A Longitudinal Examination of Empathy, Defender Self-Efficacy, and Moral Disengagement for Aggression as Predictors of Peer Defending

by

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Abstract

Empathy, defender self-efficacy (DSE), and moral disengagement are known correlates of defending in response to bullying, but how they systematically foster defending is unclear. My thesis tests the proposition that, at high DSE, empathy is indirectly predictive of defending through low moral disengagement for aggression (MDA). Also proposed is a direct effect of empathy on direct defending (i.e., confronting bullies) at high DSE and on indirect defending (e.g., comforting victims) at low DSE. Data were collected from 4th and 5th graders (N = 1,564, 51.4% boys) in the fall and spring of one academic year. Low empathy was associated with greater MDA, particularly at high levels of DSE. MDA, in turn, predicted less defending. Empathy also directly predicted heightened defending, although for direct defending this link was significant only at high DSE. Thus, this study yielded novel insights into how cognitive-affective factors conjunctly predict two distinct forms of defending behaviors.

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CFI	Comparative Fit Index
DRT	Deviance Regulation Theory
EI	Empathy Index
ES	Empathic Sadness
FIML	Full Information Maximum Likelihood
IRB	Institutional Review Board
MDA	Moral Disengagement for Aggression
MLR	Maximum Likelihood Robust Error Estimation
MMD	Mechanisms of Moral Disengagement
PRQ-PR	Participant Response Questionnaire Peer Report Version
RMSEA	Root Mean Square Error of Approximation
SRMR	Standardized Root Mean Square Residual

A Longitudinal Examination of Empathy, Defender Self-Efficacy, and Moral Disengagement for Aggression as Predictors of Peer Defending

An alarming 10-20% of children in the United States experience recurring and systematic relational or physical aggression from their peers (i.e., peer victimization; Centers for Disease Control and Prevention, 2016; Salmivalli, 2010). This pattern of aggression is targeted, and victims often lack the support of the larger peer group (Salmivalli, 2010). As a result of their peer victimization, these children are at higher risk for poor socioemotional adjustment and academic failure than their non-victimized peers (Bauman et al., 2013; Beran & Li, 2005; Hawker & Boulton, 2000; Patchin & Hinduja, 2010; Van Geel et al., 2015; Ybarra et al., 2007). Consequently, peer victimization can have a profound impact on the long-term psychosocial development of children. Understanding the social and environmental factors that foster or stifle peer victimization is key to preventing these negative long-term outcomes.

The peer group can have a substantial effect on the frequency and impact of peer victimization. Specifically, bystanders' defending behaviors have been demonstrated to be a protective factor against victimization and against the risks associated with peer victimization (Baldry, 2005; Flaspohler et al., 2009; Kärnä et al., 2010; Kochenderfer & Ladd, 1997; Pozzoli & Gini, 2013; Salmivalli, 2014; Salmivalli et al., 2011). Defending behaviors encompass any direct behaviors (e.g., standing up to the bully) or indirect behaviors (e.g., comforting the victim, getting an adult) that seek to alleviate the victimization and/or distress of a victimized peer (e.g., Baldry, 2005; Pozzoli & Gini, 2013; Salmivalli, 2014). Peer defending has been found to be associated with reductions in peer victimization and aggression (Kochenderfer & Ladd, 1997; Salmivalli et al., 2011) and with increases in positive adjustment among peer-victimized children (Flaspohler et al., 2009; Kärnä et al., 2010). It is believed that peer defending is effective because

it communicates to aggressors that their hostile behavior is unacceptable while also reducing victims' feelings of social isolation (Salmivalli, 2014).

Despite the effectiveness of peer defending, researchers have noted that only a small percentage of children act as defenders when witnessing peer victimization (Craig et al., 2000; O'Connell et al., 1999; Pozzoli & Gini, 2013). Indeed, current estimates suggest that only 15-25% of youth act as defenders for their peer-victimized classmates (Baldry, 2005; Salmivalli et al., 1996). This low rate of defending cannot be attributed to children believing that aggression is acceptable, siding with the bully, or not feeling sympathy for victims (e.g., Menesini et al., 1997; Thornberg, 2010). Consequently, researchers have begun to identify other intra-personal and interpersonal factors associated with defending. However, much of this work has been cross-sectional, limiting our ability to determine whether identified correlates are predictive of defending over time. In addition, how these factors jointly contribute to defending behavior is also unknown. The study proposed here will address these gaps in the literature by studying three factors previously identified as correlates of defending (i.e., empathy, defender self-efficacy, and moral disengagement for interpersonal aggression) within a novel conceptual, longitudinal model (see Figure 1). Specifically, this work will test the indirect effect of fall empathy on spring direct and indirect defending through moral disengagement for aggression as moderated by varying levels of defender self-efficacy and controlling for direct and indirect defending in the fall.

Empathy, Defender Self-Efficacy, and Defending Behaviors

Defending is a highly prosocial and potentially altruistic behavior in which a child acts on behalf of a victimized peer. Thus, it is not surprising that researchers have examined empathy (i.e., affective response to another's pain) as a potential correlate of defending behavior. Consistent with the Empathic-Altruism Hypothesis (C.D. Batson, 1991) and previous research

documenting a positive association between empathy and prosocial behaviors more broadly (Hoffman, 2000, 2010; Roberts & Strayer, 1996), empathy has been found to be a significant correlate of defending behaviors in response to witnessing peer victimization (see van Noorden et al., 2015, for a review; Caravita et al., 2009; Caravita & Gini, 2010; Carmen & Eleonora, 2012; Fredrick et al., 2020; Nickerson & Mele-Taylor, 2014; Raskauskas et al., 2010). However, there is much about the empathy-defending link that remains to be understood. Foremost, there is a lack of longitudinal evidence to support the proposition that empathy predicts the development of defending behaviors. In the only longitudinal study to date on the topic, van der Ploeg and colleagues (2017) found that empathy predicts defending six months later among 4th- through 6th-graders. Furthermore, the association between empathy and defending is only moderate (e.g., *r*s between 0.16 and 0.55), and empathy is also positively associated with passive bystanding (i.e., taking no action for or against the victim; see van Noorden et al., 2015 for a review). This pattern of findings suggests that whether empathy motivates behavioral action on behalf of the victim depends on additional intrapersonal and/or contextual factors.

I propose that the extent to which empathy predicts the development of defending behavior depends on a child's self-efficacy for defending. Bandura's Social Cognitive Theory of Agency posits that individuals are motivated to behave when they have self-efficacy (i.e., a sense of competence) for undertaking a given task or fulfilling a role successfully (Bandura, 1997, 2001). Defending often requires sophisticated interpersonal skills, particularly when directly confronting aggressive peers. Defending also potentially places children at risk for being on the receiving-end of peers' aggression (Dovidio et al., 2006; Huitsing et al., 2014). Thus, even children who are high in empathy may be reluctant to engage in defending behavior if they feel they lack the requisite capabilities needed to intervene competently. In contrast, children high in

empathy may act upon empathic arousal in defense of victims if they feel they are competent at defending effectively.

This proposition builds on previous research examining the link between defending behavior and self-efficacy beliefs. In one of the earliest studies examining the association between self-efficacy and defending, Gini and colleagues (2008) found that early adolescents' social self-efficacy (i.e., a sense of personal competency in social situations) is positively associated with defending and negatively associated with passive bystanding. However, the act of defending may require a sense of self-efficacy separate from self-efficacy in other social contexts. For example, children who feel comfortable helping a peer with homework may not necessarily feel confident in their ability to assertively confront an aggressive classmate or provide adequate emotional support to a peer who has been victimized. Accordingly, researchers have begun examining defender self-efficacy, a specific, internal sense of being able to provide effective peer support in response to peer victimization (Pöyhönen et al., 2010). Interestingly, while there has been cross-sectional support for defender self-efficacy as a correlate of defender behaviors in childhood (Bussey et al., 2020; Peets et al., 2015; Pöyhönen et al., 2010, 2012), longitudinal research has not supported a link between defender self-efficacy and subsequent defending (Barchia & Bussey, 2011b; van der Ploeg et al., 2017).

One potential explanation for the lack of a prospective longitudinal association is that not all defending behaviors are the same. Pronk and colleagues (2013) found that children identified by their peers as defenders were more likely than those identified as outsiders (i.e., children who remain uninvolved in the bullying) to engage in direct defending (i.e., confronting the bully) and less likely to engage in indirect defending (i.e., comforting the victim, telling the teacher; see also Lambe & Craig, 2020; Reijntjes et al., 2016). This suggests that children distinguish

between peers who directly rather than indirectly act on behalf of victims and consider only those who actively intervene by confronting the aggressors to be defenders. The majority of the defender items in the Participant Role Questionnaire (PRQ; Salmivalli et al., 1996, 1998), arguably the most widely used participant roles measure, assess indirect defending. Consequently, the lack of longitudinal support for defender self-efficacy as a predictor of defending may not reflect a lack of long-term association between these variables, but rather may indicate a need to look specifically at the link between defender self-efficacy and direct defending, separate from indirect defending

Another reason defender self-efficacy may not have been longitudinally associated with defending behavior is that it may not directly motivate defending behavior. Rather, defender self-efficacy may potentiate the impact of empathy on defending. That is, empathy may prompt defending behaviors, but only when children believe they are capable of competently defending victimized peers. However, this impact of defender self-efficacy on empathy may not be significant for all forms of defending. In the one study to date examining defender self-efficacy as a moderator of the association between empathy and defending, van der Ploeg and colleagues (2017) did not find a significant interactive effect. One potential explanation for this null result is that the moderating effect of defender self-efficacy may depend on the type of defending behaviors examined. While both direct and indirect defending are prosocial acts, direct defending likely places children at considerably greater social, and potentially physical, risk than does indirect defending (Juvonen & Galvan, 2008). Consequently, children who are empathically moved by a peer's plight, but are low in defender self-efficacy, may be motivated to engage in indirect defending, as it involves less risky behaviors, and only when children high in empathy also are high in defender self-efficacy are they likely to engage in direct defending. Thus, this

study will test whether: (a) empathy predicts subsequent defending behavior, (b) this link is moderated by defender self-efficacy, and (c) these links vary depending on whether direct or indirect forms of defending are tested.

