UNIVERSITY OF TURKU

The Prospective Association Between Empathy and Defending Behavior: Moderation by Peer Likeability

The Faculty of Social Sciences
Department of Psychology
Master's thesis

Author:
Siiri Rantanen

Supervisors:
Sarah Malamut, University Research Fellow
Eerika Johander, Postdoctoral Researcher

10.6.2025
Turku

Master's Thesis

Subject: Psychology
Author: Siiri Rantanen
Title: The Prospective Association Between Empathy and Defending Behavior: Moderation by Peer Likeability
Supervisors: University Research Fellow Sarah Malamut, Postdoctoral Researcher Eerika Johander
Number of pages: 32 pages
Date: 10.6.2025

Abstract

Defending victimized peers in schools is shaped by a complex interplay of intrapersonal and interpersonal factors. However, previous research has primarily focused on concurrent associations of defending, with only limited longitudinal research examining which factors can lead to more defending over time. To fill this gap, the current study examines the longitudinal association between empathy and defending behavior, as well as whether this association is moderated by peer likeability.

The data was collected as part of the CHALLENGE project within INVEST Psychology at the University of Turku. Data collection occurred in Finnish schools in seven waves over the course of three academic years. For the current study, we utilized data from Wave 1 (T1) and Wave 3 (T2), which took place in the fall and spring semesters of the academic year, respectively. The sample comprised of 3662 participants in 4th to 9th grade (M_{age} = 13.05 years, SD = 1.68). Participants completed a self-report questionnaire on empathy and assessed their peers' defending behaviors and likeability with a peer nomination method. Gender, grade level, and prior defending behavior were included as control variables.

The data was analyzed with multilevel linear regression analysis with moderation. The results revealed a significant positive association between empathy (T1) and defending behavior (T2) over time. However, this association was specifically found for well-liked individuals and not for participants that were less liked among their peers. Previous defending behavior (T1) was also found to be a significant predictor of later defending.

This study broadens the understanding of how peer likeability impacts the association between empathy and defending behavior at school. These findings suggest that the prospective empathy-defending association is dependent on youth's social relationships, as they may be better positioned to support victimized peers due to their more stable social standing.

Key words: empathy, defending, peer likeability

Pro gradu -tutkielma

Oppiaine: Psykologia
Tekijä: Siiri Rantanen
Otsikko: Empatian pitkittäinen yhteys puolustuskäyttäytymiseen: vertaisten kesken pidettävyyden rooli
Ohjaajat: Yliopistotutkija Sarah Malamut, Tutkijatohtori Eerika Johander
Sivumäärä: 32 sivua
Päivämäärä: 10.6.2025

Tiivistelmä

Kouluissa esiintyvä puolustuskäyttäytyminen kiusaamistilanteissa rakentuu monimutkaisesta sisäisten ja sosiaalisten tekijöiden vuorovaikutuksesta. Pitkittäistutkimusta aiheesta on kuitenkin toistaiseksi vain vähän. Tässä tutkimuksessa tarkasteltiin empatian ja puolustuskäyttätymisen välistä pitkittäistä yhteyttä sekä sitä, vaikuttaako oppilaan pidettävyys vertaisten keskuudessa empatian ja puolustuskäyttäytymisen väliseen yhteyteen.

Tutkimuksen aineisto on kerätty osana Turun yliopiston INVEST Psykologian tutkimusryhmän CHALLENGE-hanketta. Aineistonkeruu toteutettiin suomalaisissa peruskouluissa seitsemässä aikapisteessä kolmen lukuvuoden aikana. Tässä tutkimuksessa hyödynnettiin ensimmäisen (T1) ja kolmannen (T2) aikapisteen aineistoa, jotka ajoittuivat lukuvuoden syksyyn ja kevääseen. Aineisto koostui 4.–9.-luokkalaisista (n = 3662; $M_{ikä}$ = 13.05 vuotta, SD = 1.68). Osallistujat vastasivat koulussa empatian itsearviointikyselyyn sekä arvioivat vertaistensa puolustuskäyttäytymistä ja pidettävyyttä toveriarviointimenetelmällä. Kontrollimuuttujina huomioitiin sukupuoli, luokka-aste ja aiempi puolustuskäyttäytyminen.

