



Preventing Bullying in Preschool-Age Children: Predictors of Defending Behaviour

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Abstract

Understanding the factors that motivate defending behaviour from an early age is crucial in informing effective intervention in bullying. However, relatively little is known about the social, emotional, and cognitive factors that predict young children's involvement in defending behaviour. This study investigated the concurrent role of social (i.e. relational and physical aggression, prosocial behaviour, positive peer interactions, and peer rejection), emotional (i.e. anger, empathy), and cognitive (i.e. social withdrawal, inhibitory control, and attention) predictors of defending behaviour in early childhood ($N = 87$, M age = 46.74 months, $SD = 10.13$, 56% males). Children were recruited from kindergartens located in three diverse socio-economic communities in the South Island of New Zealand. The findings of a series of hierarchical regressions showed that, after controlling for age, lower levels of social withdrawal predicted higher levels of defending behaviour. For older children (≥ 46.7 months), empathy was a strong predictor of defending behaviour. Defending behaviour was positively associated with age; however, no differences were found in teacher reports of boys' and girls' use of defending. Implications for early prevention, intervention, and future research directions are discussed.

Keywords Defending behaviour · Early childhood · Bullying · Empathy · Social withdrawal

Introduction

Bullying behaviour has been a public health concern since Dan Olweus' (1978) seminal work in which he empirically and objectively examined bullying behaviour. Recent research in the bullying field has highlighted the different roles that individuals take in bully-victim interactions; however, still little is known about these roles in early childhood. Bullying can be defined as repeated or likely to be repeated aggressive acts that occur within a power imbalance (Gladden et al., 2014; Olweus, 1993) and is associated with a host of serious adjustment problems for both the bully (Nansel et al., 2004; Ostrov et al., 2019) and victim of the bullying (Kaltiala-Heino et al., 2000; Olweus, 1994). Evidence is mounting that bullying can be seen as early as the

preschool years when children enter formal and informal social settings (Kochenderfer-Ladd & Ladd, 2016; Ostrov et al., 2019; Swit, 2018). Given the serious problems associated with bullying, researchers have sought to build effective interventions to prevent and reduce bullying. The Olweus Bullying Prevention Program (OBPP, 1993) has been widely implemented, with over five million participants (Luxenberg et al., 2019) and impressive effectiveness rates in reducing both bullying behaviour and victimization in the classroom (Limber et al., 2018; Olweus & Limber, 2010). Notably, Olweus and Limber (2010) highlight the importance of not just focusing on the primary roles involved in bullying (i.e. the bully and victim) but that a consideration of those involved in the bullying circle (i.e. participants involved in a bullying interaction) is crucial for better understanding the complex group nature of bullying. The importance of this is underscored by the well-recognized participant roles (e.g. bystander, reinforcer) outside of that of just the bully and victim that contribute to the prevention or proliferation of bullying (Salmivalli et al., 1996). This study aimed to broaden previous investigations by focusing on the predictors of defending behaviour in an early childhood sample.

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Defending behaviour is generally thought to be a protective role that may help alleviate some of the negative repercussions of bullying for victims (Hawkins et al., 2001; Longobardi et al., 2020). A defender is defined as an individual who witnesses bullying behaviour and seeks to support and protect the victim (Salmivalli et al., 1996). Thus, defenders are often thought of as active bystanders who come to the aid of a victim through comforting and/or supporting them (Ma et al., 2019; Salmivalli et al., 1996, 2011). In an attempt to increase defending behaviour, previous work has examined different factors that motivate individuals to act as defenders. In older children and adolescents, researchers have identified several individual, peer, school, and cognitive factors that are associated with bystanders stepping in to defend victims of bullying (see Lambe et al., 2019 for an extensive review).

Although the majority of research focused on bullying and defending has examined the adolescent developmental period, there is an increased amount of work demonstrating the existence of bullying behaviour and the defender role across development, including early childhood (Camodeca & Coppola, 2019; Lucas-Molina et al., 2018; Monks et al., 2021). For instance, recent work has identified that early in childhood, children are active observers of aggressive behaviour. Monks et al. (2021) found that other children were present in approximately two-thirds of peer victimization situations. However, the study found that few children actually engaged in defending behaviour (Monks et al., 2021). Despite the increasing empirical and real-world focus on bullying and bullying intervention as a public health crisis, little is known about the contribution of social, emotional, and cognitive factors to the prediction of defending behaviour in early childhood in cultural contexts outside the USA and Europe. Early childhood is an important developmental period for building early social skills associated with future positive and healthy peer relationships (Weinfield et al., 1999), and defending behaviour may be influenced by cultural contexts (Monks et al., 2011).

Gender may also be an important consideration when it comes to defending in early childhood. Earlier work on defending behaviour in a sample of preschool-age children in the USA found gender effects favouring girls as defenders (Belacchi & Farina, 2010; Monks et al., 2003). More recent research has shown that aggressive and non-aggressive defending behaviour is used by preschool-age children (Camodeca et al., 2015; Coyne et al., 2017; Monks et al., 2003, 2011), and types of defending may differ for boys and girls. Coyne et al. (2017) found girls engaged in higher levels of non-aggressive defending in comparison to boys; however, no gender differences were found between boys' and girls' aggressive defending behaviour (Coyne et al., 2017). Given the importance of early childhood for future peer relations, it is important to learn about what

factors may motivate defending behaviour in young boys and girls so that they can be promoted and supported.

Theoretical Framework for Defending Behaviour

Understanding the many factors that contribute to defending behaviour in bullying may be better understood within the bystander intervention model (Latane & Darley, 1970; Nickerson et al., 2014). The five-step model describes the processes that lead an individual to intervene in bullying. Individuals first must see that (1) a bullying event is occurring, (2) identify the event as problematic, (3) recognize and take responsibility for their role as an active participant in the event, (4) understand what interventions may be beneficial given the situation, and (5) effectively implement that intervention. Similar to this model in our understanding of social behaviour is the social information processing (SIP) model proposed by Crick and Dodge (1994, 1996). Following similar steps to the model above, the SIP model articulates a six-step process to better understand how children interpret and act in social situations. In this cyclical model, children are thought to engage in a social interaction when they (1) encode and (2) interpret the social cue within their environment. Based on their interpretation, they then (3) clarify the goals that they have in that situation and (4) identify all possible responses associated with the goal identified. Finally, children then (5) choose the most appropriate response and (6) enact it. There is considerable overlap between the two models with both describing the complex social cognitive processes that motivate defenders to engage in this proactive behaviour. More specifically, the bystander intervention model attempts to explain the various steps an individual processes when deciding to defend. These steps are likely influenced by the social cognitive steps described in the SIP model such as an individual's prior experience of bullying and defending.

Previous research has identified factors that may be particularly important for aggressive and bullying behaviour based on these steps. Specifically, Crick and Dodge (1994) note that social difficulties or deficits in social cognitive skills are important predictors of aggressive behaviour. Individuals who attend to and interpret ambiguous situations as hostile may be more likely to respond aggressively, suggesting that individual-level factors such as emotion dysregulation and hostile attribution biases may be important when considering factors that lead to aggression and bullying behaviour. However, understanding what factors delineate defenders within these frameworks is also important in order to understand the complexity of bystanders in bullying behaviour. Theoretically, a defender will only be able to engage in defending when they first observe and comprehend that a bullying situation is occurring. As such,

this suggests that emotionally latent factors may play an important role in the development of defenders as they may present with higher levels of empathy which contribute to their ability to view bullying behaviour more sympathetically. They then must identify their involvement in the bullying, suggesting the use of cognitive factors such as advanced executive functions. Then, a defender would have to clarify their goal to defend an individual in the given situation. This suggests that defenders often have to be outgoing and assertive in order to defend against bullying behaviour. Thus, social factors may also play a significant role in understanding the fundamental characteristics of a defender.