Moral Disengagement for Aggression and Defending Behaviors

While empathy and defender self-efficacy provide insights into the social-cognitive and emotional factors related to engaging in defending, they likely provide only a partial explanation as to the cognitive mechanisms underlying children's bystander behavior. Moral disengagement, a cognitive mechanism utilized to justify engaging in behaviors inconsistent with an individual's moral code, has been identified as an additional contributing factor. According to Bandura's (1999) Moral Disengagement Theory, people make justifications for behaving in ways that violate their moral values, including behaviors that harm others, in order to reduce cognitive dissonance caused by acting against one's beliefs. Thus, moral disengagement may be an important social cognition contributing to whether children engage in defending behaviors.

Although researchers have primarily focused on the link between moral disengagement and aggression (e.g., Caravita et al., 2012; Gini, 2006; Obermann, 2011; Pornari & Wood, 2010; Robson & Witenberg, 2013; Thornberg & Jungert, 2014; see Gini et al., 2014 for a meta-analysis), moral disengagement has been found to be negatively associated with defending behavior (Caravita et al., 2012; Thornberg et al., 2015) and positively associated with passive bystanding (Obermann, 2011). This suggests that children who defend may perceive defending as a social or moral imperative that they cannot justify ignoring. In the only study to test this premise longitudinally, Doramajian and Bukowski (2015) found that higher levels of moral disengagement predicted lower levels of defending and higher levels of passive bystanding over a four month period. Thus, children who engage in low levels of moral disengagement may feel

morally obligated to intervene when witnessing bullying, leading to increased defending behaviors over time.

To date, empathy and moral disengagement have been examined separately in relation to defending behaviors. However, empathy and moral disengagement are themselves negatively correlated (Almeida et al., 2009; Paciello et al., 2013). Research by Hyde and colleagues (2010) further shows that empathy in late childhood predicts lower levels of moral disengagement in mid-adolescence. Therefore, rather than assuming that empathy and moral disengagement are independently predictive of defending behaviors, there is a need to understand how empathy, self-efficacy for defending, and moral disengagement co-contribute to defending behaviors.

I propose that moral disengagement may serve as a cognitive mechanism mediating the association between empathy and defending behaviors. However, whether empathy is associated with higher or lower levels of moral disengagement depends on the child's self-efficacy for defending. Specifically, high levels of empathy may motivate a moral imperative to engage in defending behaviors, which, when coupled with a sense of competence at engaging in defending behaviors (i.e., high defender self-efficacy) reduces the need for moral disengagement because active engagement is a plausible response option for that child. Consequently, at high levels of defender self-efficacy, empathy is anticipated to be associated with lower levels of moral disengagement and, indirectly, higher levels of defending behaviors. Conversely, when high levels of empathy motivate a moral imperative to engage in defending behaviors, a child feels who lacks defender self-efficacy may engage in moral disengagement to justify inaction on behalf of the victim. Consequently, at low levels of defender self-efficacy, empathy is anticipated to be associated with higher levels of moral disengagement, and indirectly, lower levels of defending behaviors.

Because this proposition centers on children utilizing moral disengagement to justify low levels of defending in response to peer aggression, conceptualizing moral disengagement specifically for aggressive behaviors (e.g., pushing or shoving, harsh teasing, physical violence) may be a more theoretically valid and statistically stronger correlate of defending than moral disengagement for non-aggressive behaviors (e.g., rule-breaking, stealing, lying). Indeed, operationalizing moral disengagement specifically for aggression is consistent with exploratory factor analyses of the Mechanisms of Moral Disengagement scale, a widely used measure of moral disengagement, showing that items assessing moral disengagement for aggression (i.e., MDA) load consistently onto their own factor (Thornberg & Jungert, 2013). Moreover MDA correlates with measures of aggression (i.e., Barchia & Bussey, 2011b, 2011a) and is predictive of aggression over two time-points (Barchia & Bussey, 2011a), indicating that the MDA subscale is sufficient to examine on its own. Consequently, this study tested whether: (a) empathy is associated with lower MDA, (b) the link between empathy and MDA is moderated by defender self-efficacy, (c) moral disengagement for aggression (i.e., MDA) predicts subsequent defending behaviors, (d) whether there is a significant indirect association between empathy and subsequent defending behaviors through MDA, and (e) whether an indirect link between empathy and subsequent defending through MDA depends on the level of defender self-efficacy (i.e., moderated mediation).

The Current Study: Testing a Novel Social-Cognitive Model of the Development of Defending

To summarize, the current study tests a conceptual model delineating how a confluence of empathy, defender self-efficacy, and MDA may predict defending. To address potential differences in the processes leading to direct versus indirect defending behaviors, the conceptual

model was tested twice— once with direct defending as the outcome and once with indirect defending as the outcome. Figure 1a presents the conceptual model for direct defending, and Figure 1b presents the conceptual figure for indirect defending.

Both models propose a direct pathway between empathy and defending behaviors and an indirect pathway through moral disengagement. Both of these pathways are proposed to be moderated by defender self-efficacy. However, whereas the model for direct defending hypothesizes that an interaction between high levels of empathy and defender self-efficacy will be positively associated with direct defending, the model for indirect defending proposes that this same interaction will be negatively associated with indirect defending. These conceptual models were be tested using longitudinal data collected from 4th and 5th graders. Defending in late childhood is important to study due to increases in bullying and decreases in defending behaviors prior to the transition to middle school (Dijkstra et al., 2008; Pepler et al., 2006; Salmivalli et al., 1998). Therefore, identifying the combinations of social-cognitive and affective processes that foster, or hinder, defending behaviors during this developmental period is crucial to the advancement of theory-driven interventions to reduce both bullying and the negative long-term psychosocial outcomes associated with peer victimization.

Hypothesis 1: The direct effect of empathy on defending behaviors. There will be a direct effect of empathy on defending behaviors, and this direct effect will be moderated by defender self-efficacy.

Hypothesis 1a. I expect a significant positive direct effect of empathy on direct defending (see Figure 1a, path C) and indirect defending (see Figure 1b, path C).

***Hypothesis 1b*.** I expect a significant positive interactive effect of fall empathy and fall defender self-efficacy on spring direct defending behaviors (see Figure 1a, interaction B).

Specifically, the positive direct effect of empathy on direct defending behaviors is expected to be stronger at higher levels of fall defender self-efficacy.

***Hypothesis 1c*.** I expect a significant negative interactive effect of fall empathy and fall defender self-efficacy on spring indirect defending behaviors (see Figure 1b, interaction B). Specifically, the positive direct effect of empathy on indirect defending is expected to be stronger at lower levels of fall defender self-efficacy.

Hypothesis 2: The direct effect of empathy on MDA. There will be a significant interactive effect of fall empathy and fall defender self-efficacy on fall MDA (see Figures 1a and 1b, interaction A).

Hypothesis 2a. I expect fall empathy to be negatively associated with fall MDA at high levels of fall defender self-efficacy

Hypothesis 2b. I expect fall empathy to be positively associated with fall MDA at low levels of defender self-efficacy.

Hypothesis 3: Main effect of MDA on defending behaviors. I expect a significant direct effect of fall MDA on spring direct and indirect defending (see Figures 1a and 1b, path B). Specifically, higher levels of fall MDA are expected to predict lower levels of spring direct and indirect defending behaviors.

Hypothesis 4: Moderated indirect effect of empathy on defending behaviors. There will be an indirect effect of fall empathy on both spring direct and indirect defending through lower levels of fall MDA, and this indirect effect will be moderated by fall defender self-efficacy.

Hypothesis 4a. At high levels of fall defender self-efficacy, I expect fall empathy to be associated indirectly with higher levels of spring defending through lower levels of fall MDA.

Hypothesis 4b. At low levels of fall defender self-efficacy, I expect fall empathy to be associated indirectly with lower levels of spring defending through higher levels of fall MDA.

Gender Differences. Children's gender will also be taken into account. It is expected that associations between gender and study variables will be consistent with existing literature. Specifically, it is expected that girls will exhibit higher rates of empathy (see Eisenberg & Fabes, 1998 for a meta-analysis), higher rates of defender self-efficacy (van der Ploeg et al., 2017), higher rates of peer-reported indirect defending behaviors (Lambe & Craig, 2020; Reijntjes et al., 2016), lower rates of moral disengagement (Paciello et al., 2013; Thornberg et al., 2015), and lower rates of peer-reported direct defending (Lambe & Craig, 2020; Reijntjes et al., 2016) than boys. As gender differences in the proposed associations have been rare and inconsistent across studies, tests of moderation by gender will be included but will be exploratory in nature. However, identifying potential gender differences is deemed important in light of known gender differences in the social development of boys and girls and the need to identify gender-specific processes that inhibit or foster defending behaviors.

Method

Participants

Participants (N = 1,564) were fourth-grade and fifth-grade students in self-contained classrooms in thirteen rural elementary schools recruited from two counties in Eastern Alabama. Data were collected in two cohorts over two academic years (Cohort 1: 5 schools; n = 484, 30.9%; Cohort 2: 8 schools; n = 1,080, 69.1%). The sample was fairly evenly split between boys and girls (boys = 804, 51.4%), were between 9 and 10 years old (M = 9.65 years; SD = 7.92 months), and identified their ethnicity as White (55.0%) or Black (36.1%), with a small minority identifying as Hispanic/Latinx (4.1%), multiethnic (3.5%), Asian (0.7%), Native

Hawaiian/Pacific Islander (0.2%), Native American/Alaskan Native (0.1%), or other (0.2%). Ethnicity data were not reported for 2 participants (0.1%). These schools were located in communities with a significant population of low SES families. The percentage of children in each of the thirteen participating schools receiving free or reduced lunch ranged from 53.1% to 93.6%, M = 71.31%. Because these classrooms were self-contained, students spent the majority of their day with the same set of classmates.