Aineiston analysoimiseen käytettiin monitasoista lineaarista regressioanalyysiä. Tulosten mukaan empatia (T1) oli positiivisesti yhteydessä myöhempään puolustuskäyttäytymiseen (T2), ja tämä yhteys oli erityisen vahva vertaisten keskuudessa pidetyillä oppilailla. Lisäksi aiempi puolustuskäyttäytyminen (T1) ennusti merkitsevästi myöhempää puolustamiskäyttäytymistä.

Tämä tutkimus laajentaa ymmärrystä siitä, miten pidettävyys vertaisten kesken vaikuttaa empatian ja puolustuskäyttäytymisen väliseen yhteyteen kouluympäristössä. Tulokset viittaavat siihen, että pidetyillä oppilailla saattaa olla paremmat edellytykset auttaa kiusattuja tovereita vakaamman sosiaalisen asemansa ansiosta.

Avainsanat: empatia, puolustaminen, pidettävyys vertaisten kesken

Table of Contents

1 Introduction

Bullying is a common phenomenon and significant global health problem with long-lasting consequences (McDougall & Vaillancourt, 2015). Bullying is exposing an individual repeatedly, and over time to negative actions by one or more peers (e.g., Olweus, 1993). These negative actions are taken intentionally to inflict, injury, or to cause discomfort to the victimized individuals. Bullying can take the form of physical or verbal abuse aimed at harming the victim (American Psychological Association, 2018). However, it is distinct from other forms of harassment and interpersonal violence due to its characteristic power imbalance (Olweus, 1993), which often leaves victimized youth in a vulnerable position, making it challenging to get themselves out of the situation or defend themselves.

The consequences of bullying are far-reaching. Being victimized in childhood or adolescence is associated with an elevated risk of developing internalizing problems later in life (Reijntjes et al., 2010), such as anxiety, depression, and self-harm (Lereya et al., 2015). Additionally, victimization has been linked to other psychiatric outcomes, including antisocial personality disorder, substance abuse, and suicidality (Copeland et al., 2013). These findings highlight the various negative long-term consequences of being victimized.

Given the far-reaching impact of bullying, identifying effective strategies to intervene and prevent it is essential. Defending victimized youth has been shown effective in reducing bullying (Nocentini et al., 2013). Moreover, higher levels of defending in classrooms might even protect at-risk children becoming victimized (Kärnä et al., 2010). Defended individuals also experience better social and mental health outcomes (Sainio et al., 2011). Due to these potential benefits of defending, it is important to understand the factors that positively predict defending behavior. In particular, this study focuses on the prospective association between empathy and defending behavior, considering peer status (specifically peer likeability) as a potential moderator. By enhancing understanding in this area, the findings may contribute to better understanding of the circumstances under which youth might defend their peers.

1.1 Defending

Defending has been defined as prosocial behavior aimed at supporting individuals who are being victimized (Salmivalli, 2010). Defending can assist victimized youth in various ways (Lambe & Craig, 2020). Commonly, defending behavior is categorized into direct and indirect

defending (Ma et al., 2019; Trach et al., 2010). Direct defending often involves assertive, solution-oriented actions, such as confronting the bully, while indirect defending includes behaviors that provide emotional support or seek intervention from authorities or other people (Lambe & Craig, 2020). Both types of defending share the goal of intervening in and mitigating bullying situations, but they focus on different aspects: direct defending targets the bully, while indirect defending prioritizes the well-being of the victimized and aids their recovery.

Defending behavior is often assessed with peer nominations, since they have been shown to be stable and reliable (Gest et al., 2006). It can also be assessed through self-reports, of which there is only limited research on how they relate to peer reports (Salley et al., 2015). With peer nominations, students have previously been assigned different participant roles in bullying situations (Salmivalli et al., 1996), however, these roles are dynamic based on peer context and situational variables (Huitsing et al., 2014). Additionally, students may engage in behaviors that correspond to multiple roles (Demaray et al., 2021). Thus, in this study we avoid categorizing individuals and view defending behavior as a continuous variable, which also aligns with the approach in recent literature.