Social Factors of Defending

There are several social factors that are associated with defending in children and adolescents that may be displayed in young children as well. As previously mentioned, children's temperament (e.g. aggressive, assertive, or outgoing) may play an important role in their engagement in the latter steps of the bystander intervention model (Latane & Darley, 1970; Nickerson et al., 2014). Previous research has supported the latter assertion by suggesting that individuals who engage in defending behaviour may be those who have previously exhibited aggressive behaviour (Huitsing & Monks, 2018; Huitsing & Veenstra, 2012). Engagement in defending behaviour among aggressors may be due to a few reasons: (1) prevention of retaliation from other aggressors, (2) establishing social connections with others, or (3) demonstrating dominance in the peer group. In fact, aggressors may be more likely to have the power and confidence necessary to defend others (Huitsing et al., 2014). Thus, aggressive children may have previous experiences that allow them to identify the bullying behaviour and encode it as problematic. Consistent with the SIP model, these previous experiences may also lead to having a database of responses of how to handle the situation, leading to greater confidence to step in and defend others. Previous research examining defending behaviour in 5- to 7-year-old children found that when aggressive children targeted the same victim(s), they were more likely to defend each other if they became victims of bullying (Huitsing & Monks, 2018). These findings suggest that aggressive behaviour, both reactive aggression in which aggressive responses are retaliatory and proactive aggression in which aggression is goal-directed, should be examined in understanding what factors are associated with defending in young children. Although previous work has begun to examine associations between aggressive behaviour and defending, the inclusion of both the forms and functions of aggressive behaviour may provide important insights into the role of aggression and its association with defending.

As was eluded to with aggressors, social power or dominance may play an important role in defending. Specifically,

those individuals who are perceived as having social capital (i.e. perceived popularity) have been linked to defending behaviour in older children and adolescents (Menolascino & Jenkins, 2018; Salmivalli et al., 1996). Conceptually, social power could be positively associated with defending as these children may perceive less risk in putting themselves in the middle of a bullying situation. In fact, Pöyhönen et al. (2010) found a significant association between perceived popularity and defending among older children. In early childhood, perceived popularity may be viewed as being a child that children want to engage or play with in conjunction with not being rejected by peers. Given the aforementioned information, understanding the role of social factors in predicting defending behaviour may shed light on our understanding of which children, even in early childhood, begin engaging in defending behaviour.

Emotional Factors of Defending

Previous research has identified that empathy and emotions, such as anger, may play an important role in the motivation for children and adolescents defending victims of bullying. Empathy has been previously defined as having a similar emotional response to someone else's emotional state (Eisenberg & Fabes, 1990; Nickerson et al., 2015). Empathy has been found to be an important predictor of prosocial behaviour (Spinrad & Gal, 2018). Empathy has also been posited to increase the likelihood someone will step in to defend another person as they are able to understand what the victim may be experiencing and be motivated to reduce the stress or negative emotional state of others (Nickerson et al., 2015). Previous work examining this link has found significant support for empathy as a predictor of defending behaviour in middle childhood and adolescence and these findings have been supported in systematic reviews (Van Noorden et al., 2015) and meta-analyses (Nickerson et al., 2015).

Research examining empathy has also identified empathic anger, a related but unique dimension of empathy, which might motivate defending behaviour. Empathic anger has been defined as when someone feels anger due to witnessing someone aggress or attack someone they feel did not deserve it (Hawkins & Trobst, 2000; Pozzoli et al., 2017). Empathic anger can occur even though the victim may not directly express emotions of anger but rather display sadness or fear (Hawkins & Trobst, 2000; Pozzoli et al., 2017). Pozzoli et al. (2017) examined defending behaviour and empathy, specifically examining three dimensions including empathic concern, perspective taking, and empathic anger. These researchers found that perspective taking and empathic concern were associated with empathic anger, and this empathic anger partially mediated the association between perspective taking, empathic concern, and defending behaviour (Pozzoli et al., 2017).

Related to empathic anger, anger and having anger difficulties have also been posited to be associated with defending. More specifically, anger has been hypothesized to lead to defending behaviour as a way to cope with the difficult emotions and anger they feel when witnessing bullying, highlighting their identification of the event as bullying and reaction to the event (steps 3 and 4 of the bystander intervention model) (Lambe et al., 2017). In support of this hypothesis, previous work has found that children who reported anger difficulties (e.g. children reporting that they had felt angry recently) were more likely to also report engaging in defending behaviour (Lambe et al., 2017). While this study could not specifically link anger to empathic anger, there was a significant positive association between anger difficulties and defending behaviour.

To date, there has been limited work examining the role of empathy and defending behaviour in early childhood. Camodeca and Coppola (2016) examined the role of empathy in engaging in bullying as well as defending in a sample of Italian children ages 3 to 6. They found that empathy was negatively associated with bullying. However, they also found that empathy was not associated with defending behaviour. This work has not been replicated in early childhood and was not examined alongside other social, emotional, or cognitive factors above and beyond rule internalization and emotional understanding. Thus, there is a need to further understand the associations between empathy, associated emotions such as anger, and defending behaviour in early childhood.

Cognitive Factors of Defending

Cognitive abilities may also play an important role in predicting defending behaviour. From a bystander intervention perspective, not only do defenders have to be able to identify their own role in the bullying behaviour, but they also have to have the ability to take the perspective of others, demonstrate self-discipline to engage in a less common response (Huitsing & Monks, 2018), and likely have the forethought to determine how that behaviour might impact their future peer interactions. Thus, consideration of psychobiological components such as inhibitory control and behavioural inhibition may be important in our understanding of cognitive factors leading to defending.

Self-regulation is often characterized as a complex, broad variable with several different components contributing to one's overall ability to regulate their behaviour and emotions (Bridgett et al., 2015). Previous research has examined components of self-regulation in the context of bully and victimization experiences with evidence that both the victim and bully tend to exhibit higher levels of dysregulation (Godleski et al., 2015; Shields et al., 2001). Inhibitory control is often defined as the ability to inhibit a natural response to achieve a goal (Zeytinoglu et al., 2017) and is often beginning to develop in early childhood (Bridgett et al., 2015; Rothbart et al., 2011). When individuals display higher levels of inhibitory control, it is thought that they

have more cognitive resources, allowing them to engage in more organized behaviour with fewer impulsive responses (Rudolph et al., 2013). Given that the tendency to defend involves complex social information processes consistent with the SIP model such as identifying and encoding bullying behaviour, recognizing one's role in the bullying behaviour, generating possible responses to that behaviour and inhibiting the impulse to choose the easiest response to instead engage in one supportive of the victim suggest that defenders are much more likely to exhibit higher levels of inhibitory control.

Conversely, those who are more behaviourally inhibited or socially withdrawn may be particularly disadvantaged when it comes to defending. Behavioural inhibition is thought to be a more cautious, reactive form of self-regulation that leads individuals to withdraw or avoid new or novel situations (Bridgett et al., 2015). One form of behavioural inhibition is social withdrawal, or the avoidance or withdrawal of an individual from their peers. Previous work has identified that children who are socially withdrawn tend to disengage with their peers due to internalizing problems (e.g. anxiety; Bowker et al., 2014; Coplan & Armer, 2007). Not surprisingly, when children are withdrawn from their peers, particularly due to fear or anxiety, it is unlikely that they will actively approach a bullying situation as a defender, thus limiting an active role in recognizing and reacting to the bullying event according to the bystander intervention model. Consistent with this, previous work has demonstrated that a child's feelings about their social abilities (i.e. social self-efficacy) was positively associated with active defending of others (Gini et al., 2008). Thus, social withdrawal may be an important individual characteristic that negatively contributes to the prediction of defending behaviour in young children.

The Current Study

Understanding the social, emotional, and cognitive factors that motivate defending behaviour in early childhood have critical applications, such that defenders play an important role in preventing bullying behaviour. Thus, additional exploration of factors that contribute to the prediction of defending behaviour would further our understanding of the skills that should be promoted in bullying prevention and intervention programs. The aims of the current study were:

- (a) To examine age and gender differences in teacher-reported defending behaviour. Based on previous research examining defending behaviour in early childhood samples in the USA and Europe and a recent meta-analysis across early and middle childhood and adolescence (Lambe et al., 2019), we hypothesize that there will be a main effect of gender in the current study, such that teachers would judge girls as engaging in higher levels of defending behaviour compared to boys.

- (b) To examine the social, emotional, and cognitive predictors of defending behaviour within an early childhood sample. Based on studies with older age groups, we hypothesize that adaptive social (i.e. prosocial behaviour, positive peer interactions), emotional (i.e. empathy), and cognitive (i.e. inhibitory control) factors will be positively associated with defending (Camodeca et al., 2015; Gini et al., 2007; Monks et al., 2005; Nickerson et al., 2008). Given the developmental differences in the maturity of social, emotional, and cognitive skills during early childhood relative to middle childhood and adolescence, the examination of these factors to the prediction of defending behaviour in this early childhood sample is considered exploratory.