Research assistants visited each classroom prior to data collection to tell the students about the research project and to invite them to join the study. Consent forms were sent home by each fourth-grade and fifth-grade homeroom teacher. Consent was obtained from participants' parents or legal guardians, and participants provided assent on a separate form. All participants were given a novelty pencil as a token of appreciation for returning their consent regardless of whether consent to participate in the study was granted. When a substantial number of consent forms were returned as determined by the teacher, the entire class received a pizza party. The participation rate for this sample was 76.1%. Because a small portion of our sample came from homes where the native language of the family of origin was Spanish, the Institutional Review Board (i.e., IRB) approved Spanish versions of the consent letter and questionnaires, and these versions were available in classrooms in which there were Spanish-speaking students. Undergraduate research assistants fluent in Spanish were also available to aid students requiring further assistance with the questionnaires.

Procedure

All children participated in a randomized controlled trial of a theory-based anti-bullying program that sought to increase defending behaviors when witnessing bullying, decrease aggression and behaviors that reinforce bullying, and, in turn, improve children's emotional

well-being, school adjustment, and academic progress. The procedures were approved by the Auburn University IRB. Participating schools were randomized to one of two conditions: an empathy-based program condition and a deviance regulation theory (i.e., DRT; Blanton, Stuart, & Van den Eijnden, 2001) based program condition. Over the course of the academic year, participants were asked to complete a 45-minute condition-specific intervention activity and a series of pencil and paper questionnaires measuring a broad-range of personal experiences and beliefs (e.g., empathy, beliefs about other children), as well as their own behaviors in bullying situations (i.e., self-reports) and peers' behaviors (i.e., peer-reports). Data were collected at three separate data collections: fall data collection took place two weeks prior to the intervention in mid-fall; mid-year data collection took place after the intervention in early winter; and spring data collection took place prior to the end of the school year in late spring. The proposed study utilizes data from the fall and spring data collections.

All questionnaires completed by the children were group-administered in their classroom. To maintain an ethical and confidential data collection environment, specific uniform precautions were taken in each classroom. During data collection, desk dividers and coversheets were used to provide a semi-private workspace for each student. Students were reminded that their participation was voluntary, that they could discontinue their participation at any time, that their answers would be seen only by the research team at Auburn University, and that they should not look at other students' questionnaires or share answers.

With the exception of two condition-specific questions at the end of the fall data collection, participants in both conditions completed the same questionnaires at all data collections. At fall data collection, children completed self-report measures of empathy, moral disengagement, and self-efficacy for defending, as well as peer-report measures of classmates'

defending behaviors. During fall data collection, completion of the questionnaires took approximately fifty to fifty-five minutes. At subsequent data collections, participants completed a shorter set of follow-up questionnaires including the peer report measure of defending behaviors. In order to shorten the data collection session, and as we did not expect changes over six months in children's empathy or moral disengagement, children did not complete the measures of empathy or moral disengagement after the fall data collection. The spring data collection took approximately forty to forty-five minutes to complete.

All children participated in a forty to fifty minute intervention two weeks after the first data collection session. Although there is no theoretical basis for assuming that the intervention would differentially affect associations between children's empathy, moral disengagement, or self-efficacy for defending, it is possible, and expected, that children in one condition would show relatively greater increases in defending behaviors over the course of the school year. Accordingly, experimental condition was included in the model as a covariate.

Measures

Empathy. Bryant's (1982) 22-item Empathy Index (EI) was used to measure participants' empathy in the fall. Participants rated each item on a 5-point scale (1 = *Not at all true of me*; 5 = *Very true of me*). Example items include "I get upset when I see a boy being hurt," "Seeing a girl who is crying makes me feel like crying," and "I get upset when I see an animal being hurt" (See Appendix A1 for all empathy items). This measure has demonstrated strong reliability and validity in past research (Cronbach's $\alpha = .81$; Barchia & Bussey, 2011b).

Previous research has supported a two-factor structure for the EI (de Wied, Branje, & Meeus, 2007). The empathic sadness subscale (i.e., ES; items related to emotional responsiveness) was deemed more relevant and appropriate to the study of peer victimization

than the attitudes scale (i.e., items related to attitudes about other's emotions). Thus, the seven-item ES subscale (e.g., "I get upset when I see a boy being hurt"; "It makes me sad to see a girl who can't find anyone to play with") was included in analyses (see Polman et al., 2009; van der Graaff et al., 2012 for other uses of this subscale; see Appendix A2 for ES items). An exploratory factor analysis revealed a seven-item ES subscale for this data set consistent with a previous factor analysis (de Wied et al., 2007) and use of this measure (Polman et al., 2009; van der Graaff et al., 2012). Thus, for this investigation, scores on these seven items were averaged to create a composite ES score. This subscale evidenced good internal reliability with this sample (Cronbach's $\alpha = .83$).

Moral Disengagement for Aggression (MDA). Bandura and colleagues' (1996) 32-item Mechanisms of Moral Disengagement (MDD) measure was used to assess participants' moral disengagement. Participants rated each item on a 5-point scale (1 = *Strongly disagree*; 5 = *Strongly agree*). Example items include "It is alright to fight to protect your friends" and "If kids are not disciplined, they should not be blamed for misbehaving" (see Appendix B1, for all moral disengagement items). The MMD has been widely used and has demonstrated strong internal reliability and validity (Cronbach's $\alpha s \geq .90$; Pornari & Wood, 2010; Robson & Witenberg, 2013).

In order to examine moral disengagement specifically for acts of aggression (MDA), a subset of eleven items, (See Appendix B2 for MDA items) was selected that referenced moral disengagement for interpersonal harm (e.g., "Children don't mind being teased because it show interest in them;" "Insults among children don't really hurt anyone;" "Slapping and shoving someone is just a way of joking"). The selection of these items is consistent with previous research utilizing a similar selection of items from the MDD (Barchia & Bussey, 2011a, 2011b).

A confirmatory factor analysis confirmed that these items significantly loaded on the MDA latent variable with loadings .40 or greater. Item scores were averaged to create a composite MDA score. This subscale evidenced adequate internal reliability with this sample (Cronbach's α = .78).

Defender Self-Efficacy. Defender self-efficacy was measured using five items. Three of these items were adopted from Salmivalli and colleagues (Kärnä et al., 2011; Pöyhönen et al., 2010), who based the items on the PRQ (Salmivalli et al., 1996). Participants were asked to indicate how easy it would be for them to engage in different peer defending behaviors, including "[trying] to make other stop the bullying" or "[comforting] the victim or [encouraging] him/her to tell the teacher about the bullying" (see Appendix C for defender self-efficacy items). Although these items have adequate internal reliability for children in this age group (Cronbach's α = .65; Pöyhönen et al., 2010), two items written by Thornberg and Jungert (2013) were included to bolster the internal reliability of the measure ("stop bullying if I saw it," "intervene in bullying situation and help the victim"). Children rated each item on a 4-point scale (1 = *Very difficult for me*; 4 = *Very easy for me*). Item scores were averaged to create a composite defender self-efficacy score. The measure evidenced adequate internal reliability with this sample (Cronbach's α = .69).

Defending. Three defending items from the peer-report version of the Participant Response Questionnaire (i.e., PRQ-PR) were used to assess direct and indirect defending behaviors (Salmivalli et al., 1996, 1998). For each item, children rated their participating classmates on a 4-point scale (1 = *Never*; 4 = *A lot*) as to how often each engages in the described behavior. To assess direct defending behaviors, a composite direct defending score was computed by first averaging ratings received from all participating classmates on two items

("tells the others to stop bullying;" "tries to make the others stop bullying") and then averaging the two item-level scores (fall: r = .84; spring: r = .88). A score for indirect defending behaviors was computed by averaging ratings received on the third peer-report item ("comforts the victim or encourages him/her to tell the teacher about the bullying").

Data Analytic Plan

Preliminary analyses included the calculation of means, standard deviations, and bivariate correlations. Independent samples *t*-tests were conducted to identify gender differences and differences across intervention conditions. Chi-square tests determined whether those with missing data differed from those with complete data on gender or condition. Independent samples *t*-tests determined if differences existed between those with missing data and those without missing data on reports of empathy, defender self-efficacy, MDA, direct defending behavior, and indirect defending behavior. In order to account for missing data, full information maximum likelihood (i.e., FIML) was used when estimating path analyses. FIML estimates a likelihood function for each participant based on all available data, allowing all available data to be used in estimating path analysis parameters (Enders & Bandalos, 2001). Additionally, maximum likelihood robust error estimation (i.e., MLR) corrected for biases in the estimation of standard errors and model fit due to non-normality of the data (Finney & DiStefano, 2008).

To test the theoretical model for direct defending behavior (Figure 1a) and indirect defending behavior (Figure 1b), two multi-group path models were estimated using Mplus version 8 (Muthén & Muthén, 1998). Model fit was assessed with a chi-square test of model fit and other commonly used fit statistics (i.e., RMSEA < .08; CFI ≥ .95; SRMR < .08; Henseler et al., 2016; Schreiber et al., 2006). To test for gender differences, a model was estimated that constrained all coefficients and variable means to be equal for girls and boys. This model was

compared to an unconstrained model in which all coefficients and means were freely estimated. A $\Delta\chi^2$ test compared the model fit of the constrained model to the model fit of the unconstrained model. A significant $\Delta\chi^2$ indicated that gender differences existed in the parameter estimates. When a significant $\Delta\chi^2$ was found, separate models constraining each parameter individually for boys and girls was estimated and compared to the unconstrained model to identify specific gender differences. A significant $\Delta\chi^2$ indicated whether the parameter differed significantly between boys and girls. I then estimated a final model constraining all path coefficients and means to be equal for girls and boys, excluding gender constraints for those parameters for which a significant gender difference was detected.

Following identification of the final path model, path coefficients were assessed as to whether they support hypothesized direct and moderated associations. Bootstrapping was utilized to estimate the indirect effect through MDA at low (-1 *SD*), average (0 *SD*), and high (1 *SD*) levels of defender self-efficacy, as well as the remaining direct effect and the total effect (see Preacher & Hayes, 2004). Using procedures outlined by Preacher and colleagues (2006), significant interactions were interpreted by estimating and plotting simple slopes at low, average, and high levels of defender self-efficacy.