Consistent with theoretical models of Prosocial Risk Taking (Do et al., 2017), helping others may come with personal costs or social risks, especially in peer contexts like bullying. Recent evidence suggests that defending does not actually position defenders at risk of victimization (Malamut et al., 2023) or internalizing symptoms (Malamut et al., 2021). Instead, engaging in defending may even be rewarded with increased popularity within the peer group (van der Ploeg et al., 2017). Despite this, some students might be hesitant to defend out of fear of becoming victimized themselves by risking their social standing within the peer group (Strindberg et al., 2020). Indeed, defending appears to be relatively rare (Ma et al., 2019; Pepler & Craig, 1995). Thus, investigating factors that promote defending over time is important, as defending can indeed be an effective strategy for reducing bullying (Nocentini et al., 2013), and defenders appear to be important in reducing peer victimization (Meter & Card, 2015). Additionally, defended individuals experience reduced frequencies of victimization accompanied with better adjustment, less anxiety, and less rejection than their undefended peers (Sainio et al., 2011). Given the importance of defending in decreasing bullying, we are interested in factors that might predict defending behavior longitudinally.

1.2 The Association Between Empathy and Defending Behavior

Intrapersonal factors have been found to be associated with defending behavior, with empathy being a key correlate (Ma et al., 2019; Peets et al., 2015). Empathy has been defined as understanding another person from their perspective (e.g., American Psychological Association, 2023). It is an emotional and cognitive response to the experiences of others (Cuff et al., 2016; Eisenberg et al., 2015; Trach et al., 2023). The emotional component involves sharing and feeling another person's perceived emotions (Eisenberg & Strayer, 1990), which are often identical or congruent with the other person's emotional state (Albiero et al., 2009); this is referred to as affective empathy. The cognitive component involves recognizing and understanding another person's state of mind (Dvash & Shamay-Tsoory, 2014; Dymond, 1950), and is known as cognitive empathy.

A robust body of research demonstrates a positive concurrent association between empathy and defending behavior observed across diverse age groups and cultural contexts. Empathy has been linked to defending behavior in children as young as 46.7 months (Swit et al., 2023). Similarly, empathy was associated with defending behavior in young Chinese children (mean age = 66.85 months) (Zhou et al., 2024) and in Spanish students in grades 3 to 6 (mean age = 9.8 years) (Lucas-Molina et al., 2018). Empathy has also been shown to be positively associated with defending behavior in Italian youth (mean age = 13.2 years) (Gini et al., 2007) and American adolescents (Yun & Graham, 2018). Additionally, youth (mean age = 12.15) who engage in defending behavior appear to exhibit both cognitive and affective empathy (Lambe & Craig, 2020). A meta-analysis of 20 studies found a moderate positive association between empathy and defending behavior (Nickerson et al., 2015), similarly a systematic review of 40 studies concluded that both cognitive and affective empathy were consistently positively related to defending (van Noorden et al., 2015). Another systematic review of 130 studies concluded both cognitive and affective empathy being positively associated with defending (Lambe et al., 2019).

However, in this study, we are specifically interested in empathy as a predictor of defending behavior over time. In addition to the well-established concurrent positive association, empathy has also been found to predict defending behavior longitudinally, although some studies have examined affective and cognitive empathy separately. Affective empathy has been found to predict self-reported defending behavior over time in girls (Barchia & Bussey, 2011). Additionally, both affective and cognitive empathy were positively associated with peer-reported

defending behavior seven months later among Finnish 4th to 6th graders (van der Ploeg et al., 2017); however, only affective empathy remained a significant predictor after controlling for gender, self-efficacy to defend, and previous defending. Nevertheless, given the meta-analytic findings showing a positive concurrent association between both types of empathy and defending behavior (Nickerson et al., 2015), and the limited longitudinal evidence available, we did not formulate separate hypotheses for affective and cognitive empathy.

1.3 The Moderating Role of Peer Likeability

In addition to intrapersonal factors, interpersonal factors, such as youth's likeability among their peers, may also play an important role in defending behavior (Lambe & Craig, 2020; Ma et al., 2019; Peets et al., 2015). Peer likeability generally refers to an individual's acceptance and preference by peers (Lease et al., 2002; Parkhurst & Hopmeyer, 1998; Sandstrom & Cillessen, 2006). It is often assessed through sociometric procedures, such as peer nominations (e.g. Lease et al., 2002), which reflect how well-liked an individual is by their peers. Well-liked individuals tend to be low in aggression and dominance, and exhibit high levels of trustworthiness and kindness (Parkhurst & Hopmeyer, 1998). They are also often characterized by sociability (Sandstrom & Cillessen, 2006). Peer likeability has also been associated with strong and supportive peer relationships. Well-liked individuals exhibit intrapersonal warmth and kindness (Gifford-Smith & Brownell, 2003), accompanied with cooperative behavior (Rubin et al., 1998).

