowledge access assesses the ability to comprehend the fact that others do not necessarily know what one knows; contents false belief tests whether the child can correctly judge another person's false belief by overcoming their own knowledge; and real-apparent emotion assesses whether a child understands that a person can feel one thing but outwardly display a different emotion. Participants were required to pass any control questions, as well as the test question in order to pass the task. The theory of mind measure performed as expected; as each task became progressively harder, fewer participants passed these tasks. As such, the theory of mind measure followed a consistent Guttman scale. These tasks are variants of widely used theory of mind tasks and validation has been demonstrated (Peterson, Wellman, & Liu, 2005).

Procedure

This study was reviewed and approved by the university research ethics committee before the study commenced. Data collection began two months after the beginning of the preschool year so that the children would know each other and teachers would be good informants of their behaviour. Participating teachers completed the Preschool Social Behaviour Scale – Teacher Form (PSBS-TF; Crick et al., 1997) for each participating child before the theory of mind assessments were completed. All teacher reports were collected after the theory of mind assessments were completed to avoid any potential bias in scoring theory of mind responses. Each participant was assigned a total relational aggression score and a total prosocial score based on teacher assessment of these behaviours.

The theory of mind tasks were administered individually to participating children in a quiet area of their classroom. The five tasks were presented in the same order for all participants (diverse desires, diverse beliefs, knowledge access, contents false-belief, and real-apparent emotion). Consistent with Wellman and Liu's (2004) procedure, a Guttman scale was used to assign each participant with a total theory of mind score.

Results

Descriptive Statistics

The means and standard deviations of relational aggression, prosocial behaviour and theory of mind for the total sample and by gender and age are presented in Table 1. Teachers reported that 20 percent ($n = 12$) of the participants engaged in high levels of relational aggression, whereas 70 percent ($n = 42$) engaged in high levels of prosocial behaviours. Further, teachers reported that 29 percent ($n = 17$) of the participants engaged in high levels of both relational aggression and prosocial behaviours. Consistent with previous research, t-tests for independent samples indicated that older children (4.5-5.2 years) ($M = 14.4$, $SD = 5.7$) received significantly higher scores for relational aggression than younger children (3.0-4.4 years) ($M = 9.8$, $SD = 4.7$) as indicated by their teachers ($t(58) = -3.30$, $p = .002$). No gender differences were observed on measures of relational aggression ($t(58) = 1.22$, $p = .22$), prosocial behaviour ($t(58) = .172$, $p = .86$) or theory of mind ($t(58) = -.412$, $p = .68$).

Table 1. Means and Standard Deviations for Relational Aggression, Prosocial Behaviour, and Theory of Mind for the Total Sample, and by Gender and by Age

Variable	Total Sample ($N = 60$)	Girls ($n = 25$)	Boys ($n = 35$)	Age (3.0- 4.4 years) ($n = 38$)	Age (4.5 – 5.2 years) ($n = 22$)
Teacher Ratings					
Relational Aggression	11.4 (5.5)	12.6 (6.3)	10.8 (4.8)	9.89 (4.7)	14.45 (5.7)
Prosocial Behaviour	15.0 (3.11)	15.2 (3.3)	15.0 (3.0)	15.2 (3.4)	14.9 (2.6)
Cognitive Standard Score					
Theory of Mind	2.1 (1.0)	2.1 (.92)	2.2 (1.0)	2.1 (.89)	2.3 (1.1)

Relational Aggression, Prosocial Behaviour, and Theory of Mind

In order to evaluate the relationship between relational aggression, prosocial behaviour, and theory of mind, bivariate correlations were computed. As seen in Table 2, a statistically significant negative correlation was found between teacher ratings of relational aggression and prosocial behaviour ($p < .001$). No statistically significant correlations were found between teacher ratings of relational aggression and the theory of mind construct ($p = .316$). Similarly, no significant association was found between teacher ratings of prosocial behaviour and the theory of mind construct ($p = .272$).

Table 2. Correlations Among Measures of Relational Aggression, Prosocial Behaviour, and Theory of Mind

	1	2	3
Social Behaviour			
1. Teacher-rated relational aggression	-		
2. Teacher-rated prosocial behaviour	-.453*	-	
Social Cognition			
3. Theory of Mind	-.132	.144	-

* $p < .001$.