Methods

Participants

Participants consisted of 87 children (M age = 46.74 months, SD = 10.13, 56% males) from three community-based kindergartens in three urban, moderate-sized communities in the South Island of New Zealand. School deciles measure the socio-economic position of a school's student community compared to other schools throughout the country. Scores range from 1 to 10, with a lower score indicating a higher proportion of students from low socio-economic communities and a higher score representing fewer of these students (Ministry of Education, n.d.). The kindergartens were located in decile three, five, and eight communities suggesting a diverse sample of socio-economic status. Participation rates at all kindergartens exceeded 80%. The sample was composed of the following ethnic groups: 68% Caucasian, 17% Māori, 4% Pacific Islander, and the remaining 11% from Southeast Asia and European countries.

Ten kindergarten teachers (87.5% female, M age = 57.70 years, SD = 3.61 years) completed teacher-reports of children's defending behaviour, social, emotional, and cognitive factors. All teachers identified as Caucasian. Six teachers had completed a bachelor's degree; four had completed a diploma. Teachers had 9 to 30 years' (M = 23.3 years, SD = 7.40 years) experience working in kindergartens and were engaged in employment in their current workplace between 24 and 52 h per week (M = 42.2 h, SD = 8.00 h).

Measures

Assessment of Defending Behaviours

Teacher reports of children's defending behaviour were assessed using four items (e.g. "This child stands up for other children who are excluded by others. He/she may play with

kids whom other children purposefully ignore or exclude," "This child defends other children who are being physically hurt by other peers. For example, he/she may tell the child to stop hitting") from previous research (Coyne et al., 2017). In this measure, teachers report on a 5-point Likert scale from 0 (never or almost never true) to 4 (always or almost always true) about the child's defending behaviour in the peer group. Higher scores are indicative of greater use of defending behaviour. Previous work has demonstrated moderate reliability of this measure over time (Coyne et al., 2017). Cronbach's alpha for the full scale showed adequate reliability (α = 0.63).

Assessment of Social Factors

Relational and Physical Reactive and Proactive Aggression The forms and functions of children's aggression were measured using the Preschool Proactive and Reactive Aggression Teacher Report (PPRA-TR) (Ostrov & Crick, 2007). Using a 5-point Likert-type scale from 0 (never or almost never true) to 4 (always or almost always true), teachers rated the frequency of children's aggressive behaviour on four subscales: reactive-relational aggression (R-RA, e.g. "If other children hurt this child, s/he often keeps them from being in their group of friends"), proactive-relational aggression (P-RA, e.g. "This child often says 'you can't come to my birthday party' to other children to get what s/he wants"), reactive-physical aggression (R-PA, e.g. "If other children make this child mad, s/he will often physically hurt them"), and proactive-physical aggression (P-PA, e.g. "This child often hits, kicks, or punches to get what s/he wants"). Scores were summed with higher scores indicative of greater use of form and function of aggressive behaviour. All subscales were reliable, with Cronbach's α equal to 0.74, 0.57, 0.94, and 0.80 respectively. Cronbach's α for the relational aggression subscale was 0.81 and physical aggression subscale was 0.91.

Prosocial Behaviour Teacher reports of children's prosocial behaviour were obtained with the two prosocial items (e.g. "This child will often include others") from the PPRA-TR (Ostrov & Crick, 2007). Teachers responded to these items using the same response format described for the aggression items. Scores were summed with higher scores indicative of more prosocial behaviour. Cronbach's α was adequate at 0.71.

The National Institute of Health Toolbox Emotion Battery (NIHTB-EB) surveys were developed as parent reports. The items on the positive peer interactions, peer rejection, anger, empathy, and social withdrawal were adapted to read "this child" and have been used as teacher-reports for the purpose of this study. Each survey demonstrated good internal consistency with Cronbach's α ranging from 0.71 to 0.94, suggesting that teacher informants can reliably report on these constructs using these surveys.

Positive Peer Interactions Teachers reported on children's peer interactions using the NIHTB-EB Positive Peer Interaction Ages 3–12 v2.0 (Gershon et al., 2013) which consists of four items (e.g. "Other children seek this child out for play") assessing how often a child plays with friends and gets along with peers. Positive peer interactions are measured on a 5-point Likert scale from 0 (never) to 4 (always). Higher scores were indicative of more positive peer interactions. Cronbach's α was adequate at 0.71.

Peer Rejection The NIHTB-EB Peer Rejection Ages 3–12 v2.0 (Gershon et al., 2013) consists of nine items (e.g. "This child is left out by other children") assessing how often a child is left out, avoided, or teased by peers. Teachers responded to this survey using the same response format described previously for the NIH Toolbox Emotion Battery surveys. Higher scores were indicative of greater peer rejection. For this study, Cronbach's α was 0.86.

Assessment of Emotional Factors

Anger The NIHTB-EB Anger Ages 3–12 v2.0 (Gershon et al., 2013) consists of nine items (e.g. "This child argues a lot with adults") assessing how often a child displays an angry mood towards peers and adults. Teachers were asked to report on a child's anger measured on a 3-point Likert scale from 0 (never or not true) to 2 (often or very true) with higher scores indicating more child anger. For this study, Cronbach's α was 0.77.

Empathy The NIHTB-EB Empathic Behavior Ages 3–12 v2.0 (Gershon et al., 2013) consists of ten items (e.g. "This child tries to help someone who has been hurt") assessing how often a child shows empathic behaviour towards peers. Teachers responded to this survey using the same response format described previously for the NIH Toolbox Emotion Battery surveys. Higher scores are indicative of more teacher-reported empathic behaviour. Reliability was excellent, with Cronbach's α equal to 0.94.

Assessment of Cognitive Factors

Social Withdrawal The NIHTB-EB Social Withdrawal Ages 3–12 v2.0 (Gershon et al., 2013) consists of four items (e.g. "This child withdraws from peer activities") assessing how often a child avoids or withdraws from social activities with peers. Teachers responded to this survey using the same response format described previously for the NIH Toolbox Emotion Battery surveys. Higher scores were indicative of more social withdrawal. Cronbach's α was adequate at 0.78.

Inhibitory Control and Attention The National Institute of Health Toolbox Cognition Battery (NIHTB-CB) Flanker

Inhibitory Control and Attention Ages 3–7 with Developmental Extension (Rueda et al., 2004; Weintraub et al., 2013) is a computerized behavioural measure requiring children to focus on a central stimulus while inhibiting attention to stimuli (fish) flanking it. On congruent trials, the central fish is pointing in the same direction as the surrounding fish; on incongruent trials, the central fish is pointing in the opposite direction to the surrounding fish (see Fig. 1). Children were instructed to place their dominant index finger on home base and press the right or left arrow on the iPad screen corresponding to where the central fish was positing. Each child was administered twenty trials. Where children scored 90% or higher on the fish stimuli, an additional twenty trials with arrows were presented. If the child did not successfully pass the practice trials, no further trials were administered. Instructions for completion of each trial were read to the child by the researcher. Higher scores indicated better inhibitory control and attention.

Procedure

This study was approved by the University's Human Research Ethics committee, and parents provided written informed consent prior to participation. Child assent was obtained prior to completing the NIHTB-CB Flanker Inhibitory Control and Attention computerized task. Instructions for completing the flanker task were provided in English by the researcher. On average, the flanker task took 5 to 7 min to complete and was administered in a quiet area in the kindergarten, away from distractions. There was a small amount of missing data for the flanker task (19%) due to technical difficulties and children declining consent. Imputation using the expectation–maximization (EM) algorithm (Dempster et al., 1977) in SPSS was used to handle this missing data. This procedure has been shown to be superior to other methods for managing missing data (e.g. pair- and list-wise deletion, or mean substitution) because it utilizes all existing data to impute values and does not reduce the power of the analysis (Allison, 2002; Enders, 2001; Schafer & Graham, 2002).

Teachers provided written informed consent before completing the surveys assessing each of the social, emotional, and cognitive factors. Teacher reports were distributed and completed 2 weeks prior to the completion of data collection.

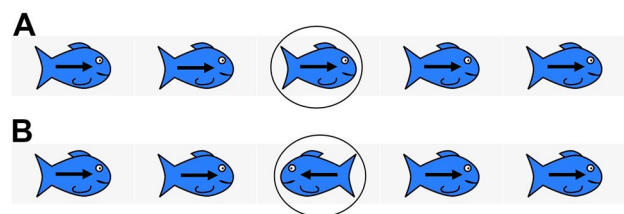


Fig. 1 **A** Congruent flanker task stimuli. **B** Incongruent flanker task stimuli

Kindergartens in New Zealand are open learning spaces with all of the children and teachers in the same classroom. Each child was rated by one teacher who was most familiar with the child. In all cases, teachers had known the child for 12 weeks or longer. Child behaviour reports were fairly evenly distributed across each of the teachers in the kindergarten.