Peer likeability is particularly relevant to examine in relation to the prospective association between empathy and defending, as prior evidence supports that being well-liked is positively associated with prosocial behavior (Warden & MacKinnon, 2003). Recent findings further indicate that individuals who defend their peers tend to be well-liked (Laninga-Wijnen et al., 2023), and that likeability itself is linked to a higher likelihood of engaging in defending behavior (Caravita et al., 2009; Salmivalli et al., 1996). Therefore, well-liked students may be more inclined and socially positioned to act on their empathy and support victimized peers.

While there is some evidence supporting the prospective association between empathy and defending behavior, less is known about the interpersonal circumstances under which this link is evident. In addition, most prior research has examined peer likeability as a concurrent predictor of defending (Laninga-Wijnen et al., 2023; Salmivalli et al., 1996; Warden & MacKinnon, 2003), but not as a potential moderator. Notably, social preference has been found to moderate the link between affective empathy and defending (Caravita et al., 2009), although

only in boys and in a cross-sectional setting. Moreover, peer likeability has rarely been examined as a moderator in a longitudinal framework, limiting understanding of how one's social standing may influence the likelihood of engaging in defending behavior over time. Thus, this study aims to offer understanding of under which circumstances empathy translates into defending.

2 Aims and Hypothesis

Given the complexity of defending behavior and its underlying factors, it is essential to examine whether empathy serves as a predictor of defending and whether peer likeability moderates this association over time. Therefore, the aim of this study is to investigate the prospective association between empathy and defending behavior to provide evidence on the possible direction of the association. Specifically, the interest of this study is whether higher levels of empathy predict higher levels of defending behavior over time. In addition, the study examines whether peer likeability moderates this longitudinal association, which has not yet been examined.

This study aims to answer the following questions.

1. Is empathy positively associated with defending behavior over time?
2. Does peer likeability moderate the prospective association between empathy and defending behavior?

Based on previous research, the following hypotheses are set.

1. Empathy is positively associated with defending behavior over time.
2. Peer likeability positively moderates the prospective association between empathy and defending behavior, with a stronger positive association expected among individuals with higher peer likeability.

There is no longitudinal research on the moderating role of peer likeability in the association between empathy and defending behavior. Also, by examining peer likeability as a moderator, we address the question of whether interpersonal factors impact whether or not empathy leads to defending behavior over time.

3 Method

3.1 Participants

This study is conducted utilizing previously collected data as part of the CHALLENGE project within INVEST Psychology at the University of Turku. Altogether, 6265 participants from Finnish schools in grades 1-9 took part in the data collection, from which we only focused on grades 4 to 9 because participants in grades 1 to 3 (n = 2590) completed a shorter questionnaire that did not include all of the relevant study variables (such as defending).

The starting sample before implementing inclusion and exclusion criteria was 3675 participants. From these 3675 participants, 2 were excluded since they had missing data on defending at both timepoints and imputing that data would not have been accurate. After this, 3673 participants were included. The sample consisted of participants on average born between 2005 and 2010. However, some participants may have started school later, repeated a grade or advanced in school earlier, leading to deviations in the birth years from the average grade-level mean. To address this, a ±2-year threshold from the grade-level mean was established to ensure participants matched expected age norms. Consequently, 11 participants were excluded because of their age deviation. While these deviations may have been due to data entry errors, these exclusions ensured analytical accuracy and integrity. After excluding 13 participants (0.35%), the final sample included 3662 participants (99.65%).

As a result, the final sample included a total of 3662 participants in grades 4 to 9 (M_{age} = 13.05 years, SD = 1.68, [8.61, 16.89]). Altogether, 42.98% of the participants were in primary school (grades 4-6, n = 1574) and 57.02% of the participants in secondary school (grades 7-9, n = 2088). Of the total sample, 49.70% (n = 1820) identified as girls, 46.86% (n = 1716) as boys, 1.06% (n = 39) as nonbinary, and 2.38% (n = 87) chose not to disclose their gender.

3.2 Research Ethics

This study was conducted utilizing previously collected data as part of the Challenge project within INVEST Psychology funded by the European Research Council. All ethical principles outlined in the Declaration of Helsinki were followed, including respect for autonomy, beneficence, and confidentiality (World Medical Association, 2025). Parental consent and informed assent from participants were obtained. Students were included in the nomination lists even if they did not participate in the study, meaning they could be nominated by classmates, but data

was not collected from them, which was approved by the ethics board. Participants were informed of their voluntary participation and right to withdraw at any time. No incentives were offered, and participation had no consequences for school-related outcomes.