Prosocial Behaviour, Theory of Mind, Age, and Gender as Predictors of Relational Aggression

A simple regression was run to determine the individual contribution of prosocial behaviour, theory of mind, age, and gender in predicting relational aggression. Results of this regression are presented in Table 3. The analysis including all the predictors accounted for 38 percent of the variation in relational aggression ($R^2 = .38$; $R^2_{adj} = 34\%$) and overall the relationship was statistically significant ($F(4,55)=8.63$, $p < .001$). With other variables held constant, age (as a continuous variable of age in months) was a significant positive predictor of relational aggression, while teacher ratings of prosocial behaviour remained a substantial predictor of relational aggression when age was controlled ($t = -3.46$, $p < .001$). The predictors of theory of mind and participant's gender made no significant contributions to predicting relational aggression ($p = .347$; $p = .117$). Interactions between all the variables were also examined in predicting relational aggression. No interactions were found between prosocial behaviour and age ($p = .299$), prosocial behaviour and gender ($p = .384$), prosocial behaviour and theory of mind ($p = .379$), theory of mind and age ($p = .977$) and theory of mind and gender ($p = .960$) in predicting relational aggression.

Table 3. Regression Analyses Predicting Relational Aggression from Prosocial Behaviour, Theory of Mind, Age and Gender

Predictors	b	SE	β	t
Prosocial Behaviour	-.66	.19	-.37	-3.46*
Theory of Mind	-.56	.59	-.10	-.94
Gender	-1.88	1.18	-.16	-1.59
Age	.325	.08	.39	3.65*

* $p < .001$.

Note. $R^2 = .38$.

Gender and Age Differences in Prosocial Behaviour and Theory of Mind

To assess gender differences in prosocial behaviour and theory of mind, an independent t-test comparing boys and girls was conducted. Interestingly, no significant differences were found in teachers' rating of prosocial behaviour for girls ($M = 15.2$, $SD = 3.3$) and boys ($M = 15.0$, $SD = 3.0$), $t(58) = 1.72$, $p = .864$. Similarly, no gender differences were found between girls' ($M = 2.1$, $SD = .92$) and boys' ($M = 2.2$, $SD = 1.0$) performance on the theory of mind measure, $t(58) = -.412$, $p = .682$.

Further independent t-tests were conducted to assess potential developmental stage differences in prosocial behaviour and theory of mind development. In this analyses age grouping replicated the groupings used in previous validation studies of the theory of mind scale (Peterson, Wellman, & Liu, 2005) to enable comparison of findings for older and younger age groups. As such, participants were divided into two age groupings; Group 1 consisted of participants aged between 3.0 years and 4.4 years and Group 2 consisted of participants aged between 4.5 years and 5.2 years. Given the developmental differences in theory of mind performance, children at a younger developmental stage were expected to have lower theory of mind scores than developmentally older children. Surprisingly, no significant differences were found between the older ($M = 2.3$, $SD = 1.1$) and younger age groups ($M = 2.1$, $SD = .89$) and children's performance on the theory of mind measure, $t(58) = -.792$, $p = .431$. As expected, teachers reported that older children ($M = 14.4$, $SD = 5.7$) engaged in significantly more relational aggression than younger children ($M = 9.8$, $SD = 4.7$), $t(58) = -.3.30$, $p = .002$. No significant differences were found in teachers' ratings of prosocial behaviour between older ($M = 15.2$, $SD = 3.4$) and younger age groups ($M = 14.9$, $SD = 2.6$), $t(58) = .302$, $p = .764$.

Discussion

This study was designed to build and extend on past literature in several ways. Given the equivocal nature of previous studies exploring aggression and theory of mind development, this study aimed to explore whether theory of mind development, when assessed with a comprehensive range of theory of mind tasks would predict relationally aggressive behaviours during the preschool-age period. This study also aimed to explore the relationship between relational aggression, prosocial behaviour, and theory of mind development in an Australian sample, and whether these factors were different when age and gender was considered. Sutton and colleagues (1999a) argued that relational forms of aggression require more consideration of others' mental states and emotions than physical or verbal forms. This has been supported by numerous studies that have found positive correlations between indirect aggression and peer-rated social intelligence (Kaukiainen et al., 1999; Björkqvist et al., 2000) and superior theory of mind skills in children identified as ringleader bullies (Sutton et al., 1999b). Contrary to these findings, the current study did not find a positive association between relational aggression and theory of mind development in Australian preschool-age children when theory of mind was assessed using a comprehensive range of tasks.