Results

Descriptive Statistics and Preliminary Analyses

Descriptive statistics and visualizations indicated a non-normal distribution in several of the study variables. Square root transformations were conducted to address non-normality. Comparisons between the transformed and original dataset were conducted and the transformed data significantly improved skewness and kurtosis. Outliers with $3 + SD$ above the population mean on any of the study variables were removed from the analysis ($n=5$) (Kline, 2011). Table 1 shows the means, standard deviations, and independent samples *T*-test *t* and *p* values comparing mean scores for boys and girls across all study variables. Compared to boys, girls showed significantly higher levels of teacher-reported reactive-relational aggression ($r = .22$), proactive-relational aggression ($r = .25$), prosocial behaviour ($r = .25$), positive peer interactions ($r = .24$), and empathy ($r = .32$). Conversely, boys showed significantly higher levels of proactive-physical aggression ($r = .23$). Applying Funder and Ozer's (2019) effect sizes criteria of very small ($r = .05$), small ($r = .10$), medium ($r = .20$), large ($r = .30$), and very large ($r > .40$), the significant differences identified between boys and girls were considered moderate. No significant gender

effects were found for the other social, emotional, and cognitive factors.

Next, a series of bivariate correlations were computed between all measures involved in this study along with means and standard deviations. These were computed for the population sample because no significant gender difference was found for defending behaviour. Table 2 displays the correlations between defending and each of the social, emotional, and cognitive predictors. As can be seen in Table 2, of the social predictors, reactive-relational aggression, proactive-relational aggression, prosocial behaviour, and positive peer interactions were moderately to highly positively correlated with defending behaviour. Lower levels of proactive-physical aggression and peer rejection were moderately to highly associated with defending behaviour. The emotional predictor, anger, was not significantly correlated with defending; however, empathy was significantly correlated. For the cognitive predictors, lower levels of social withdrawal and higher levels of inhibitory control were moderately correlated with defending. Table 2 also shows correlations between independent predictors.

Main Analyses

We used hierarchical linear regression to explore the unique contribution of social, emotional, and cognitive factors to the prediction of defending behaviour. In the analysis, defending behaviour was the dependent variable and child age and the social, emotional, and cognitive factors were the independent variables. Possible age and gender differences in the relationship between social, emotional, and cognitive factors and defending behaviour were examined by including all

Table 1 Gender differences for all main study variables and independent samples *T*-test results

	Boys		Girls		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Defending	1.33	1.32	1.71	1.30	-1.34	.19
Reactive-relational aggression	0.91	0.91	1.31	0.90	-2.04	.05*
Proactive-relational aggression	0.46	0.79	0.88	0.86	-2.38	.02*
Reactive-physical aggression	0.77	0.97	0.67	0.92	0.47	.64
Proactive-physical aggression	0.31	0.60	0.07	0.32	2.19	.03*
Prosocial behaviour	0.82	0.90	1.25	0.68	-2.42	.02*
Positive peer interactions	3.94	0.36	4.11	0.32	-2.31	.02*
Peer rejection	3.33	0.45	3.24	0.43	0.89	.38
Anger	3.19	0.24	3.11	0.20	1.83	.07 ^a
Empathy	4.98	0.96	5.56	0.75	-3.06	.00**
Social withdrawal	2.60	0.46	2.65	0.50	-0.42	.67
Inhibitory control and attention	1.52	0.37	1.52	0.35	-0.01	1.00

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

^a $p < 0.10$

Table 2 Correlations between teacher-reported defending behaviour and social, emotional, and cognitive factors for the population sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	-													
2. Gender ^a	.12	-												
3. Defending behaviour	.43***	.14	-											
Social factors														
4. Reactive-relational aggression	.14	.22*	.36***	-										
5. Proactive-relational aggression	.09	.25*	.41***	.64***	-									
6. Reactive-physical aggression	-.24*	-.05	-.10	.47***	.21*	-								
7. Proactive-physical aggression	-.20 ^b	-.23*	-.28**	.18 ^b	.09	.58***	-							
8. Prosocial behaviour	.16	.25*	.45***	.51***	.41***	.22**	-.09	-						
9. Positive peer interactions	.25*	.24*	.56***	.23*	.30**	-.07	-.23*	.11	-					
10. Peer rejection	-.03	-.10	-.36***	-.06	-.05	.09	.25*	.11	-.58***	-				
Emotional factors														
11. Anger	-.11	-.19 ^b	-.19 ^b	.19 ^b	.20 ^b	.38***	.42***	-.08	-.21 ^b	.05	-			
12. Empathy	.34***	.32**	.79***	.36***	.46***	-.15	-.30**	.41***	.64***	-.37***	-.33**	-		
Cognitive factors														
13. Social withdrawal	-.12	.05	-.53***	-.04	-.17	.01	.11	-.07	-.65***	.52***	.03	-.54***	-	
14. Inhibitory control	.39***	.00	.28**	-.07	-.01	-.17	-.14	.05	.14	-.21*	-.16	.30**	-.16	-
Mean	46.74	0.44	1.49	1.08	0.64	0.72	0.21	1.01	4.02	3.29	2.62	3.16	5.23	1.52
SD	10.13	0.50	1.32	0.92	0.84	0.94	0.51	0.83	0.36	0.44	0.48	0.23	0.92	0.36
Range	25-65	0-1.0	0-4.47	0-3.30	0-2.83	0-2.80	0-2.0	0-2.45	3.16-4.47	3.0-4.8	2.0-3.87	3.16-6.93	2.00-3.87	0.71-2.24

N = 87

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ ^aGender: 0 = male, 1 = female^b $p < 0.10$

interactions involving the predictors with age and gender. The significance of each interaction between social, emotional, and cognitive factors and age and gender was examined before and after deleting non-significant interactions. Only the interaction between age and empathy was significant.

The inclusion of a large number of predictors in a model increases the amount of variance accounted for in the outcome. To mitigate this, a Bonferroni correction is generally recommended. However, some statisticians (Nakagawa, 2004; Perneger, 1998) argue against the application of a conservative significance level because of the risk of predictors going unrecognized. Given the exploratory nature of this study and the study's sample size, we have followed the recommendations of Funder and Ozer (2019) and have focused on effect size; strict control of the error rate was not the aim of this study. Thus, we report the unadjusted results and interpret effect sizes to identify meaningful predictors of defending behaviour. These results are presented in Table 3.

As can be seen in Table 3, after controlling for age, social withdrawal significantly predicted defending behaviour ($p = .034$, $r = .12$). Lower levels of social withdrawal predicted higher frequency of defending behaviour. There was a significant interaction between empathy and age ($p = .006$, $r = .16$). In order to interpret this interaction and analyse the slopes, age and empathy were dichotomized into younger (≤ 46.6 months) and older (≥ 46.7 months) and scores lower and higher than the population mean. The interaction predicting defending behaviour was significant for both younger ($\beta = .71$, $p < 0.001$) and older ($\beta = .75$, $p < 0.001$) children. As displayed in Fig. 2, examination of beta weights showed that empathy was a stronger predictor of defending behaviour for older children. With an adjusted R^2 of .69, these predictors explain two-thirds of variance in defending. There were no other significant main effects or interactions involving social, emotional, and cognitive predictors.

Discussion

Defending behaviour has been identified as a protective factor against the negative consequences of bullying (e.g. Longobardi et al., 2020), and researchers have called for early intervention to reduce or prevent bullying behaviour that begin in early childhood (Jenkins et al., 2017; Polanin et al., 2012). To increase the number of children who participate in defending, it is important to know what factors motivate this behaviour. In line with the bystander intervention model, identifying factors that allow young children to detect and react to bullying is not well known. However, with the integration of the SIP model, we have been able to ascertain key variables that play an important role in defending behaviour. As previously cited, Monks et al. (2021) observed that although many young children observe

aggressive acts they are not likely to step in to defend. In an early childhood sample, we investigated the age and gender differences in teacher-reported defending behaviour, as well as the social (relational and physical aggression, prosociality, positive peer interactions, and peer rejection), emotional (anger and empathy), and cognitive (social withdrawal and inhibitory control and attention) predictors of defending behaviour. To our knowledge, this is the first study to examine the contribution of these predictors to defending behaviour during early childhood when defending behaviour first becomes evident in children's social interactions with peers (Camodeca et al., 2015; Monks et al., 2003, 2011).