Throughout the study, data has been handled securely and respecting the privacy of the participants. To protect participants' anonymity, all identifying information was securely stored separately from the pseudonymized data, which included non-identifying participant IDs. Thus, the anonymity of the participants was confirmed.

3.3 Procedure

3.3.1 Data Collection

This study uses data collected as part of the CHALLENGE project. Data was collected from Finnish schools. Data collection occurred in seven waves over the course of three academic years (Wave 1 – October 2020, Wave 2 – February 2021, Wave 3 – May 2021, Wave 4 – October 2021, Wave 5 – February 2022, Wave 6 – May 2022, Wave 7 – February 2023). The current study utilizes data from Wave 1 and Wave 3 (henceforth referred to as T1 and T2, respectively), as these waves included measures regarding youth's defending behaviors.

Participants completed self-report questionnaires and peer nominations online at school under the supervision of classroom teachers, who received detailed instructions about the data collection procedure. For peer nominations items, participants were asked which classmates best fit the descriptions. The participants were provided with a list containing names of their classmates from which they could select as many classmates as they wanted for all peer nomination items. They were also presented an option to select "nobody" or to skip the question. Participants could not nominate themselves.

3.4 Measures

3.4.1 Outcome Variable

Defending at T2 was assessed with five peer nomination items. Five items were presented to the participants describing behaviors of defending (Who in your class acts like this in bullying situations?: "Consoles the victim afterwards." "Is friendly towards the victim." "Tries to make others stop the bullying." "Gets angry at the bully(ies)." "Reports the bullying to an adult.").

A proportional score for each participant was computed by dividing the sum of received nominations by the number of possible nominators in each class. Proportional defending scores ranged from 0 to 1. Defending at T2 had excellent internal consistency (Cronbach's $\alpha = 0.91$, McDonald's $\omega = 0.93$).

3.4.2 Main Predictor

The main predictor empathy was measured using the Basic Empathy Scale (BES; Jolliffe & Farrington, 2006), which is one of the most widely used instruments to measure empathy throughout the world (Cabedo-Peris et al., 2021). The scale includes statements that the participants are asked to rate their level of agreement with. The response scale varies from 1 (strongly disagree) to 6 (strongly agree). The scale consists of 20 items of which eight items (1, 6, 7, 8, 13, 18, 19, and 20) were reverse coded. The higher the score the respondent receives, the higher the level of empathy interpreted. Given that we did not have separate hypotheses for affective and cognitive dimensions, the mean of all 20 empathy items was inspected. Basic Empathy Scale demonstrated good internal consistency (Cronbach's $\alpha = 0.87$, McDonald's $\omega = 0.90$).

3.4.3 Moderator

Peer likeability was assessed with the peer nomination item: "Who do you like the most?". A proportion score for peer likeability was calculated for each participant by dividing the number of nominations received by the total number of potential nominators. The number of possible nominators was retrieved by computing participants with both consent and assent and then calculating this sum for each classroom, subtracting one as they were not able to name themselves.

3.4.4 Control Variables

Three control variables were included to distinguish the effects of empathy and peer likeability on subsequent defending behavior. The chosen control variables include gender, grade level and the outcome variable (defending) at T1.

Gender. Participants reported their gender (1 = "girl", 2 = "boy", 3 = "non-binary", 4 = "I don't not want to answer").

Grade level. Participants' grade level is a categorical variable, ranging from 4 to 9. Participants in mixed-grade classes were assigned the mean grade level value of the two respective grades.

Defending at T1. Defending at T1 was assessed using the same procedure as at T2. Defending at T1 had excellent internal consistency by Cronbach's Alpha ($\alpha = 0.90$), and McDonald's omega ($\omega = 0.92$).

4 Analytic Plan

4.1 Data Preparation

The data were handled and analyzed using the RStudio program in R Statistical Software (R Core Team, 2024), using the *tidyverse* suite of packages (Wickham et al., 2019). The final sample after exclusion and inclusion criteria implemented comprised of 3662 participants. For these participants, missing values were handled, which is described in greater detail below. After handling the missing values in the data, the reverse coding for specific empathy items was applied (items 1, 6, 7, 8, 13, 18, 19, and 20). Summary variables for empathy, defending T1, and defending T2 were computed as the mean of their respective items: 20 items for empathy, and 5 items each for defending T1 and T2. Lastly, the means of empathy, peer likeability and defending at T1 were grand mean centered to address multicollinearity.