The second aim of this study was to explore the relationship between relational aggression, prosocial behaviour, and theory of mind. Interestingly, results indicate that a significant negative relationship is evident between relational aggression and prosocial behaviour, suggesting that children who engage in high levels of prosocial behaviour display few relationally aggressive behaviours. Further, results did not indicate a significant relationship between theory of mind and prosocial behaviour. While prior research has found that success on false belief tasks is associated with higher levels of prosocial behaviour (Watson et al., 1999) and that higher levels of prosocial behaviour are related to lower levels of relational aggression (Ostrov, Woods, Jansen, Casas, & Crick, 2004), the link between these variables may be more complex than a linear, negative relationship (Persson, 2005). Research has found that empathy may moderate the types of aggressive behaviours used by children (Kaukiainen et al., 1999) and promote prosocial behaviours (Caravita, Di Blasio, & Salmivalli, 2009). Therefore, empathy may be a crucial factor in determining whether theory of mind skills are used to more effectively harm and manipulate others through aggressive means or for prosocial purposes. As such,

future research may consider the mediating role empathy plays in preschool children's social cognitive understanding and their use of social and non-social behaviours.

The final goal of this study was to examine age and gender differences in the display of relational aggression, prosocial behaviour, and theory of mind development. Interestingly, the results of this study found no significant differences between the amount of relational aggression engaged in by boys and girls as reported by their teachers. This finding is consistent with the findings reported by Hayward and Fletcher (2003) on the lack of differences between Australian boys' and girls' engagement in relational aggression at the primary and high school level. This supports the suggestion that Australian children differ in their engagement in relational aggression when compared to other countries. Contrary to previous research, no gender differences were observed on measures of prosocial behaviour and theory of mind.

Results extend prior work with preschool-age children by demonstrating that teachers can identify relational aggression within this age group (Crick & Grotpeter, 1996). Not surprisingly, results of this study suggest that children aged 4.5-5.2 years engage in significantly more relational aggression when compared to children aged 3.0-4.4 years. This is consistent with previous research, which has suggested that relational aggression increases with age while physical aggression decreases (Björkqvist et al., 1992). In order to identify the role age plays in the display of relational aggression, more research needs to be conducted examining the development of relationally aggressive behaviours in preschool-age children, and whether the increase in relational aggression with age is due to the complexities of children's social networks and/or an increase in the sophistication of their cognitive abilities (Crick & Rose, 2000).

Theoretical and Practical Implications

Research has shown that interventions targeting aggressive behaviours in children focus on biased or low sociocognitive skills (Boxer, Goldstein, Musher-Eizenman, Dubow, & Heretick, 2005). Walker (2005) suggested that theory of mind training may not contribute to a decrease in aggressive behaviours in young children unless empathic skills and prosocial behaviour are taught alongside theory of mind.

Therefore, teachers and early childhood professionals can develop activities that allow children to practice appropriate social skills such as assertiveness, turn taking, sharing, and cooperating with others. These prosocial behaviours will help prevent other children from conforming to similar behaviours displayed by aggressive children. Further, schools and teachers can implement the PRAISE (Preventing Relational Aggression in Schools Everyday) program (see Leff et al., 2010 for an evaluation), which is an example of an intervention program where teachers are active collaborators in preventing relational aggression. Programs such as PRAISE may assist in raising awareness of the damaging effects of relational aggression. Based on the results of this study, teachers and early childhood professionals need to be aware that older children within the class may be at risk of displaying relationally aggressive behaviours.

Strengths and Limitations

The present study is the first known empirical investigation to examine relational aggression in young children in Australia. Another strength of this study includes the use of a comprehensive range of theory of mind tasks to assess the complex construct of theory of mind. Despite the strengths of this study, several limitations exist. First, a small sample size was evident when analyzing only boys ($n = 35$) or girls ($n = 25$). Therefore, caution should be taken when interpreting findings for gender. A further limitation to this study is the reliance on teacher reports of relational aggression and prosocial behaviour. It can be suggested that teacher reports should be used along side observational, peer, and parent data. Further, this study only assessed reports of relational aggression and prosocial behaviour. More information regarding the different types of aggression experienced by preschool-age children may provide more accurate information regarding teacher identification of aggression. Moreover, the use of relationally aggressive behaviours is related to variables that were not measured in this study, evidenced by the fact that the regression model for this study only captured a commendable, yet modest, 38 percent of the variance in relational aggression.

Conclusion

The results of the present study maintain the equivocal nature between relational aggression and theory of mind development, in that theory of mind

explanations per se may not be very useful in understanding the development of aggression in Australian early childhood populations, in that using sophisticated theory of mind skills can lead to prosocial behaviour and/or bullying behaviour. Although the development and use of relationally aggressive behaviours could not be explained by theory of mind in this study, it remains a great concern that teachers identified 20 percent of the participants as highly aggressive. As such, further research is clearly needed to explore the role that other developmental, social cognitive, and environmental factors play in the development and maintenance of aggressive behaviours in Australian preschool-age children.