Individual Factors Associated with Defending Behaviour

First, we examined gender differences in defending behaviour in this sample of New Zealand children as previous work with preschool-age children has shown that boys' and girls' use of defending behaviour may be influenced by the geographic region or cultural factors in which children live (Monks et al., 2011). For example, how parents and teachers socialize, model, and reinforce defending behaviour may vary across cultural contexts. Consistent with the findings conducted with children living in Spain (Monks et al., 2011), we found no gender differences in teacher reports of children's defending behaviour. In contrast, findings with preschool-age children in the USA have shown girls are more likely to be identified as defenders by their teachers and peers and through self-reports (Monks et al., 2003). More recently, Coyne et al. (2017) found higher population means for parent reports of girls' nonaggressive defending and marginally higher means for boys' use of aggressive defending behaviour. Collectively, these findings suggest that gender differences in young children's defending may be influenced by the form of defending, the cultural context in which children live, and the informant used to report on this behaviour.

With regard to age, teachers identified older children as defenders compared to younger children and this finding is consistent with previous research in early childhood (Belacchi & Farina, 2010; Camodeca et al., 2015). Theoretically, chronological age may be important in the development of defending behaviour because of social cognitive maturation. The ability to effectively and confidently engage in the steps described by the bystander intervention model (Latane & Darley, 1970; Nickerson et al., 2014) and the social information processing model (Crick & Dodge, 1994, 1996) is likely to improve with age and with greater exposure to bullying and defending situations. Changes in children's social cognition and social information processing related to defending behaviour have been absent from longitudinal research across early childhood, presenting a promising avenue for future research.

Table 3 Hierarchical regression predicting defending

	Model 1			Model 2			Model 3			Model 4			Model 5		
	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>
Intercept															
Step 1: control variables															
Age (months)	.42	4.30	.00***	.25	3.03	.00**	.19	2.63	.01**	.19	2.51	.01**	-1.20	-2.40	.02**
Step 2: social factors															
Relational agg reactive				.03	.29	.78	-.01	-.05	.96	.05	.49	.63	.04	.38	.70
Relational agg proactive				.17	1.62	.11	.02	.21	.84	.03	.35	.73	.04	.41	.68
Physical agg reactive				-.08	-.75	.46	.01	.07	.94	-.02	-.17	.86	-.01	-.14	.89
Physical agg proactive				-.07	-.70	.49	-.04	-.50	.62	-.06	-.64	.53	-.01	-.11	.91
Prosocial behaviour				.33	3.46	.00**	.19	2.16	.03*	.18	2.06	.04*	.15	1.79	.08 ^a
Positive peer interactions				.26	2.52	.01**	.04	.38	.70	-.04	-.35	.73	-.01	-.05	.96
Peer rejection				-.20	-2.05	.04*	-.13	-1.50	.14	-.10	-1.06	.29	-.05	-.52	.60
Empathy							.58	5.34	.00***	.50	4.25	.00***	-.59	-1.47	.15
Anger							.07	.80	.43	.03	.34	.74	.02	.25	.80
Step 3: emotional factors															
Social withdrawal										-.18	-1.89	.06 ^a	-.20	-2.16	.03*
Inhibitory control and attention										.00	.02	.98	-.06	-.81	.42
Step 4: cognitive factors															
Age*empathy interaction terms													2.08	2.82	.00**
Model fit	<i>R</i> = .42			<i>R</i> = .76			<i>R</i> = .83			<i>R</i> = .84			<i>R</i> = .86		
Adjusted <i>R</i> ²	.17			.53			.65			.66			.69		
Model comparison	$\Delta R^2 = .39, F(8, 85) = 12.86$	<i>p</i> < .001		$\Delta R^2 = .12, F(10, 85) = 16.90,$	<i>p</i> < .001		$\Delta R^2 = .01, F(12, 85) = 14.67,$	<i>p</i> < .001		$\Delta R^2 = .03, F(13, 85) = 15.45,$	<i>p</i> < .001				

Unadjusted *p* values are reported in the table

^a*p* < 0.10; **p* < 0.05; ***p* < 0.01

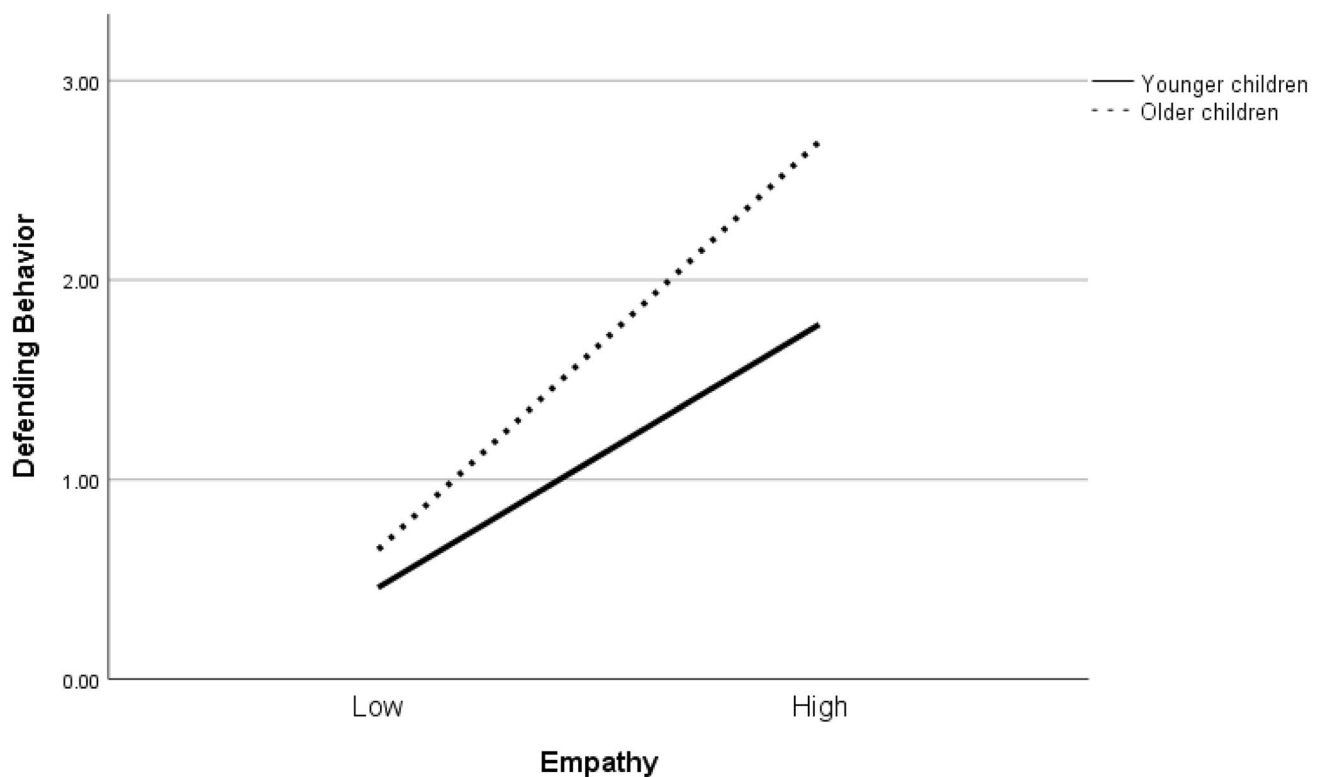


Fig. 2 The age \times empathy effect on teacher-reported defending behaviour

Several bivariate associations between defending and social, emotional, and cognitive factors are worth mentioning. Briefly, defenders were more likely to engage in higher levels of reactive and proactive-relational aggression, and lower levels of proactive-physical aggression. These findings suggest that forms and functions of aggression are differentially associated with defending behaviour. In this early childhood sample, relationally aggressive children were also more likely to use prosocial behaviour and engage in positive peer interactions. Moreover, defenders experienced less peer rejection, were less socially withdrawn from their peers, and had higher levels of empathy, inhibitory control, and attention. These findings suggest that defenders may be socially competent and well-liked children, allowing them to strategically use a combination of aggressive and defending behaviour in their peer interactions. It is important to note that these associations did not remain significant predictors of defending behaviour when entered in the regression analyses. Thus, these preliminary findings require more robust examination in future research to determine the interplay between forms and functions of aggression, social competence, and defending behaviour.