Evidence for Supporting Hypotheses

Hypothesis 1: The direct interactive effect of empathy and defending self-efficacy on defending behaviors.

Hypothesis 1a. It was expected that higher levels of fall empathy would predict higher levels of spring direct and indirect defending. Hypothesis 1a was supported if there was a statistically significant positive coefficient for fall empathy on spring direct and indirect defending behaviors.

***Hypothesis 1b*.** It was expected that the direct effect of empathy on direct defending behaviors would be stronger at higher levels fall defender self-efficacy. Hypothesis 1b was supported if: (a) there was a statistically significant positive coefficient for the fall empathy × fall defender self-efficacy interaction term on spring direct defending behaviors, (b) the calculated simple slopes were significant and positive at high and average levels of defender self-efficacy and non-significant at low levels of defender self-efficacy, and (c) the plotted simple slopes for this interaction effect (see Figure 2a) indicated no association between fall empathy on spring direct defending at low levels of fall defender self-efficacy and a positive association at high and average levels of fall defender self-efficacy.

***Hypothesis 1c*.** It was expected that the direct positive effect of empathy on indirect defending would be stronger at lower levels of fall defender self-efficacy. Hypothesis 1c was supported if: (a) there was a statistically significant negative coefficient for the fall empathy × fall defender self-efficacy interaction term on spring indirect defending behaviors, (b) the calculated simple slopes were significant and positive at low and average levels of defender self-efficacy and non-significant at high levels of defender self-efficacy, and (c) the plotted simple slopes for this interaction effect (see Figure 2b) indicated a positive association between fall empathy and spring indirect defending at low and average levels of fall defender self-efficacy and no association at high levels of fall defender self-efficacy.

Hypothesis 2: The direct interactive effect of empathy and defender self-efficacy on MDA.

Hypothesis 2a. It was expected that higher levels of fall empathy would be associated with lower levels of fall MDA only at high levels of defender self-efficacy. Hypothesis 2a supported if: (a) there was a statistically significant negative coefficient for the fall empathy ×

fall defender self-efficacy interaction term on fall MDA, (b) the calculated simple slope was significant and negative at high levels of defender self-efficacy, and (c) the plotted simple slopes for this interaction effect (see Figure 2c) indicated a negative association between fall empathy and fall MDA at high levels of fall defender self-efficacy.

Hypothesis 2b. It was expected that higher levels of fall empathy be associated with higher levels of fall MDA only at low levels of defender self-efficacy. Hypothesis 2b was supported if: (a) there was a statistically significant negative coefficient for the fall empathy × fall defender self-efficacy interaction term on fall MDA, (b) the calculated simple slope was significant and positive at low levels of defender self-efficacy, and (c) the plotted simple slopes for this interaction effect (see Figure 2c) indicated a positive association between fall empathy and fall MDA at low levels of fall defender self-efficacy.

Hypothesis 3: Main effect of MDA on defending behaviors. It was expected that higher levels of fall MDA would predict lower levels of spring direct and indirect defending behaviors. Hypothesis 3 was supported if there was a statistically significant negative coefficient for fall MDA on spring direct and indirect defending.

Hypothesis 4: Moderated indirect effect of empathy on defending behaviors.

Hypothesis 4a. It was expected that there would be a significant positive indirect association between empathy and direct and indirect defending through MDA at high levels of defender self-efficacy. Hypothesis 4a was supported if there was a statistically significant positive coefficient for the indirect effect at high levels of fall defender self-efficacy.

Hypothesis 4b. It was expected that there would be a significant negative indirect association between empathy and direct and indirect defending through MDA at low levels of defender self-efficacy. Hypothesis 4b was supported if there was a statistically significant

negative coefficient for the indirect effect at low levels of fall defender self-efficacy.

Results

Preliminary Analyses

Descriptive statistics and bivariate correlations are presented in Table 1. Skew was detected for empathy (α_3 = -.60), defender self-efficacy (α_3 = -.41), and MDA (α_3 =.98). Empathy moderately and positively correlated with defender self-efficacy and defending behaviors, and moderately and negatively correlated with MDA. There was a weak negative correlation between defender self-efficacy and MDA, and although defender self-efficacy was significantly correlated with fall indirect defending and both direct and indirect defending in the spring, these correlation coefficients were small in magnitude (all *r*s < .08). MDA was moderately and negatively correlated with both direct and indirect defending in both the fall and spring. Fall direct and indirect defending were strongly and positively correlated with one another, as was spring direct and indirect defending, although each evidenced only moderate stability from fall to spring.

Independent samples *t*-tests indicated that compared to boys girls had higher levels of empathy (girls: *M* = 3.95, *SD*= .91; boys: 3.39, *SD* = 1.01), *t*(1492) = -11.31, *p* < .001, fall direct defending (girls: *M* = 2.60, *SD* = .49; boys: *M* = 2.37, *SD* = .49), *t*(1540) = -9.60, *p* < .001, fall indirect defending (girls: *M* = 2.69, *SD* = .49; boys: *M* = 2.39, *SD* = .47), *t*(1540) = -12.29, *p* < .001, spring direct defending (girls: *M* = 2.63, *SD* = .52; boys: *M* = 2.41, *SD* = .51), *t*(1462) = -8.19, *p* < .001, and spring indirect defending (girls: *M* = 2.72, *SD* = .54; boys: *M* = 2.38, *SD* = .54), *t*(1483) = -12.26, *p* < .001. Boys reported higher levels of MDA (*M* = 1.97, *SD* = .72) than girls (*M* = 1.72, *SD* = .66), *t*(1477) = 7.03, *p* < .001. There was no gender difference in defender self-efficacy, *t*(1482) = -0.37, *p* = .72.

A small percentage of participants (n = 198, 13%) had missing data on one or more of the study variables. Chi-square tests indicated that participants with missing data did not differ significantly from participants with complete data by study condition, $\chi^2(1) = 1.75$, $p = .19$, or gender, $\chi^2(1) = 2.42$, $p = .12$. Independent samples t-tests indicated that participants with missing data did not differ significantly from participants with complete data on reports of defender self-efficacy, $t(1482) = 0.06$, $p = .95$, or MDA, $t(1477) = 1.33$, $p = .18$, but did differ on reports of empathy and direct and indirect defending in the fall and spring. Specifically, participants with complete data reported higher levels of empathy (M = 3.68, SD = .99) than those with missing data (M = 3.48, SD = 1.08), $t(1492) = -2.13$, $p = .03$. Similarly, participants with complete data had higher levels of fall direct defending (complete: M = 2.50, SD = .50; missing: M = 2.28, SD = .47), $t(1540) = -5.49$, $p < .001$, spring direct defending (complete: M = 2.53, SD = .52; missing: M = 2.35, SD = .52), $t(1462) = -3.17$, $p = .002$, fall indirect defending (complete: M = 2.57, SD = .50; missing: M = 2.35, SD = .52), $t(1540) = -5.17$, $p < .001$, and spring indirect defending (complete: M = 2.55, SD = .57; missing: M = 2.36, SD = .54), $t(1482) = -3.80$, $p < .001$, than those with missing data.

Testing the Proposed Moderated Mediation Models

Two path models were estimated to test the theoretical model for direct defending behavior (Figure 1a) and indirect defending behavior (Figure 1b).

Direct Defending Model. A multi-group path model initially was estimated to test for gender differences. Although a model in which all path coefficients and variables means were constrained to be equal for boys and girls fit the model well, $\chi^2(13) = 22.64$, $p = .05$, CFI = .99, RMSEA = .03, SRMR = .02, unconstraining all path coefficients and variable means significantly improved model fit, $\Delta\chi^2(11) = 21.25$, $p = .03$. Thus, models were estimated that

constrained each parameter sequentially to identify those parameters for which there was a significant gender difference. A final model was estimated that unconstrained only those parameters for which there were significant gender differences, and its model fit was found to be significantly improved over the fully constrained model, $\Delta\chi^2(3) = 12.4$, $p = .01$. Gender differences were detected for the means of spring direct defending (Boys: $b = 1.04$; Girls: $b = 1.01$), $\Delta\chi^2(1) = 5.76$, $p = .02$, and fall MDA (Boys: $b = -.06$; Girls: $b = .13$), $\Delta\chi^2(1) = 6.00$, $p = .01$, and on the path regressing spring direct defending on fall direct defending, (Boys: $b = .60$, $p < .001$; Girls: $b = .63$, $p < .001$), $\Delta\chi^2(1) = 6.31$, $p = .01$. Parameter estimates were compared to the parameter estimates of a model in which the data for boys and girls were collapsed, and the beta coefficients and significance levels of all parameter estimates were not substantially different between the multi-group and collapsed models. Furthermore, as gender differences were not found for any of the pathways testing the study's hypotheses, a final model was estimated collapsing the data from girls and boys.

The final model evidenced good model fit, $\chi^2(1) = .51$, $p = .47$, CFI = 1.00, RMSEA = .00, SRMR = .003. Table 2 presents the unstandardized and standardized path coefficients and the raw estimates of the direct, indirect, and total effect of fall empathy on spring direct defending. In regards to the two control variables, higher levels of fall direct defending predicted higher levels of spring direct defending while participation in the experimental condition predicted lower levels of spring direct defending. A significant main effect of fall defender self-efficacy on spring direct defending was not detected.

While higher levels of empathy did not predict spring direct defending, a significant interactive effect between empathy and defender self-efficacy on spring direct defending was detected. Figure 3a presents the plotted simple slopes of this interaction. Higher levels of

empathy significantly predicted higher levels of spring direct defending at higher levels of defender self-efficacy but not at moderate or low levels of defender self-efficacy (high defender self-efficacy: $b = .04$, $t(1530) = 2.47$, $p = .01$; moderate defender self-efficacy: $b = .02$, $t(1530) = 1.71$, $p = .09$; low defender self-efficacy: $b = -.001$, $t(1530) = -0.06$, $p = .95$). Thus, empathy was only predictive of spring defending when defender self-efficacy was also high. However, it should be noted that, as can be seen in Figure 3a, this prediction was only slightly stronger at high levels of empathy than at low levels of empathy.