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APPENDIX C

TEACHER AND PARENT NORMATIVE BELIEFS QUESTIONNAIRE

In this questionnaire you will read four fictional stories about common social situations that occur in preschools. Please answer each of the following questions about each story and record the number of your response in the appropriate box.

In your opinion, how serious is this situation?	<div>Not at all serious</div> <div>Not very serious</div> <div>Moderately serious</div> <div>Serious</div> <div>Very serious</div> <div>12345</div>
I would be upset by the child's behaviour and feel sympathetic for the victim.	<div>Strongly disagree</div> <div>Disagree</div> <div>Neither agree nor disagree</div> <div>Agree</div> <div>Strongly agree</div> <div>12345</div>
How likely are you to intervene in this situation?	<div>Not at all likely</div> <div>Not very likely</div> <div>Somewhat likely</div> <div>Likely</div> <div>Very likely</div> <div>12345</div>

If you would intervene, what would you do with the perpetrator? If you are not likely to intervene, why not?

Provide a brief comment

	In your opinion how serious is this situation?	I would be upset by the child's behaviour and feel sympathetic for the victim	How likely are you to intervene in this situation?	If you would intervene, what would you do with the perpetrator? If you are not likely to intervene, why not?
At the craft table you overhear a child say to another child, "If you don't let me have the purple crayon, I won't invite you to my birthday party."				
A child brought a new dinosaur toy to school, boasting to friends that it was a prize. Another child goes over and hits the child on the arm, demanding the dinosaur toy.				
During free play you witness a child say to another child, "No. I already told you that you can't play with us." The child is left isolated and plays alone.				
The group is getting ready to go outside and the children are in line at the door. You see a child push another child to the ground in order to get to the front of the line.				

APPENDIX D

TEACHER INTERVIEW PROTOCOL

Interview Questions:

What are some of the positive behaviours you see among your students?

What are some of the negative behaviours you see among your students?

What sorts of behaviours would you call aggressive?

Describe the type of student that is more likely to show positive behaviours?

Describe the type of student that is more likely to show aggressive behaviours?

What sorts of negative behaviours do you expect boys to engage in?

What sorts of positive behaviours do you expect boys to engage in?

What sorts of negative behaviours do you expect girls to engage in?

What sorts of positive behaviours do you expect girls to engage in?

Where do you think children learn these types of behaviours?

APPENDIX E

Teacher Report of Child Social Behaviour and Development

Child's Name _____	Child's sex: Male or Female?
Teacher's Name _____	Age _____

Please rate this child against each of these behaviours.

	Never or almost never true	not often	some times	often	always or almost always true
1. This child kicks or hits others.	1	2	3	4	5
2. This child is helpful to peers.	1	2	3	4	5
3. This child tells a peer that he/she won't play with that peer or be that peer's friend unless he/she does what this child asks.	1	2	3	4	5
4. This child verbally threatens to hit or beat up other children.	1	2	3	4	5
5. This child pushes or shoves other children.	1	2	3	4	5
6. This child tells others not to play with or be a peer's friend.	1	2	3	4	5
7. This child doesn't have much fun.	1	2	3	4	5
8. When mad at a peer, this child keeps that peer from being in the play group.	1	2	3	4	5
9. This child verbally threatens to physically harm another peer in order to get what they want.	1	2	3	4	5
10. This child gets hit, kicked, or pinched by peers.	1	2	3	4	5
11. This child ruins other peer's things (e.g. art projects, toys) when he/she is upset.	1	2	3	4	5
12. This child tells a peer they won't be invited to their birthday party unless he/she does what the child wants.	1	2	3	4	5
13. This child tries to get others to dislike a peer (e.g. by whispering mean things about the peer behind the peer's back).	1	2	3	4	5
14. This child gets ignored by peers when they are mad at him/her.	1	2	3	4	5
15. This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says.	1	2	3	4	5
16. This child hurts other children by pinching them.	1	2	3	4	5
17. This child is good at sharing and taking turns.	1	2	3	4	5
18. This child is well liked by peers of the <u>same</u> sex.	1	2	3	4	5
19. This child is well liked by peers of the <u>opposite</u> sex.	1	2	3	4	5
20. This child gets help from peers when he/she needs it.	1	2	3	4	5
21. This child is kind to peers.	1	2	3	4	5
22. This child says or does nice things for other kids.	1	2	3	4	5