Defending is an adaptive, prosocial behaviour characterized by helping, sharing, and showing emotions and behaviour to comfort the victim (Eisenberg & Spinrad, 2014; Lambe & Craig, 2020). Thus, it is not surprising that we

found a strong correlation between defending and prosocial behaviour. This is consistent with studies of older children (see Lambe et al., 2019 for a review) and the first known study to demonstrate these associations in early childhood. However, when entered with the other independent variables in the regression analyses, prosocial behaviour did not significantly predict defending behaviour. An explanation for the lack of significant result may be because defending is a risky behaviour that is unlikely to be predicted by prosociality alone. Rather, defenders may be required to balance prosocial behaviour with other social, emotional, or cognitive factors while also protecting themselves from potential retaliation or becoming a target of future aggression. This finding requires replication in future studies.

Above and beyond the bivariate associations described above, defending was negatively predicted by social withdrawal. As previously identified, children may withdraw from social situations for a multitude of reasons including anxiety, fear, or preferring to be alone (Bowker et al., 2014; Coplan & Armer, 2007). According to step 1 of the bystander intervention model (Latane & Darley, 1970; Nickerson et al., 2014), socially withdrawn children have fewer opportunities to witness bullying and therefore, fewer opportunities to defend their peers. Moreover, socially withdrawn children may be more anxious in social situations, impacting their ability to stand up and take responsibility for their role in bullying (step

3), identify an effective intervention (step 4), or be able to effectively implement an intervention (step 5). Thus, children who are less socially withdrawn may have greater confidence to defend their peers and this finding suggests that this is an important skill to foster during early childhood.

Finally, analyses revealed that empathy was also important in predicting defending behaviour, and this effect was stronger for older children (≥ 46.7 months). This finding is consistent with previous work finding a positive association between empathy and defending behaviour in older children (e.g. Nickerson et al., 2015; Van Noorden et al., 2015) and emotion understanding and defending behaviour in kindergarteners (Camodeca & Coppola, 2016). Empathy is a skill linked to step 3 — recognizing and taking responsibility, and step 4 — understanding what type of intervention may be useful in a social situation, of the bystander intervention model. Empathy may be a key motivator of defenders as they can identify and understand another person's experience (Nickerson et al., 2015). While empathy was associated with defending behaviour, a key finding is that empathy was a stronger predictor for older children compared to younger children. An explanation for this difference may be due to social cognitive maturation. Children's social cognitive understanding and skills such as theory of mind and perspective taking abilities increase rapidly during early childhood (Wellman, 2014), improving their ability to understand and empathize with others. Thus, improvement in children's social cognitive skills such as empathy is likely to increase a child's defending behaviour. Further examination of the relationship between these various social cognitive skills and children's early defending behaviour should be considered in future research.

Limitations and Future Directions

There are many strengths of the present study including the focus on defending behaviour in a diverse early childhood sample outside of Europe and the USA, the inclusion of multiple factors that have been found to be associated with defending in older samples (i.e. social, emotional, and cognitive factors), and examining the role of age and gender. Despite these strengths, there are limitations to this study. One limitation is the size and cross-sectional nature of our study. The small sample size may have prevented the predictors reaching a conservative Bonferroni correction significance level. Thus, our approach to focus on the magnitude of effect sizes (Funder & Ozer, 2019) rather than significance levels allowed us to draw conclusions about the strongest predictors of defending behaviour in young children while controlling for other variables. This serves as the groundwork for hypothesis testing in future studies. However, future work should continue to increase sample size and examine these associations longitudinally. Where

multiple predictors are included in models, a Bonferroni correction may be helpful to identify predictors that meet a more rigorous significance level.¹ Moreover, we were only able to examine these associations based on teachers' behavioural reports. While we relied on teacher reports given that defending behaviour is a peer group process that may be more easily observed in the school context, other reporters may provide useful insights. Future research should expand upon this work to use other informants such as parent and peer reports as well as observational methods to better understand and assess defending behaviour in young children. Furthermore, some of the study variables were considered on the low side of reliability (e.g. proactive-relational aggression). Including multi-methods and multi-informants may improve the reliability of these variables. In addition, another limitation of the present study is in the operationalization of defending behaviour. More specifically, our study did not separate out the form and function of the defending behaviour. It could be that different forms (i.e. relational and physical) and functions (i.e. aggressive and non-aggressive) of defending behaviour may be distinct behaviour predicted by different social, emotional, and cognitive factors, just as different forms and functions characterize aggressive behaviour (Evans et al., 2019; Ostrov & Crick, 2007). For example, as previously discussed as a future area of work around social factors such as aggression, it could be that different forms of defending that may be more aggressive in nature may be associated with a child's aggression levels. In addition, as highlighted earlier, socialized gender norms and roles may influence the type of defending behaviour a child may use dependent on their own identified gender and their cultural context. Given this, future work incorporating different forms of defending behaviour would allow us to better understand potential gender differences in defending behaviour. Taken together, this study has highlighted some of the important factors associated with defending behaviour in an early childhood sample. These findings, as well as future replication of this work, could help to build early intervention and prevention programs focused on increasing defending behaviour to reduce the negative effects of bullying. Future work should continue to examine the role of social withdrawal and the bystander intervention model (Latane & Darley, 1970; Nickerson et al., 2014) to see how social withdrawal may reduce the likelihood of engagement in some or all of these steps. If social skills and social engagement are important for defending, interventions could target these skills to increase defending in the classroom. Moreover, more work is needed to continue to examine the role of empathy in defenders. Future work should also

¹ We would like to acknowledge the kind reviewer who made this suggestion.

consider including measures of theory of mind or perspective taking abilities when examining empathy and defending behaviour in early childhood. Given that empathy requires perspective taking abilities, assessing the role of perspective taking and empathy may help further elucidate the role of cognitive development, age, and defending behaviour. Future work should also continue to examine other social, emotional, and cognitive factors and defending behaviour. Significant bivariate associations between aggression, prosocial behaviour, peer interactions, peer rejection, and inhibitory control may still be important factors to consider in developing interventions to increase defending behaviour and reduce the effects of bullying.

The current study contributes to the existing literature on bullying and defending behaviour as one of the first known studies examining the social, emotional, and cognitive factors that uniquely contribute to defending behaviour in an early childhood sample. Our findings underpin that at this developmental stage, some factors more strongly relate to defending behaviour than others. Identifying and promoting these factors in young children may increase children's motivation to engage in defending behaviour in response to bullying behaviour. Our results suggest that promoting higher levels of empathy and social engagement are likely to promote defending behaviour in young children.

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Data Availability The data that support the findings of this study are available from the corresponding author, Cara S. Swit, upon reasonable request.

Declarations

Conflict of Interest The authors declare no competing interests.