Turning to the indirect effect, higher levels of fall empathy were associated with lower levels fall MDA, and higher levels of fall defender self-efficacy were associated with higher levels of fall MDA. These main effects were qualified by a significant empathy × defender self-efficacy interaction. Higher levels of empathy were significantly associated with lower levels of MDA at low, moderate, and high levels of the defender self-efficacy, and this association was stronger at higher rather than lower levels of defender self-efficacy (high defender self-efficacy: $b = -.90$, $t(1530) = -6.86$, $p < .001$; moderate defender self-efficacy: $b = -.74$, $t(1530) = -6.94$, $p < .001$; low defender self-efficacy: $b = -.63$, $t(1530) = -6.74$, $p < .001$). Figure 3b presents the plotted simple slopes of this interaction. Low levels of empathy was associated with higher levels of MDA, and this was particularly true at higher levels of defender self-efficacy. Conversely, high levels of empathy were associated with low levels of MDA, and this did not vary as a function of defender self-efficacy.

Finally, as hypothesized, lower levels of spring direct defending were predicted by higher levels of MDA. Tests of the indirect effect (see Table 2) indicated that there was a significant indirect effect of empathy on spring direct defending through MDA at low, moderate, and high levels of defender self-efficacy, but that this effect was stronger at higher rather than lower levels

of defender self-efficacy (high defender self-efficacy: $b = .06$, $p < .001$; moderate defender self-efficacy: $b = .05$, $p < .001$; low defender self-efficacy: $b = .04$, $p < .001$). The cumulative differences in the direct and indirect effects of empathy on spring direct defending can be seen in the significance of the total effect at each level of defender self-efficacy (high defender self-efficacy: $b = .10$, $p < .001$; moderate defender self-efficacy: $b = .07$, $p < .001$; low defender self-efficacy: $b = .04$, $p = .02$).

Indirect Defending Model. A multi-group path model initially was estimated to test for gender differences. Although a model in which all path coefficients and variables means were constrained to be equal for boys and girls fit the model well, $\chi^2(13) = 48.12$, $p < .001$, CFI = .95, RMSEA = .06, SRMR = .03, unconstraining all path coefficients and variable means significantly improved model fit, $\Delta\chi^2(11) = 46.65$, $p < .001$. Thus, models were estimated that constrained each parameter sequentially to identify those parameters for which there was a significant gender difference. A final model was estimated that unconstrained only those parameters for which there was a significant gender difference, and its model fit was found to be significantly improved over the fully constrained model, $\Delta\chi^2(4) = 35.37$, $p < .001$. Gender differences were detected on the means for spring indirect defending (Boys: $b = 1.07$; Girls: $b = 1.2$), $\Delta\chi^2(1) = 20.01$, $p < .001$, and MDA (Boys: $b = -.07$; Girls: $b = .15$), $\Delta\chi^2(1) = 6.23$, $p = .01$, and on the paths regressing spring indirect defending on fall indirect defending (Boys: $b = .57$, $p < .001$; Girls: $b = .58$, $p < .001$), $\Delta\chi^2(1) = 28.07$, $p < .001$, and spring indirect defending on study condition (Boys: $b = -.10$, $p = .002$; Girls: $b = -.11$, $p = .002$), $\Delta\chi^2(1) = 14.51$, $p < .001$. Parameter estimates were compared to the parameter estimates of a model in which the data for boys and girls were collapsed, and the beta coefficients and significance levels of all parameter estimates were not substantially different between the multi-group and collapsed models.

Furthermore, as gender differences were not found for any of the pathways testing the study's hypotheses, a final model was estimated collapsing the data from girls and boys.

The final model evidenced good model fit, $\chi^2(1) = .41$, $p = .52$, CFI = 1.00, RMSEA = .00, SRMR = .002. Table 3 presents the unstandardized and standardized path coefficients and the raw estimates of the direct, indirect, and total effect of empathy on spring direct defending. In regards to the two control variables, higher levels of fall indirect defending predicted higher levels of spring indirect defending while participation in the experimental condition predicted lower levels of spring indirect defending. A significant main effect of fall defender self-efficacy on spring indirect defending was not detected.

Higher levels of empathy predicted higher levels of spring indirect defending, and a significant interactive effect between empathy and defender self-efficacy on spring indirect defending did not emerge ($p = .07$). Higher levels of empathy were also associated with lower levels MDA, and higher levels of defender self-efficacy were associated with higher levels of MDA. These associations were qualified by a significant empathy × defender self-efficacy interaction. Higher levels of empathy were significantly associated with lower levels of MDA at low, moderate, and high levels of defender self-efficacy, and this association was stronger at higher rather than lower levels of defender self-efficacy (high defender self-efficacy: $b = -.83$, $t(1530) = -6.93$, $p < .001$; moderate defender self-efficacy: $b = -.72$, $t(1530) = -7.02$, $p < .001$; low defender self-efficacy: $b = -.61$, $t(1530) = -6.81$, $p < .001$). Figure 3c presents the plotted simple slopes of this interaction Low levels of empathy were associated with higher levels of MDA, and this was particularly true at higher levels of defender self-efficacy. Conversely, high levels of empathy were associated with lower levels of MDA was low, and this did not vary as a function of defender self-efficacy.

Finally, as hypothesized, lower levels of spring indirect defending were predicted by higher levels of MDA. Tests of the indirect effect (see Table 3) indicated that there was a significant indirect effect of empathy on spring indirect defending through MDA at low, moderate, and high levels of defender self-efficacy, but that this effect was stronger at higher rather than lower levels of defender self-efficacy (high defender self-efficacy: $b = .08$, $p < .001$; moderate defender self-efficacy: $b = .07$, $p < .001$; low defender self-efficacy: $b = .06$, $p < .001$). The cumulative differences in the direct and indirect effect effects of empathy on spring indirect defending can be seen in the significance of the total effect at each level of defender self-efficacy (high defender self-efficacy: $b = .15$, $p < .001$; moderate defender self-efficacy: $b = .12$, $p < .001$; low defender self-efficacy: $b = .09$, $p < .001$).

Discussion

As peer defending has been identified as an effective form of prevention against peer aggression and bullying (Flaspohler et al., 2009; Kärnä et al., 2010; Kochenderfer & Ladd, 1997; Salmivalli, 2014; Salmivalli et al., 2011), understanding the process supporting its development is vital. My findings suggest that, over the course of an academic year, empathy predicts direct and indirect peer defending through two pathways. First, empathy is indirectly associated with heightened defending in the spring through lower levels of fall MDA. Moreover, low levels of empathy are more strongly associated with greater MDA at higher levels of defender self-efficacy. Second, empathy is directly associated with higher levels of defending in the spring, although for direct defending, this direct association is significant only at high levels of defender self-efficacy. These findings underscore the importance of empathy in the promotion of defending and bullying prevention. Furthermore, they highlight the role of defender self-efficacy in enabling empathic children to move beyond concern for a victim so that they directly defend

peers who are the target of aggression. However, in the absence of empathy, promoting defender self-efficacy may have the iatrogenic effect of increasing MDA and, in turn, reducing defending behaviors.

Empathy × Defender Self-Efficacy Interaction Predicting Defending through MDA

The findings of this study indicate that there is an indirect effect of empathy on spring defending behaviors through lower levels of MDA and that the association between empathy and MDA is moderated by defender self-efficacy. These findings build on previous studies connecting empathy and moral disengagement (e.g., Almeida et al., 2009; Paciello et al., 2013), as well as research identifying concurrent (e.g., Caravita et al., 2012; Thornberg et al., 2015) and longitudinal (Doramajian & Bukowski, 2015) associations between moral disengagement and defending. Thus, these findings advance the literature by moving beyond identifying isolated correlates of defending to examining how these correlates are part of a system of cognitive-affective processes that foster or hinder defending victims of bullying.

Perhaps, the most novel contribution of this study was the finding that defender self-efficacy moderates the association between empathy and MDA. Somewhat unexpected, low levels of empathy were associated with greater MDA at higher levels of defender self-efficacy. It is possible that when children believe that they are capable of defending victimized peers, they feel a stronger moral imperative to act in defense of that peer because they recognize that they have the capacity to diffuse the situation or provide support to the victim. Consistent with this proposition are findings showing that the bystander effect (i.e., diffusion of responsibility to respond to victimization when multiple people are present; Darley & Latane, 1968; Latane & Darley, 1970) is greatly reduced when witnesses feel competent at intervening (see Fischer et al.,

2011, for a meta-analysis). Thus, the more capable children feel at defending, the greater the level of MDA required to justify being unmotivated to act due to low empathy.

Conversely, when children reported relatively high levels of empathic concern, they reported lower levels of MDA regardless of how efficacious they felt about defending victimized peers. This contradicted my hypothesis that the association between high levels of empathy and low levels of MDA would be stronger at higher levels of defender self-efficacy. Instead, the findings suggested that when children are highly empathic, they engage in low levels of MDA regardless of whether they feel they can competently defend victimized peers. High levels of empathy may motivate a strong desire to aid victims of aggression, precluding any further effect of defender self-efficacy. Furthermore, empathy may reinforce an understanding that the victimization of peers is wrong (e.g., Menesini et al., 1997; Thornberg, 2010), making justification of aggression difficult. The association between empathy and MDA may also be accounted for by increases in perspective taking which occur during this period (e.g., Bengtsson & Johnson, 1992; Litvack-Miller et al., 1997; van der Graaff et al., 2014). The ability to understand and interpret another person's experience is an essential component of empathy (e.g., cognitive empathy; Longobardi et al., 2019; Murakami et al., 2014), and, thus, a child's ability to consider the perspective of victimized peers (e.g., their emotional reaction, their concern about personal safety, their sense of social isolation) is integral to empathic responses to a peer's distress (see Batson, 2009; Hoffman, 2000). Because MDA minimizes the seriousness of peer aggression or dismisses it by placing blame on the victim, children who are highly empathic may not engage in MDA because their perspective taking skills enable them to see the seriousness and the inexcusability of the aggression from the victim's viewpoint.