APPENDIX F

OBSERVATION CODING SYSTEM

	Coder Initials:	Time:	Date:	Location:
Child Code:	Session #:	Teacher Code:	School Code:	
Gender:				
	BEHAVIOURS DISPLAYED Add in gender of all children involved in the situation		FUNCTION AND RESPONSE OF BEHAVIOURS Physical aggression (PA); Relational aggression (RA); Seeking assistance (SA); Teacher intervenes (TI); Proactive (PR); Reactive (RE)	
Physical Aggression (PA) (e.g., Hit, slap, push, take toy, threats of physical agg: "I'll pinch you if you don't give me that...")				
Relational Aggression (RA) (e.g., Exclusion from group/activity, gossip, secrets, directly or indirectly ignores peer, saying, "I will not be your friend unless...")				
Prosocial Behaviour (PS) (e.g., helping, sharing)				

APPENDIX G

RELATIONAL AND PHYSICAL AGGRESSION VIGNETTES ENACTED FOR THE *SOCIAL COGNITIVE INTERVIEW*

Scenario 1: Physical Aggression
A child is playing with some toys. Another child throws a toy at the child.
Scenario 2: Relational Aggression
Two children are playing with the train set on the floor. Another child comes over and starts playing with the trains too. The children playing say to the other child, "You can't play with us. GO AWAY!"
Scenario 3: Physical Aggression
This child is building a block tower. Another child comes over and knocks over the block tower.
Scenario 4: Relational Aggression
A child is building a sandcastle. Another child comes over and asks to play. The child in the sandpit says "NO! You're not my friend!"

APPENDIX H

ETHICS APPROVAL RECEIVED FROM MACQUARIE UNIVERSITY

RE: HS Ethics Final Approval (5201200783)(Condition met)

11/6/1

Fhs Ethics
<fhs.ethics@mq.edu.au>

2

to
Dr, Dr, me

Dear Dr McMaugh,

Re: "Social and Non-Social Behaviours in Preschoolers and Teacher and parent perceptions about these Behaviours"(5201200783)

Thank you for your recent correspondence. Your response has addressed the issues raised by the Faculty of Human Sciences Human Research Ethics Sub-Committee and you may now commence your research.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

Dr Anne McMaugh
Dr Wayne Warburton
Mrs Cara Simone Swit

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).

2. Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 6th November 2013

Progress Report 2 Due: 6th November 2014

Progress Report 3 Due: 6th November 2015

Progress Report 4 Due: 6th November 2016

Final Report Due: 6th November 2017

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Sub-Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

4. All amendments to the project must be reviewed and approved by the Sub-Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

5. Please notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University.

This information is available at the following websites:

<http://www.mq.edu.au/policy>

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/policy

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have final approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

If you need to provide a hard copy letter of Final Approval to an external organisation as evidence that you have Final Approval, please do not hesitate to contact the Ethics Secretariat at the address below.

Please retain a copy of this email as this is your official notification of final ethics approval.

Yours sincerely,

Dr Peter Roger
Chair
Faculty of Human Sciences Ethics Review Sub-Committee
Human Research Ethics Committee

Faculty of Human Sciences - Ethics
Research Office
Level 3, Research HUB, Building C5C
Macquarie University
NSW 2109

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APPENDIX I

TEACHER CONSENT FORM

Department of Education

Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109

Phone: +61 (02) 9850 8722

Fax: +61 (02) 9850 8674

Email: cara.swit@students.mq.edu.au

Chief Investigator's / Supervisor's Name: Anne McMaugh

Chief Investigator's / Supervisor's Title: Dr.

Teacher Information and Consent Form

Name of Project: Child, parent and teacher perceptions of preschooler's social behaviours.

You are invited to participate in a study exploring preschool (3- to 5-years old) children's use of different social behaviours and the influences on children's choice of these behaviours. The purpose of the study is to 1) explore the frequency and nature of preschool children's use of different social and non-social behaviours, 2) to investigate children's understanding of these different social and non-social behaviours, and 3) to understand teacher and parent perceptions of these behaviours.

The study is being conducted by Cara Swit to meet the requirements of Doctor of Philosophy at Macquarie University. Cara is supervised by Dr Anne McMaugh, ((02) 9850 8663; anne.mcmaugh@mq.edu.au) of the Department of Education and Dr Wayne Warburton ((02) 9850 8643; wayne.warburton@mq.edu.au) of the Department of Psychology.

If you consent to participating in this study, you will take part in the following activities:

Demographic survey

You will be asked to complete a brief demographic survey asking questions about your age, gender, the highest level of education you have obtained and any training you have received on child behaviour. This will take approximately one minute to complete.