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References

- Allison, P. (2002). Missing data. Thousand Oaks, CA: SAGE.
- Belacchi, C., & Farina, E. (2010). Prosocial/hostile roles and emotion comprehension in preschoolers. *Aggressive Behavior, 36*(6), 371–389. <https://doi.org/10.1002/ab.20361>
- Bowker, J. C., Nelson, L. J., Markovic, A., & Luster, S. (2014). Social withdrawal during adolescence and emerging adulthood. In R. J. Coplan & J. C. Bowker (Eds.), *The handbook of solitude: Psychological perspectives on social isolation, social withdrawal, and being alone* (pp. 167–183). Wiley Blackwell. <https://doi.org/10.1002/9781118427378.ch10>
- Bridgett, D. J., Burt, N. M., Edwards, E. S., & Deater-Deckard, K. (2015). Intergenerational transmission of self-regulation: A multidisciplinary review and integrative conceptual framework. *Psychological Bulletin, 141*(3), 602–654. <https://doi.org/10.1037/a0038662>
- Camodeca, M., Caravita, S. C. S., & Coppola, G. (2015). Bullying in preschool: The associations between participant roles, social competence, and social preference: Bullying roles and social competence in pre-schoolers. *Aggressive Behavior, 41*(4), 310–321. <https://doi.org/10.1002/ab.21541>
- Camodeca, M., & Coppola, G. (2016). Bullying, empathic concern, and internalization of rules among preschool children: The role of emotion understanding. *International Journal of Behavioral Development, 40*(5), 459–465. <https://doi.org/10.1177/0165025415607086>
- Camodeca, M., & Coppola, G. (2019). Participant roles in preschool bullying: The impact of emotion regulation, social preference, and quality of the teacher–child relationship. *Social Development, 28*(1), 3–21. <https://doi.org/10.1111/sode.12320>
- Coplan, R. J., & Armer, M. (2007). A “multitude” of solitude: A closer look at social withdrawal and nonsocial play in early childhood. *Child Development Perspectives, 1*(1), 26–32. <https://doi.org/10.1111/j.1750-8606.2007.00006.x>
- Coyne, S. M., Stockdale, L., Linder, J. R., Nelson, D. A., Collier, K. M., & Essig, L. W. (2017). Pow! Boom! Kablam! Effects of viewing superhero programs on aggressive, prosocial, and defending behaviors in preschool children. *Journal of Abnormal Child Psychology, 45*(8), 1523–1535. <https://doi.org/10.1007/s10802-016-0253-6>
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*(1), 74–101. <https://doi.org/10.1037/0033-2909.115.1.74>
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms on reactive and proactive aggression. *Child Development, 67*(3), 993–1002. <https://doi.org/10.2307/1131875>
- Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum Likelihood from Incomplete Data via the EM Algorithm. *Journal of the Royal Statistical Society. Series B (Methodological), 39*(1), 1–38. <http://www.jstor.org/stable/2984875>
- Eisenberg, N., & Fabes, R. A. (1990). Empathy: Conceptualization, measurement, and relation to prosocial behavior. *Motivation and Emotion, 14*, 131–149. <https://doi.org/10.1007/BF00991640>
- Eisenberg, N., & Spinrad, T. L. (2014). Multidimensionality of prosocial behavior: Rethinking the conceptualization and development of prosocial behavior. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 17–39). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199964772.003.0002>
- Enders, C. K. (2001). A primer on maximum likelihood algorithms available for use with missing data. *Structural Equation Modeling, 8*(1), 128–141. https://doi.org/10.1207/S15328007SEM0801_7
- Evans, S. C., Frazer, A. L., Blossom, J. B., & Fite, P. J. (2019). Forms and functions of aggression in early childhood. *Journal of Clinical*

- Child and Adolescent Psychology*, 48(5), 790–798. <https://doi.org/10.1080/15374416.2018.1485104>
- Funder, D. C., & Ozer, D. J. (2019). Evaluating effect size in psychological research: Sense and nonsense. *Advances in Methods and Practices in Psychological Science*, 2(2), 156–168. <https://doi.org/10.1177/2515245919847202>
- Gershon, R. C., Bleck, T. P., & Nowinski, C. J. (2013). NIH toolbox for assessment of neurological and behavioral function. *Neurology*, 80(11), S2–S6. <https://doi.org/10.1212/WNL.0b013e3182872e5f>
- Gini, G., Albiero, P., Benelli, B., & Altoè, G. (2007). Does empathy predict adolescents' bullying and defending behavior? *Aggressive Behavior*, 33(5), 467–476. <https://doi.org/10.1002/ab.20204>
- Gini, G., Albiero, P., Benelli, B., & Altoè, G. (2008). Determinants of adolescents' active defending and passive bystanding behavior in bullying. *Journal of Adolescence*, 31(1), 93–105. <https://doi.org/10.1016/j.adolescence.2007.05.002>
- Godleski, S. A., Kamper, K. E., Ostrov, J. M., Hart, E. J., & Blakely-McClure, S. J. (2015). Peer victimization and peer rejection during early childhood. *Journal of Clinical Child and Adolescent Psychology*, 44(3), 380–392. <https://doi.org/10.1080/15374416.2014.940622>
- Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, version 1.0.
- Hawkins, D. L., Pepler, D. J., & Craig, W. M. (2001). Naturalistic observations of peer interventions in bullying. *Social Development*, 10(4), 512–527. <https://doi.org/10.1111/1467-9507.00178>
- Hawkins, K. A., & Trobst, K. K. (2000). Frontal lobe dysfunction and aggression: Conceptual issues and research findings. *Aggression and Violent Behavior*, 5(2), 147–157. [https://doi.org/10.1016/S1359-1789\(98\)00033-0](https://doi.org/10.1016/S1359-1789(98)00033-0)
- Huitsing, G., & Monks, C. P. (2018). Who victimizes whom and who defends whom? A multivariate social network analysis of victimization, aggression, and defending in early childhood. *Aggressive Behavior*, 44(4), 394–405. <https://doi.org/10.1002/ab.21760>
- Huitsing, G., Snijders, T. A., Van Duijn, M. A., & Veenstra, R. (2014). Victims, bullies, and their defenders: A longitudinal study of the coevolution of positive and negative networks. *Development and Psychopathology*, 26(3), 645–659. <https://doi.org/10.1017/S0954579414000297>
- Huitsing, G., & Veenstra, R. (2012). Bullying in classrooms: Participant roles from a social network perspective. *Aggressive Behavior*, 38(6), 494–509. <https://doi.org/10.1002/ab.21438>
- Jenkins, L. N., Mulvey, N., & Floress, M. T. (2017b). Social and language skills as predictors of bullying roles in early childhood: A narrative summary of the literature. *Education and Treatment of Children*, 40(3), 401–417. <https://doi.org/10.1353/etc.2017.0017>
- Kaltiala-Heino, R., Rimpelä, M., Rantanen, P., & Rimpelä, A. (2000). Bullying at school—An indicator of adolescents at risk for mental disorders. *Journal of Adolescence*, 23(6), 661–674. <https://doi.org/10.1006/jado.2000.0351>
- Kline, R. B. (2011). Principles and practice of structural equation modeling (3rd ed.). Guilford Press.
- Kochenderfer-Ladd, B., & Ladd, G. W. (2016). Peer victimization in early childhood: Identification and risk. In O. N. Saracho (Ed.), *Contemporary perspectives on research on bullying and victimization in early childhood education* (pp. 105–128). IAP Information Age Publishing.
- Lambe, L. J., Cioppa, V. D., Hong, I. K., & Craig, W. M. (2019). Standing up to bullying: A social ecological review of peer defending in offline and online contexts. *Aggression and Violent Behavior*, 45, 51–74. <https://doi.org/10.1016/j.avb.2018.05.007>
- Lambe, L. J., & Craig, W. M. (2020). Peer defending as a multidimensional behavior: Development and validation of the Defending Behaviors Scale. *Journal of School Psychology*, 78, 38–53. <https://doi.org/10.1016/j.jsp.2019.12.001>
- Lambe, L. J., Hudson, C. C., Craig, W. M., & Pepler, D. J. (2017). Does defending come with a cost? Examining the psychosocial correlates of defending behaviour among bystanders of bullying in a Canadian sample. *Child Abuse & Neglect*, 65, 112–123. <https://doi.org/10.1016/j.chiabu.2017.01.012>
- Latané, B., & Darley, J. M. (1970). *The unresponsive bystander: Why doesn't he help?* New York, NY: Appleton-Century-Croft.
- Limber, S. P., Olweus, D., Wang, W., Masiello, M., & Breivik, K. (2018). Evaluation of the Olweus Bullying Prevention Program: A large scale study of US students in grades 3–11. *Journal of School Psychology*, 69, 56–72. <https://doi.org/10.1016/j.jsp.2018.04.004>
- Longobardi, C., Borello, L., Thornberg, R., & Settanni, M. (2020). Empathy and defending behaviours in school bullying: The mediating role of motivation to defend victims. *The British Journal of Educational Psychology*, 90(2), 473–486. <https://doi.org/10.1111/bjep.12289>
- Lucas-Molina, B., Giménez-Dasí, M., Fonseca-Pedrero, E., & Pérez-Albéniz, A. (2018). What makes a defender? A multilevel study of individual correlates and classroom norms in explaining defending behaviors. *School Psychology Review*, 47(1), 34–44. <https://doi.org/10.17105/SPR-2017-0011.V47-1>
- Luxenberg, H., Limber, S. P., and Olweus, D. (2019). *Bullying in US schools: 2019 status report*. Center City, MN: Hazelden Foundation.
- Ma, T.-L., Meter, D. J., Chen, W.-T., & Lee, Y. (2019). Defending behavior of peer victimization in school and cyber context during childhood and adolescence: A meta-analytic review of individual and peer-relational characteristics. *Psychological Bulletin*, 145(9), 891–928. <https://doi.org/10.1037/bul0000205>
- Menolascino, N., & Jenkins, L. N. (2018). Predicting bystander intervention among middle school students. *School Psychology Quarterly*, 33(2), 305–313. <https://doi.org/10.1037/spq0000262>
- Monks, C. P., Palermi, A., Ortega, R., & Costabile, A. (2011). A cross-national comparison of aggressors, victims and defenders in preschools in England, Spain and Italy. *The Spanish Journal of Psychology*, 14(1), 133–144. https://doi.org/10.5209/rev_sjop.2011.v14.n1.11
- Monks, C. P., Smith, P. K., & Kucaba, K. (2021). Peer victimisation in early childhood: Observations of participant roles and sex differences. *International Journal of Environmental Research and Public Health*, 18(2), 415. <https://doi.org/10.3390/ijerph18020415>
- Monks, C. P., Smith, P. K., & Swettenham, J. (2003). Aggressors, victims, and defenders in preschool: Peer, self-, and teacher reports. *Merrill-Palmer Quarterly*, 49, 453–469. <https://doi.org/10.1353/mpq.2003.0024>
- Monks, C. P., Smith, P. K., & Swettenham, J. (2005). Psychological correlates of peer victimisation in preschool: Social cognitive skills, executive function and attachment profiles. *Aggressive Behavior*, 31(6), 571–588. <https://doi.org/10.1002/ab.20099>
- Nakagawa, S. (2004). A farewell to Bonferroni: The problems of low statistical power and publication bias. *Behavioral Ecology*, 15(6), 1044–1045. <https://doi.org/10.1093/beheco/arl107>
- Nansel, T. R., Craig, W., Overpeck, M. D., Saluja, G., Ruan, W. J., & Health Behaviour in School-aged Children Bullying Analyses Working Group. (2004). Cross-national consistency in the relationship between bullying behaviors and psychosocial adjustment. *Archives of Pediatrics & Adolescent Medicine*, 158(8), 730–736. <https://doi.org/10.1001/archpedi.158.8.730>
- Nickerson, A. B., Aloe, A. M., Livingston, J. A., & Feeley, T. H. (2014). Measurement of the bystander intervention model for bullying and sexual harassment. *Journal of Adolescence*, 37(4), 391–400. <https://doi.org/10.1016/j.adolescence.2014.03.003>
- Nickerson, A. B., Aloe, A. M., & Werth, J. M. (2015). The relation of empathy and defending in bullying: A meta-analytic investigation. *School Psychology Review*, 44(4), 372–390. <https://doi.org/10.17105/spr-15-0035.1>
- Nickerson, A. B., Mele, D., & Princiotta, D. (2008). Attachment and empathy as predictors of roles as defenders or outsiders in