Consistent with previous research (Doramajian & Bukowski, 2015), lower MDA predicted heightened defending behaviors over the course of an academic year. While it is understandable that low levels of MDA would lead to heightened defending in the moment, it is less clear why it would be predictive of heightened defending across the school year. Previous research has suggested that moral disengagement reinforces itself by habituating individuals to the aggression they are witnessing and any guilt at abrogating a moral responsibility (e.g., Bandura et al., 1996; Doramajian & Bukowski, 2015; Gibbs et al., 1995). It is possible, that low levels of MDA are reinforced through a reciprocal relationship with defending behaviors. That is, engaging in defending may reify underlying belief systems that aggression is unjustified, leading to further reductions in MDA and subsequent increases in defending. In addition, initial acts of defending, promoted by empathy and low MDA, may align children socially with the victims of bullying and in opposition to the aggressors, entrenching their role as defenders within the peer group and providing increased opportunities to aid victimized peers.

These findings have implications for understanding developmental shifts in children's responses to witnessed peer victimization. Defending decreases in late childhood (Dijkstra et al., 2008; Pepler et al., 2006; Salmivalli et al., 1998) while bullying increases (e.g., Pepler et al., 2006; Salmivalli et al., 1998). These shifts coincide with an increased concern over popularity among school children (e,g., Hawley et al., 2002; Sijtsema et al., 2009), a factor found to be associated with bullying, particularly among children in the transition between late childhood and early adolescence (e.g., Caravita & Cillessen, 2012; Cillessen & Mayeux, 2004; Sijtsema et al., 2009). My findings may play a role in explaining these shifts. As the importance of popularity increases, empathically immature children may need a way to justify inaction in response to peer victimization. Moral disengagement may allow for an increasing focus on

popularity, rather than prosociality, when witnessing bullying (Bandura et al., 1996; Doramajian & Bukowski, 2015; Gibbs et al., 1995). Furthermore, because of their power and influence, popular youth may feel confident in their ability to act as defenders. However, if their ability to empathize is not fully developed, they may rely on MDA to justify engaging in behaviors (i.e., aggression, siding with bullies; Garandeau et al., 2011; Rodkin et al., 2000, 2006) that elevate their status (Cillessen & Mayeux, 2004).

Empathy × Defender Self-Efficacy Interaction Predicting Defending

The results of this study supported the proposition that, beyond an indirect link through MDA, there is a direct effect of empathy on subsequent direct and indirect defending. This finding is consistent with existing research demonstrating a concurrent positive association between empathy and defending (see van Noorden et al., 2015 for a review). What is notable about these findings, however, is that the link between empathy and direct, but not indirect, defending was moderated by defender self-efficacy. While this effect was modest, my findings suggest that, although empathic concern may motivate children to protect victimized peers, children may also need to feel that they are able to competently end the victimization in order to defend directly. This can likely be attributed to the personal risk imposed by direct forms of defending (e.g., Dovidio et al., 2006; Huitsing et al., 2014). Conversely, such considerations of personal safety and competence at defending may not be necessary for indirect defending, which poses little risk to the defender.

Interestingly, van der Ploeg and colleagues (2017) similarly tested, but did not find, that defender self-efficacy moderates the predictive association between empathy and defending. This likely can be attributed to the researchers not distinguishing between direct and indirect forms of defending. Thus, the current findings underscore the importance of differentiating

between subtypes of defending, consistent with an emerging literature on the multidimensionality of defending behaviors (e.g., Bussey et al., 2020; Forsberg et al., 2018; Fredrick et al., 2020; Lambe & Craig, 2020; Reijntjes et al., 2016; see Frey et al., 2015, for a review). Identifying the unique social-cognitive correlates of subtypes of defending is a nascent, but important, focus of research. For example, Bussey and colleagues (2020) found that defender self-efficacy is positively associated with constructive defending, analogous to direct defending in the current study, and is negatively associated with aggressively engaging the perpetrators of bullying in defense of the victim. Thus, defender self-efficacy may be necessary not only for directly defending the victims of bullying, but also for doing so in a manner that deescalates aggressive encounters.

Gender Differences in Empathy, MDA, and Defending

Exploratory analyses revealed no gender differences in the prediction of MDA or defending. This is consistent with previous literature which has either not considered such differences or have failed to find any. Indeed, only one previous study, Cappadocia and colleagues (2012), found a gender difference in the prediction of defending in this age group, namely that empathy predicted defending for boys but not for girls. That no gender differences were detected in this study is notable. Gender stereotypes surrounding girls' prosociality and boys' aggression may influence both child (Baker et al., 2016; Tisak et al., 2007) and adult perspectives on girls' and boys' social behaviors (Spinrad et al., 1999; Zarbatany et al., 1985), potentially influencing how those behaviors are socialized. Thus, while it is logical to assume that some differences between boys and girls may exist in the processes involved in defending, this was not supported by my findings or the majority existing literature.

Inconsistent with previous research, I did not find that girls demonstrated higher rates of defender self-efficacy than boys (van der Ploeg et al., 2017) or that boys were more likely to engage in direct defending behaviors than girls (Lambe & Craig, 2020; Reijntjes et al., 2016). The current study, however, did reveal some mean-level differences consistent with previous research. Girls demonstrated higher rates of empathy (e.g., Eisenberg & Fabes, 1998; Lambe & Craig, 2020; Peets et al., 2015; Roberts & Strayer, 1996; Thornberg et al., 2015; van der Ploeg et al., 2017) and indirect defending behaviors (Lambe & Craig, 2020; Reijntjes et al., 2016) than boys, while boys demonstrated higher rates of MDA than girls (Bussey et al., 2020; Thornberg et al., 2015). Taken together, these differences between girls and boys may be attributable to how girls and boys are socialized (e.g., girls are raised to be relational and compliant; boys are socialized to be independent and aggressive; e.g., Leaper, 2000; Serbin et al., 1993; Turner & Gervai, 1995). However, my findings suggest that mean level differences in socioemotional processes do not translate into gender differences in how these processes contribute to the development of defending behaviors.

Limitations, Future Directions, and Conclusion

This study had a number of strengths including a longitudinal design, a large, ethnically heterogeneous sample, and a multi-informant approach. Although there remains the possibility that associations between empathy, defender self-efficacy, and MDA could, in part, be attributed to shared method variance, self-reports are the optimal means of assessing unobservable social cognitive processes and affective reactions.

A greater limitation of this study was the reliance on concurrent, questionnaire-based assessments of empathy, defender self-efficacy, and MDA. This correlational research design inhibits our ability to conclude that heightened MDA is triggered (i.e., caused) by an interaction

between low empathy and high defender self-efficacy. This limitation can be addressed in future studies by the use of a research design in which defender self-efficacy is experimentally manipulated and its effects on MDA at low levels of empathy are measured. For example, an experimental study could be conducted in which children high and low in empathy are randomly assigned to receive either reinforcing or critical feedback as to their strategies and ability to defend a bullied peer. Their MDA in response to the bullying of a peer could then be assessed to see if the children who received reinforcing feedback engage greater MDA than those who received critical feedback and whether this effect holds only for children low in empathy.

In addition, although this study identified differences in the prediction of two forms of defending behaviors, it cannot explain what characteristics unique to direct and indirect defending behaviors may lead to those differences. Thus, although it is possible that children may perceive direct defending to be harder or riskier than indirect defending (e.g., Dovidio et al., 2006; Huitsing et al., 2014), research is needed that incorporates measures of children's perceptions of the difficulty of specific types of defending behaviors and whether these perceptions explain the need for greater defender self-efficacy to engage in direct defending. It is also important to consider how the social-cognitive processes examined in this study may differ for defending children of similar characteristics (i.e., in-group) versus defending children with different characteristics (i.e., out-group). Research indicates that children are aware of and hold out-group biases (e.g., racism, homophobia, transphobia), and such biases may influence how they interact with out-group peers (see Bigler & Wright, 2014, for a review). Thus, children may be more likely to engage in MDA when witnessing the peer victimization of an out-group member than an in-group member. To address this limitation, future research should incorporate measures of out-group prejudices (e.g., homophobia, transphobia), as well as measures that

assess empathy and MDA with reference to out-group peers. Furthermore, sociometric measures that capture which peers children defend (see Huitsing & Veenstra, 2012; Oldenburg et al., 2018) would allow for examining defending of in-group and out-group members. In doing so, researchers may be able to identify associations between out-group empathy and out-group MDA, whether prejudices strengthen those associations, and, in turn, if this leads to lower defending of out-group peers.

My study is also limited in its focus on a narrow developmental period (i.e., late childhood). It is unclear how the social-cognitive processes identified by my study may look at different developmental periods. For example, younger children may have less developed empathy than older elementary school children (see Eisenberg et al., 2014), and thus empathy may not be as an important predictor of peer defending during the early elementary school years as it was for this somewhat older sample. Furthermore, the growing importance of popularity in adolescence (e.g., Hawley et al., 2002; Sijtsema et al., 2009) may strengthen the negative association between empathy and MDA as a means of justifying inaction when witnessing bullying or even aiding in the aggression. Future studies can address this limitation by testing these associations with data collected on a wide age range of children and adolescents and comparing the strength of associations across developmental periods.

Other methodological and analytic choices further limit the interpretation of the findings. The short timeframe of this study (i.e., 9 months) and strong stability of defending from fall to spring may have contributed to the low effect size for the direct effect of empathy on defending, as fall levels of defending and MDA accounted for a large percentage of the spring defending variance. Future studies can address this limitation by collecting data at multiple time points over longer periods of time (e.g., multiple academic years). The autoregressive nature of my analyses

also allowed only for the identification of changes in individual defending behaviors in relation to the defending behaviors of others (Curran et al., 2014). Future studies can address this limitation by the use of analytic tools that disaggregate within-person and between-person effects, such as estimating latent change scores (McArdle, 2009) or predicting latent curve models with structured residuals (Curran et al., 2014).