Child behaviour and social development questionnaire

You will be asked to complete a child behaviour and social development questionnaire on each preschool age child participating in the study. This questionnaire asks you to identify how often each child engages in social and non-social behaviours, their level of peer acceptance and general happiness at preschool. This will take approximately 3-4 minutes to complete for each child.

Teacher perceptions of social and non-social behaviours

You will be asked to read four scenarios that commonly occur within young children's social settings. You will be asked some questions about these scenarios. This will take approximately 5 minutes to complete.

Teacher interview

You will be asked to complete a brief 10 minute interview exploring your experiences of specific social behaviours identified in childcare settings.

What will be expected of the children involved in the study?

Children involved in the study will take part in the following activities:

Children's opinion about different social behaviours

A subgroup of children in the study will participate in the scenario activity. I will use Duplo toy figurines and pictures to tell these children nine scenarios about different social situations. The children will be asked some questions about their perceptions of the scenario and how they would respond in similar situations. An example of a scenario may be: a child is shown two Duplo children and told that the girl snatched the ball from the other girl. The child is then asked about whether it was okay to snatch, what they think the girl would do next and how they would respond if it happened to them. It is expected that this activity will take 10 minutes to complete with each child.

Observation

The same subgroup of children will be observed playing and interacting with their friends and adults during free play. During these observations I will take notes on specific social and non-social behaviours that children use when playing with each other and with other adults. Children will be observed for 20 minutes on four different occasions. After each 20 minute observation period a short video replay will be shown to the children. Children will be asked questions about why they chose to use particular behaviours during the social situation.

With your permission and permission from the children and their parents, the interview and observations will be video and audio recorded. These recordings will only be used to analyse the information collected. If you, the child's parents or the children do not wish to be recorded, they do not have to. There may be a small chance that teachers and/or children who do not wish to be recorded will be recorded incidentally but these recordings will be deleted and not used in the research study.

How will this study impact on centre staff?

Although it is hoped this study will cause no inconvenience to the centre's staff, your expertise and assistance will be greatly appreciated during several stages of the study.

Recruitment

You will be asked to provide all parents of preschool age children (3- to 5 years) with a research pack which will include information about the study as well as questionnaires for parents to complete. A locked box will be kept at the centre for parents to return their research packs.

Designated space

It would be helpful to have a designated space in the centre such as a corner of the classroom with a table and chairs, in which children can participate in the required activities. This area will be visible to staff at all times.

Any information or personal details gathered in the course of the study are confidential. The results of this project will be presented in the form of a journal article and/or at a conference. No individual will be identified in any publication of the results. Only I, my supervisors, Dr. Anne McMaugh and Dr. Wayne Warburton, and a research assistant will have access to the information collected, however, this will not

include identifying names at the completion of the study. A summary of the results will be made available to your centre and parents at the completion of the study.

Parents, children and teachers are not obligated to participate in this study and their participation is voluntary. If they decide to participate, they are free to withdraw at any time without having to give a reason and without consequence.

Regards,

Cara Swit

I, _____ have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I agree to the observations during free play video recorded. I have been given a copy of this form to keep.

Participant's Name:

(block letters)

Participant's Signature:

Date:

Investigator's Name: Cara Swit

Investigator's Signature:

Date:

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone [02] 9850 7854, fax [02] 9850 8799, email: ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(PARTICIPANT / INVESTIGATOR'S COPY)

PARENT CONSENT FORM

Department of Education

Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109

Phone: +61 (02) 9850 8722

Fax: +61 (02) 9850 8674

Email: cara.swit@students.mq.edu.au

Chief Investigator's / Supervisor's Name: Anne McMaugh

Chief Investigator's / Supervisor's Title: Dr.

Parent Information and Consent Form

Name of Project: Child, parent and teacher perceptions of preschooler's social behaviours.

You are invited to participate in a study exploring preschool (3- to 5-years old) children's use of different social behaviours and the influences on children's choice of these behaviours. The purpose of the study is to 1) explore the frequency and nature of preschool children's use of different social and non-social behaviours, 2) to investigate children's understanding of these different social and non-social behaviours, and 3) to understand teacher and parent perceptions of these behaviours.

The study is being conducted by Cara Swit to meet the requirements of Doctor of Philosophy at Macquarie University. Cara is supervised by Dr Anne McMaugh, ((02) 9850 8663; anne.mcmaugh@mq.edu.au) of the Department of Education and Dr Wayne Warburton ((02) 9850 8643; wayne.warburton@mq.edu.au) of the Department of Psychology.