- bullying interactions. *Journal of School Psychology*, 46(6), 687–703. <https://doi.org/10.1016/j.jsp.2008.06.002>
- Olweus, D. (1978). *Aggression in the schools: Bullies and whipping boys*. Hemisphere.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Blackwell.
- Olweus, D. (1994). Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 35(7), 1171–1190. <https://doi.org/10.1111/j.1469-7610.1994.tb01229.x>
- Olweus, D., & Limber, S. P. (2010). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry*, 80(1), 124–134. <https://doi.org/10.1111/j.1939-0025.2010.01015.x>
- Ostrov, J. M., & Crick, N. R. (2007). Forms and functions of aggression during early childhood: A short-term longitudinal study. *School Psychology Review*, 36(1), 22–43. <https://doi.org/10.1080/02796015.2007.12087950>
- Ostrov, J. M., Kamper-DeMarco, K. E., Blakely-McClure, S. J., Perry, K. J., & Mutignani, L. (2019). Prospective associations between aggression/bullying and adjustment in preschool: Is general aggression different from bullying behavior? *Journal of Child and Family Studies*, 28, 2572–2585. <https://doi.org/10.1007/s10826-018-1055-y>
- Perneger, T. V. (1998). What's wrong with Bonferroni adjustments. *British Medical Journal*, 316, 1236–1238. <https://doi.org/10.1136/bmj.316.7139.1236>
- Polanin, J. R., Espelage, D. L., & Pigott, T. D. (2012). A meta-analysis of school-based bullying prevention programs' effects on bystander intervention behavior. *School Psychology Review*, 41(1), 47–65. <https://doi.org/10.1080/02796015.2012.12087375>
- Pöyhönen, V., Juvonen, J., & Salmivalli, C. (2010). What does it take to stand up for the victim of bullying? The interplay between personal and social factors. *Merrill-Palmer Quarterly*, 56(2), 143–163. <http://www.jstor.org/stable/23098039>
- Pozzoli, T., Gini, G., & Thornberg, R. (2017). Getting angry matters: Going beyond perspective taking and empathic concern to understand bystanders' behavior in bullying. *Journal of Adolescence*, 61, 87–95. <https://doi.org/10.1016/j.adolescence.2017.09.011>
- Rothbart, M. K., Sheese, B. E., Rueda, M. R., & Posner, M. I. (2011). Developing mechanisms of self-regulation in early life. *Emotion Review: Journal of the International Society for Research on Emotion*, 3(2), 207–213. <https://doi.org/10.1177/1754073910387943>
- Rudolph, K. D., Troop-Gordon, W., & Llewellyn, N. (2013). Interactive contributions of self-regulation deficits and social motivation to psychopathology: Unraveling divergent pathways to aggressive behavior and depressive symptoms. *Development and Psychopathology*, 25(2), 407–418. <https://doi.org/10.1017/S0954579412001149>
- Rueda, M. R., Fan, J., McCandliss, B. D., Halparin, J. D., Gruber, D. B., Lercari, L. P., & Posner, M. I. (2004). Development of attentional networks in childhood. *Neuropsychologia*, 42, 1029–1040. <https://doi.org/10.1016/j.neuropsychologia.2003.12.012>
- Salmivalli, C., Lagerspetz, K., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior*, 22(1), 1–15. [https://doi.org/10.1002/\(SICI\)1098-2337\(1996\)22:1%3c1::AID-AB1%3e3.0.CO;2-T](https://doi.org/10.1002/(SICI)1098-2337(1996)22:1%3c1::AID-AB1%3e3.0.CO;2-T)
- Salmivalli, C., Voeten, M., & Poskiparta, E. (2011). Bystanders matter: Associations between reinforcing, defending, and the frequency of bullying behavior in classrooms. *Journal of Clinical Child & Adolescent Psychology*, 40(5), 668–676. <https://doi.org/10.1080/15374416.2011.597090>
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7(2), 147–177. <https://doi.org/10.1037/1082-989X.7.2.147>
- Shields, A., Ryan, R. M., & Cicchetti, D. (2001). Narrative representations of caregivers and emotion dysregulation as predictors of maltreated children's rejection by peers. *Developmental Psychology*, 37(3), 321–337. <https://doi.org/10.1037/0012-1649.37.3.321>
- Spinrad, T. L., & Gal, D. E. (2018). Fostering prosocial behavior and empathy in young children. *Current Opinion in Psychology*, 20, 40–44. <https://doi.org/10.1016/j.copsyc.2017.08.004>
- Swit, C. S. (2018). Early childhood educators' and parents' perceptions of bullying in preschool. *New Zealand Journal of Psychology*, 47(3).
- van Noorden, T. H., Haselager, G. J., Cillessen, A. H., & Bukowski, W. M. (2015). Empathy and involvement in bullying in children and adolescents: A systematic review. *Journal of Youth and Adolescence*, 44(3), 637–657. <https://doi.org/10.1007/s10964-014-0135-6>
- Weinfield, N. S., Sroufe, L. A., Egeland, B., & Carlson, E. A. (1999). The nature of individual differences in infant-caregiver attachment. *Handbook of Attachment: Theory, Research, and Clinical Applications*, 17, 68–88.
- Weintraub, S., Dikmen, S. S., Heaton, R. K., Tulsky, D. S., Zelazo, P. D., Bauer, P., & J.,.... Gershon, R. C. (2013). Cognition assessment using the NIH Toolbox. *Neurology*, 80(Suppl. 3), S54–S64. <https://doi.org/10.1212/WNL.0b013e3182872ded>
- Wellman, H. M. (2014). *Making minds: How theory of mind develops*. Oxford University Press.
- Zeytinoglu, S., Calkins, S. D., Swingle, M. M., & Leerkes, E. M. (2017). Pathways from maternal effortful control to child self-regulation: The role of maternal emotional support. *Journal of Family Psychology*, 31(2), 170–180. <https://doi.org/10.1037/fam0000271>