The results of this study have important implications for intervention. Most anti-bullying interventions focus on altering students' attitudes toward bullying as well as teaching effective defending behaviors (Jiménez-Barbero et al., 2016). My findings suggest that anti-bullying interventions should focus on increasing both empathy for victims and self-efficacy for defending. In a recent meta-analysis of fourteen random control trials of anti-bullying programs (Jiménez-Barbero et al., 2016), only one, the KiVa program, was found to include empathy and self-efficacy specific to defending as key intervention targets. While this intervention was found to increase empathy and defender self-efficacy (Kärnä et al., 2011), increases to empathy were modest, and the intervention group did not differ from the control in empathy by the end of the academic year. This lack of strong and consistent increases in empathy may be attributable to the emphasis this program places on activities that reinforce defender self-efficacy such as role playing and practicing responses to peer victimization. Given the importance my findings place on empathy in the prediction of defending, the effectiveness of this and similar programs may be enhanced through greater focus on empathy development. Indeed, primarily focusing on defender self-efficacy may be detrimental in light of the finding that high levels of defender self-efficacy is associated with greater MDA among children low in empathy. Consequently, future research should identify effective methods to foster strong and consistent empathic concern for

victims and then build on this greater empathic concern by fostering skills and efficacy for defending.

In sum, by integrating known correlates of defending, testing their predictive association with defending over time, and distinguishing between qualitatively different forms of defending, this study moves us closer to understanding how affective and cognitive processes systematically foster or hinder the development of defending behaviors. Rather than operating in isolation, defender self-efficacy impacted the strength of the negative association between empathy and MDA, namely, at low levels of empathy children evidenced greater MDA when they felt higher levels of defender self-efficacy. Moreover, the finding that the interaction of high levels of empathy and defender self-efficacy predicted direct defending while empathy alone predicted indirect defending underscores the need to identify how affective-cognitive processes may operate differently in the prediction of direct and indirect defending. Consequently, the results of this study highlight important next steps in both the study of defending behaviors and the development of inventions to promote them.

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Table 1

Descriptive Statistics and Bivariate Correlations.

Variable	*M*	*SD*	1	2	3	4	5	6
1. Fall empathy	3.66	1.00	-					
2. Fall defender self-efficacy	2.92	.72	.27**	-				
3. Fall MDA	1.85	.70	-.23**	-.08**	-			
4. Fall direct defending	2.47	.50	.25**	.03	-.25**	-		
5. Fall indirect defending	2.53	.50	.26**	.05*	-.25**	.82**	-	
6. Spring direct defending	2.52	.52	.21**	.06**	-.25**	.65**	.54**	-
7. Spring indirect defending	2.54	.57	.25**	.07**	-.28**	.66**	.60**	.86**

* $p < .05$. ** $p < .01$.

Table 2

Path Coefficients and Decomposition of Effects for the Direct Defending Model.

	Fall MDA		Spring direct defending	
Predictor	*b*	*β*	*b*	*β*
Fall empathy	-0.74***	-1.07	0.02	0.04
Fall defender self-efficacy	0.16***	0.17	0.02	0.03
Empathy x defender self-efficacy	-0.16***	-0.19	0.03*	0.05
Fall MDA	---	---	-0.07***	-0.09
Study condition	---	---	-0.08***	-0.08
Fall direct defending	---	---	0.63***	0.60
	Decomposition of effects			
	Low DSE	Average DSE	High DSE	
Indirect effect	0.04***	0.05***	0.06***	
Direct effect	0.00	0.02	0.04*	
Total effect	0.04*	0.07***	0.10***	

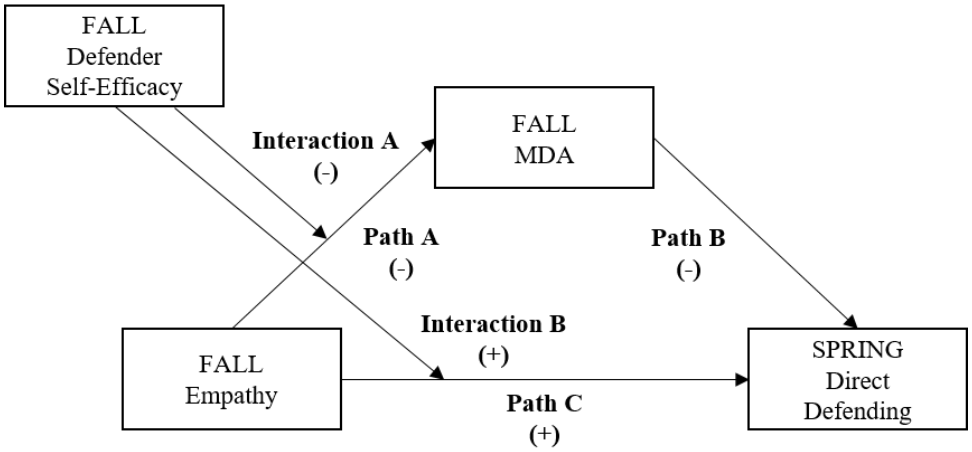
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

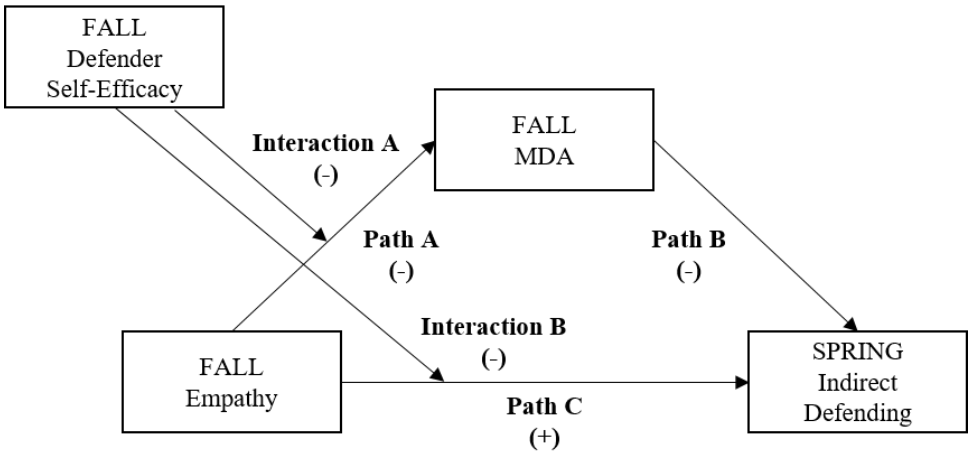
Path Coefficients and Decomposition of Effects for the Indirect Defending Model.

	Fall MDA		Spring indirect defending	
Predictor	*b*	*β*	*b*	*β*
Fall empathy	-0.72***	-1.03	0.05***	0.08
Fall defender self-efficacy	0.16***	0.16	0.02	0.02
Empathy x defender self-efficacy	-0.16***	-0.18	0.03	0.04
Fall MDA	---	---	-0.10***	-0.12
Study condition	---	---	-0.09***	-0.08
Fall indirect defending	---	---	0.61***	0.54
	Decomposition of effects			
	Low DSE	Average DSE	High DSE	
Indirect effect	0.06***	0.07***	0.08***	
Direct effect	0.03	0.05***	0.07***	
Total effect	0.09***	0.12***	0.15***	

* $p < .05$. ** $p < .01$. *** $p < .001$.



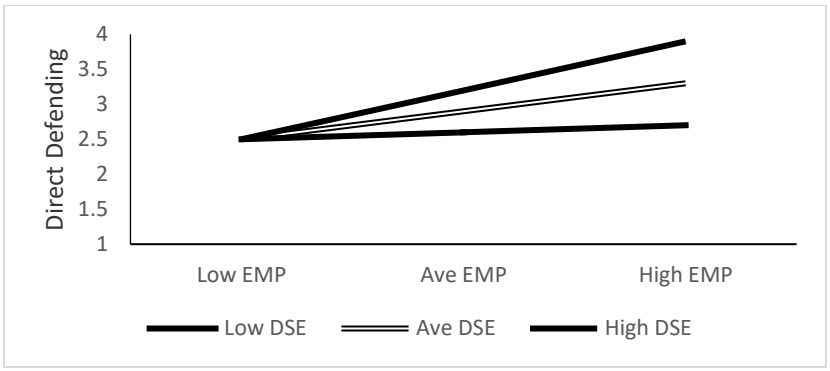
a)



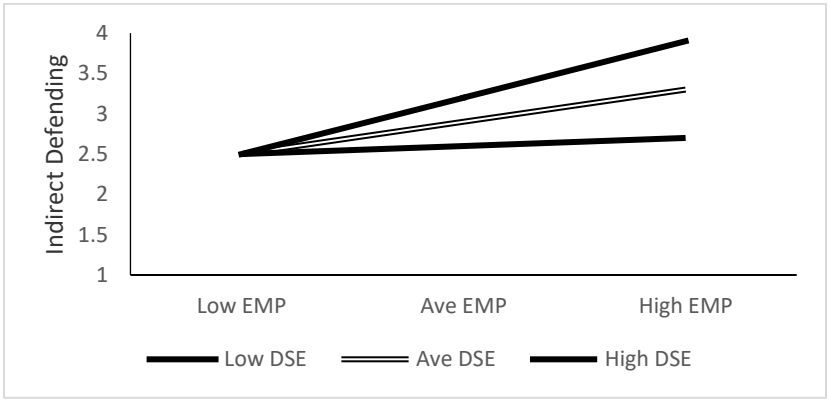
b)

Figure 1. A theoretical moderated mediation model in which the path between empathy and both direct and indirect defending is mediated by moral disengagement for aggression. The direct link in Figure 1a between empathy and direct defending is theorized to be stronger when defender self-efficacy is high. The direct link in Figure 1b between empathy and indirect defending is theorized to be stronger when defender self-efficacy is low. The link between empathy and moral disengagement for interpersonal aggression is theorized to be stronger when defender self-efficacy is low. Expected directions of proposed significant main and interactive effects are indicated (i.e., +, -).

a)



b)



c)

