Relational Aggression in Preschoolers: Can Theory of Mind Development Explain Such Complex Forms of Social Manipulation?
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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 (Nicolaides, 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.

Key Words
Relational aggression; theory of mind; preschoolers; prosocial behaviour
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 & Grottpeter, 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 & Grottpeter, 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).

*Social cognitive factors*

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 Guttmann 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

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

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

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Behaviour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Teacher-rated relational aggression</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Teacher-rated prosocial behaviour</td>
<td>-.453*</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Social Cognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Theory of Mind</td>
<td>-.132</td>
<td>.144</td>
<td></td>
</tr>
</tbody>
</table>

*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 \( (R^2 = .38; R^2_{\text{adj}} = 34\%) \) 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

<table>
<thead>
<tr>
<th>Predictors</th>
<th>b</th>
<th>SE</th>
<th>( \beta )</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial behaviour</td>
<td>-.66</td>
<td>.19</td>
<td>-.37</td>
<td>-3.46*</td>
</tr>
<tr>
<td>Theory of Mind</td>
<td>-.56</td>
<td>.59</td>
<td>-.10</td>
<td>-.94</td>
</tr>
<tr>
<td>Gender</td>
<td>-1.88</td>
<td>1.18</td>
<td>-.16</td>
<td>-1.59</td>
</tr>
<tr>
<td>Age</td>
<td>.325</td>
<td>.08</td>
<td>.39</td>
<td>3.65*</td>
</tr>
</tbody>
</table>

* \( p < .001 \).

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.
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 ($M = 2.1$, $SD = 0.89$) and children’s performance on the theory of mind measure, $t(58) = -0.792$, $p = .431$. 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.
References