If you consent to participating, you will take part in the following activities:

Demographic Survey

You will be asked to complete a brief demographic survey asking questions about your age, gender, the highest level of education you have completed, and the gender and ages of any siblings that the participating child has.

Your opinion about different social behaviours

You will be asked to read four scenarios that commonly occur within young children's social settings. You will be asked some questions about these scenarios. This will take you approximately 10 minutes to complete.

What will your child be doing?

If you consent to your child participating, he/she will take part in the following activities.

How often your child uses different social behaviours

Your child's teacher will rate how often your child engages in social behaviours such as sharing and taking turns and non-social behaviours such as not including other peers in the group.

Your child's opinion about different social behaviours

I will use Duplo toy figurines and pictures to tell your child nine scenarios about different social situations. Your child will be asked some questions about their perceptions of the scenario and how they would respond in these situations. An example of a scenario may be: your child is shown two Duplo children and told that the girl snatched the ball from the other girl. Your child is then asked about whether it was okay to snatch, what they think the girl would do next and how they would respond if it happened to them. It is expected that this activity will take 10 minutes to complete with your child.

Observation

I will observe your child playing and interacting with his/her friends and adults during free play. During these observations I will take notes on specific social and non-social

behaviours that children use when playing with each other and with other adults. I will observe your child for 20 minutes on four separate occasions. During observation of your child, I will audio and video record your child. After each 20 minute observation period a short video replay will be shown to your child. Your child will then be asked questions about why they chose to use particular behaviours during different social situation. These recordings of observations will only be used to analyse the information collected and will be stored in a secure location. If you wish for your child not to be recorded, please let me know. I will always ask your child for permission too. Please note that there may be a small chance that children who do not have permission to be recorded, still may be recorded incidentally due to the nature of children's free play but these recordings will be deleted and not used in the research study.

What will happen with the information you and your child give me?

Any information or personal details gathered in the course of the study are confidential. The results of this project will be presented in the form of a journal article and/or at a conference. You and your child will not be identified in any publication of the results. Only I, my supervisors, Dr. Anne McMaugh and Dr. Wayne Warburton, and a research assistant will have access to the information collected. A summary of the results will be made available to you at the completion of the study.

What will happen if your child doesn't want to do the activities or appears upset?

I will do all I can to ensure that this is a fun experience for your child. If you consent to your child participating, I will talk to them about the study and the type of activities I would like them to do. Participation in this study is entirely voluntary: your child is not obliged to participate and if you decide to participate, you are free to withdraw at any time without having to give a reason and without consequence. If your child chooses not to participate in this study, or requests to withdraw from the tasks, they will be free to return to their regular activities without having to give a reason and without consequence.

What do you need to do?

It would be great for you to talk to your child about the research. If you are happy for you and your child to participate please complete the consent form below. The brief survey and parent perception questionnaire are included in this research pack. It would be very helpful if you could complete these and return these with the consent form. Or you may use the extra envelope to post them back to me or drop them to the centre sometime in the next week or so. You also have the option to complete the brief surveys through an online system. Please refer to the instruction sheet in this research pack for the website details to access the online surveys.

What will you receive for your participation?

Your participation is valuable to us, so we will offer you a \$10 Coles/Myer gift voucher as a small token of our appreciation.

I, _____ have read and understand the information above and any questions I have asked have been answered to my satisfaction. I _____ agree to participate as a parent/caregiver in this research study. I also agree to allow _____ to participate in this research, knowing that s/he can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Parent/Caregiver's Name:

(block letters)

Child's Name:

Parent/Caregiver's Signature:

Date:

Investigator's Name: Cara Swit

Investigator's Signature:

Date:

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations

about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (Phone: 02 9850 7854; Email: ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(PARTICIPANT / INVESTIGATOR'S COPY)

APPENDIX J

TEACHER DEMOGRAPHIC SURVEY

Name:

Gender: Male Female (please circle)

Age:

What is your level of training?

- TAFE (Diploma, Certificate)

- University degree (please identify the course you completed, e.g., Bachelor of Education – Early Childhood)

- Currently completing TAFE

- Currently completing University degree

- Other

How long have you worked in early childhood settings for? _____

Have you attended any child behaviour training during your career? If so, please outline what this course entailed.

Thank you for your time.

PARENT DEMOGRAPHIC SURVEY

Name:

Postal Address (Your gift card will be mailed to this address – your address will NOT be used for any other purpose):

Gender: Male Female (please circle)

Age:

What is the highest level of education you have completed? (Please circle)

Years 10-11

Year 12 or equivalent

TAFE (Diploma, Certificate)

University degree (Bachelor)

Master's degree

Doctoral degree

Other

How many siblings does the participating child have?