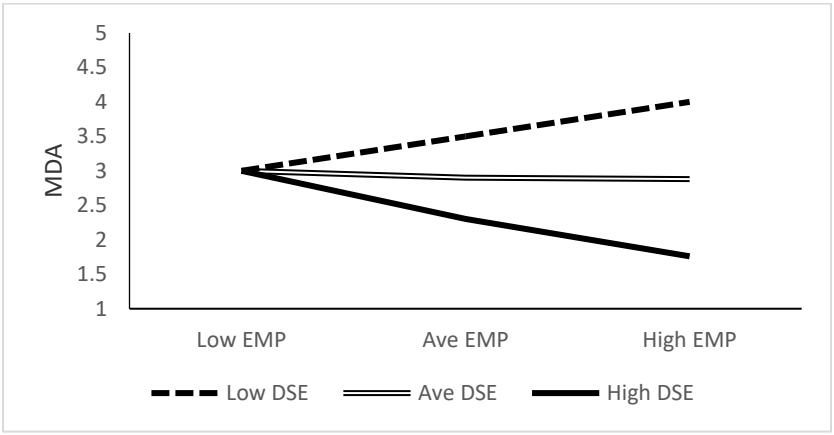
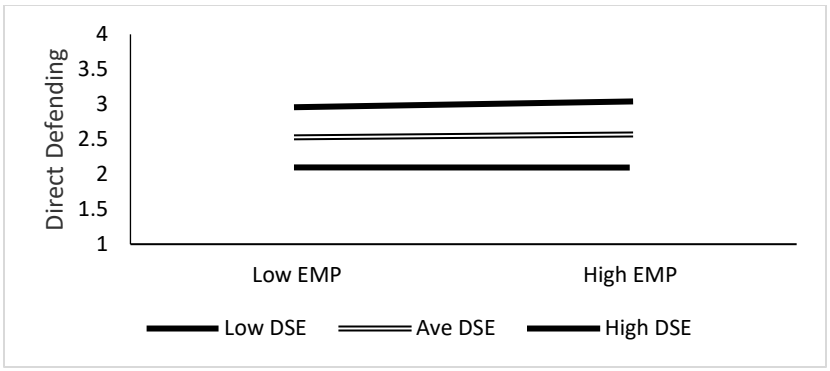
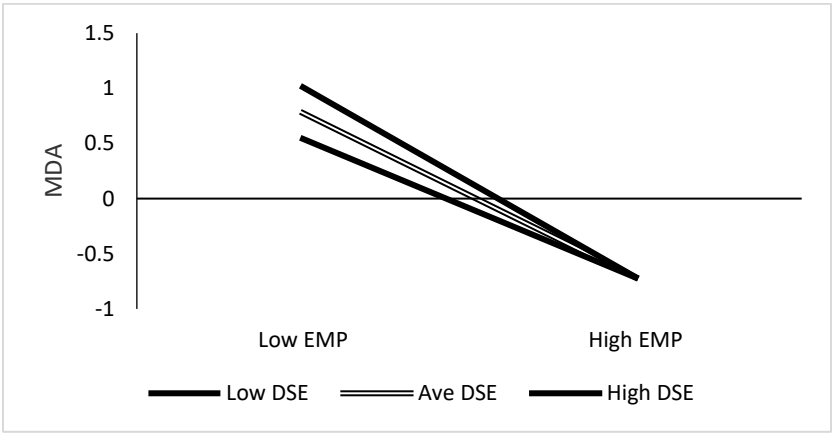


Figure 2. The hypothesized plotted interactions for the a) interactive effect of empathy and defender self-efficacy on direct defending, b) interactive effect of empathy and defender self-efficacy on indirect defending, and c) interactive effect of empathy and defender self-efficacy on MDA.

a)



b)



c)

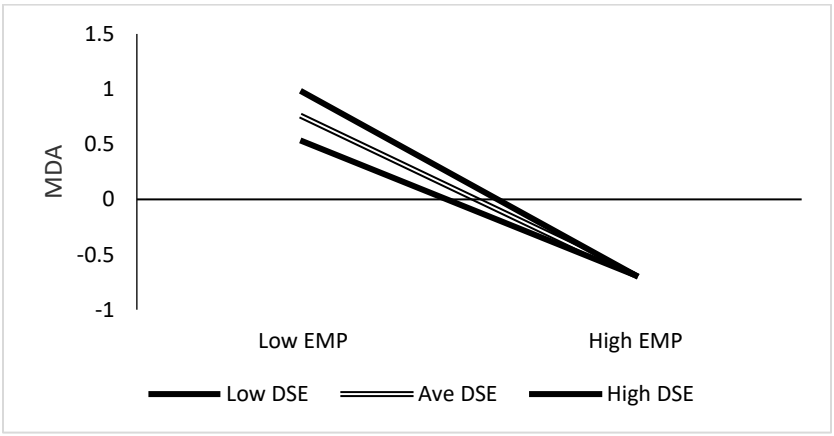


Figure 3. The plotted interactions for the a) interactive effect of empathy and defender self-efficacy on direct defending, b) interactive effect of empathy and defender self-efficacy on MDA in the direct defending model, and c) interactive effect of empathy and defender self-efficacy on MDA in the indirect defending model. Note that MDA scores are centered.

Appendix A1

Empathy Index (Bryant, 1982)

1. It makes me sad to see a girl who can't find anyone to play with.
2. People who kiss and hug in public are silly.
3. Boys who cry because they are happy are silly.
4. I really like to watch people open presents, even when I don't get a present myself.
5. Seeing a boy who is crying makes me feel like crying.
6. I get upset when I see a girl being hurt.
7. Even when I don't know why someone is laughing, I laugh too.
8. Sometimes, I cry when I watch TV or videos.
9. Girls who cry because they are happy are silly.
10. It's hard for me to see why someone else gets upset.
11. I get upset when I see an animal being hurt.
12. It makes me sad to see a boy who can't find anyone to play with.
13. Some songs make me so sad I feel like crying.
14. I get upset when I see a boy being hurt.
15. Grown-ups sometimes cry even when they have nothing to be sad about.
16. It's silly to treat dogs and cats as though they have feelings like people.
17. I get mad when I see a classmate pretending to need help from the teacher all the time.
18. Kids who have no friends probably don't want any.
19. Seeing a girl who is crying makes me feel like crying.
20. I think it is funny that some people cry during a sad movie or while reading a sad book.
21. I am able to eat all of my cookies even when I see someone looking at me wanting one.
22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.

Appendix A2

Empathic Sadness subscale of the Empathy Index

1. (Item 1) It makes me sad to see a girl who can't find anyone to play with.
2. (Item 5) Seeing a boy who is crying makes me feel like crying.
3. (Item 6) I get upset when I see a girl being hurt.
4. (Item 12) It makes me sad to see a boy who can't find anyone to play with.
5. (Item 13) Some songs make me so sad I feel like crying.
6. (Item 14) I get upset when I see a boy being hurt.
7. (Item 19) Seeing a girl who is crying makes me feel like crying.

Appendix B1

Mechanisms of Moral Disengagement (Bandura et al., 1996)

1. It is alright to fight to protect your friends.
2. Slapping and shoving someone is just a way of joking.
3. Damaging some property is no big deal when you consider that others are beating people up.
4. If kids are living under bad conditions, they cannot be blamed for behaving aggressively.
5. It is okay to tell small lies because they don't really do any harm.
6. Some people deserve to be treated like animals.
7. If kids fight and misbehave in school, it is their teacher's fault.
8. It is alright to beat someone who bad mouths your family.
9. To hit obnoxious classmates is just giving them "a lesson."
10. Stealing some money is not too serious compared to those who steal lots of money.
11. A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it.
12. If kids are not disciplined, they should not be blamed for misbehaving.
13. Children do not mind being teased because it shows interest in them.
14. It is okay to treat badly somebody who behaves like a "worm."
15. If people are careless where they leave their things, it is their own fault if they get stolen.
16. It is alright to fight when your group's honor is threatened.
17. Taking someone's bicycle without their permission is just "borrowing it."
18. It is okay to insult a classmate because beating him/her is worse
19. If a group decides together to do something harmful, it is unfair to blame any kid in the group for it.
20. Kids cannot be blamed for using bad words when all their friends do it.
21. Teasing someone does not really hurt them.
22. Someone who is obnoxious does not deserve to be treated like a human being.
23. Kids who get mistreated usually do things that deserve it.
24. It is alright to lie to keep your friends out of trouble.

25. Compared to illegal things people do, taking some things from a store without paying for them is not very serious.
26. It is unfair to blame a child who had only a small part in the harm caused by a group.
27. Kids cannot be blamed for misbehaving if their friends pressured them to do it.
28. Insults among children do not hurt anyone.
29. Some people have to be treated roughly because they lack feelings that can be hurt.
30. Children are not at fault for misbehaving if their parents force them too much.

Appendix B2

MDA Items from MMD Scale

1. (Item 2) Slapping and shoving someone is just a way of joking.
2. (Item 8) It is alright to beat someone who bad mouths your family.
3. (Item 9) To hit obnoxious classmates is just giving them “a lesson.”
4. (Item 13) Children do not mind being teased because it shows interest in them.
5. (Item 14) It is okay to treat badly somebody who behaves like a “worm.”
6. (Item 18) It is okay to insult a classmate because beating him/her is worse
7. (Item 21) Teasing someone does not really hurt them.
8. (Item 22) Someone who is obnoxious does not deserve to be treated like a human being.
9. (Item 23) Kids who get mistreated usually do things that deserve it.
10. (Item 28) Insults among children do not hurt anyone.
11. (Item 29) Some people have to be treated roughly because they lack feelings that can be hurt.

Appendix C

Defender Self-Efficacy Scale (Kärnä et al., 2011; Pöyhönen et al., 2010; Thornberg & Jungert, 2013)

How easy would it be for me to:

1. Try to make others stop bullying.
2. Comfort the victim or encourage him/her to tell the teacher about the bullying.
3. Tell the other kids to stop the bullying or say that bullying is stupid.
4. Stop bullying if I saw it.
5. Intervene in the bullying situation and help the victim.