Sibling 1: GENDER _____ AGE _____

Sibling 2: GENDER _____ AGE _____

Sibling 3: GENDER _____ AGE _____

Sibling 4: GENDER _____ AGE _____

Sibling 5: GENDER _____ AGE _____

Sibling 6: GENDER _____ AGE _____

Thank you for your time.

APPENDIX K

TRANSCRIPT ONE – STUDY THREE

Focal child: AJ, ML am I allowed on?

AJ: When ML finishes ok.

Focal child: I want to go on AJ!

AJ: When ML is finished.

Focal child: Well then I'm not your friend.

AJ: You have to wait.

[AJ and ML continue to ride the bike and the focal child follows the girls]

Focal child: Then I'm not your friend.

AJ: Why don't you go and play with somebody else?

Focal child: Then I'm not your friend!

AJ: ML...

ML: [Turns to focal child] I'm on the bike and you're not having a turn.

[The focal child walks off and continues to play by herself while AJ and ML continue to ride the bike. After a short period the focal child approaches AJ and ML again]

Focal child: And I'm not your friend AJ!

[AJ and ML continue to ignore the focal child and play on the bike]

Focal child: And I'm still not your friend!

[AJ and ML ride the bike down a hill and start laughing. The focal child runs after them]

Focal child: You know you're going to hurt yourself.

ML: AJ let's hold hands.

Focal child: You're going to hurt yourself.

AJ: No.

Focal child: You're going to hurt yourself.

[AJ and ML continue to ride the bike around the playground and the focal child follows the girls repeating the statement, “you’re still going to hurt yourself.” The girls stop riding the bike behind the play equipment]

Focal child: AJ am I allowed on?

AJ: Ummmm...

ML: Push up!

Focal child: No!

AJ: Ummmm...

Focal child: I don't want to be after ML!

AJ: Ummmm...

Focal child: I can't be after ML!

AJ: Maybe, ML when you're finished it's the Focal Child's turn.

Focal child: NO! I don't want it after ML!

[The focal child stands next to the girls with her arms crossed]

AJ: Come on ML... give her a turn.

ML: Well then you're not touching my keyring. Do you want to touch it AJ?

AJ: No.

ML: Fine, I'm not your friend. And Focal Child, you're not touching my key ring either.

[ML hops off the back of the bike and stands with her arms crossed. The focal child hops on the back of the bike with AJ and they continue to ride the bike around the playground laughing. ML seeks teacher assistance, however, the teacher does not intervene]

APPENDIX L

PILOT STUDY SCENARIOS AND QUESTIONS

Scenario One: A boy is drawing with the new textas. A girl comes over and says, “If you don’t give me those textas you can’t come to my Birthday party”.

Why do you think the girl told the boy he can’t come to her Birthday party?

Do you think the girl was being mean to the boy?

What do you think the boy will do?

Is it okay to tell other people they’re not coming to your Birthday party?

Scenario Two: A boy is doing a puzzle at the table. A girl comes over and snatches the puzzle from the boy.

Why do you think the girl snatched the puzzle from the boy?

Do you think the girl was being mean to the boy?

What do you think the boy will do?

Is it okay to snatch things off other people?

Scenario Three: A girl is playing on the swing. A boy comes over and pushes her off the swing.

Why do you think the boy pushed the girl off the swing?

Do you think the boy was being mean to the girl?

What do you think the girl will do?

Is it okay to push other people?

Scenario Four: A boy is playing in the sand pit. A girl comes over and asks to play. The boy in the sandpit says “NO! You’re not my friend”

Why do you think the boy said the girl can’t be her friend?

Do you think the boy was being mean to the girl?

What do you think the girl will do?

Is it okay to say “NO! You’re not my friend” to other kids you know?

Scenario Five: A boy and girl are playing with the train set on the floor. Another child comes over and starts playing with the trains too. The boy and girl say to the other child, “You can’t play with us. Go away!”

Why do you think the boy and girl told the other child to go away?

Do you think the boy and girl were being mean to the other child?

What do you think the other child will do?

Is it okay to say “You can’t play with us, go away!” to other kids?

Scenario Six: A girl and boy are running through the classroom. They run over to another child’s block tower and kick it over and laugh.

Why do you think the boy and girl kicked over the other child’s block tower?

Do you think the boy and girl were being mean to the other child?

What do you think the other child will do?

Is it okay to kick over other children’s block tower?