4.2 Handling of Missing Values

Multiple imputation was utilized to handle missing values on the outcome, predictor, and control variables, to include the majority of the participants. The imputation was carried out with a sample of 3662 participants.

Of the participants, some had missing values in empathy, defending at T1 and T2, and peer likeability (altogether 10 639 of 109 860 individual values). This accounted for 9.68% of the values of interest missing, which were imputed following the steps described below.

The chosen imputation method was Multiple Imputation by Chained Equations (MICE), implemented in RStudio using the *mice* package (Buuren & Groothuis-Oudshoorn, 2011). Multiple imputation (MI) is a robust and reliable tool for handling missing data, outperforming listwise deletion and similar approaches across varying missingness rates (Janssen et al., 2010; Knol et al., 2010). Unlike single imputation methods, MI can generate multiple complete datasets, with each imputed value based on the observed data distribution (Roth, 1994), which would enhance the reliability of results, especially given the persistent issue of missingness in psychological research. Due to practical limitations, one imputed dataset was created for this study, which still offers a valid basis for analysis. MI as the chosen method still preserves the original variability and distribution shape, maintaining statistical integrity (Little, 1988). Furthermore, MI is well-suited for datasets containing both continuous and categorical variables, as it can model complex relationships between multiple variables (Wulff & Ejlskov, 2017).

The selected imputation method within MICE was Predictive Mean Matching (PMM), which replaces missing values with observed values from the existing data rather than generating synthetic predictions. The number of iterations was set to 50, allowing MICE to cycle through the chained equations multiple times to ensure convergence and stable imputations. After imputation, the results were examined to ensure that all imputed values fell within the logical and expected ranges for each variable (as advised e.g., Little, 1988).

4.3 Main Analyses

The analysis was conducted using RStudio. The method that was opted for the analysis is multilevel regression analysis with moderation, an extension of linear regression, which was chosen to take the hierarchical nature of the data into account. This multilevel approach was employed because previous research has shown that variation in defending behavior can be attributed to differences at the classroom level (Peets et al., 2015). Analyses were run using the *lme4* package (Bates et al., 2015); mixed-effect model (LMER) for continuous variables. The packages utilized to generate the plots in RStudio were *sjPlot* (Lüdecke, 2024) and *ggplot2* (Wickham, 2016).

A series of multilevel models were conducted with defending behavior at T2 as a dependent variable. Grade level, student's gender, and defending behavior at T1 were included in the analyses as control variables. Model 1 examined defending behavior at T2 predicted by the main predictor empathy T1 and the control variables grade level, gender, and defending behavior at T1. In the second step, the main effect of peer likeability at T1 was added (Model 2). In the third step, interaction term between empathy T1 and peer likeability T1 was added (Model 3) to examine whether peer likeability moderates an association between empathy T1 and defending T2. In all models, classroom was included as a random effect to account for group-level variation. For the interaction term, empathy and peer likeability were grand-mean centered. To reduce multicollinearity, defending at T1 was also grand-mean centered.

5 Results

5.1 Descriptive Statistics and Preliminary Analyses

Descriptive statistics and correlations are presented in Table 1. There was a weak positive association between empathy at T1 and defending at T2. In addition, weak but significant positive associations were shown between empathy T1 and peer likeability T1, and peer likeability T1 and defending T2. A moderate negative association was observed between defending at T2 and grade level, suggesting higher levels of peer-reported defending in younger grades. There was also a strong positive association between defending T1 and T2. Correlations among other predictors were weak.

Variance Inflation Factor (VIF) values were calculated for all predictors in the models to assess multicollinearity (the *car* package; Fox & Weisberg, 2019). The VIFs for variables were within acceptable ranges, with empathy showing a VIF of 1.23 and peer likeability a VIF of 1.15. The interaction term of empathy and peer likeability had a VIF of 1.02. Grade level showed a VIF of 1.07, gender a VIF of 1.40, and defending at T1 a VIF of 1.44. Thus, multicollinearity was not a concern in the models.

TABLE 1
Descriptive Statistics and Correlations for Study Variables

Variable	1.	2.	3.	4.	5.	*M (SD)*
1. Defending T2	-					0.14 (0.15)
2. Defending T1	.76***	-				0.17 (0.16)
3. Peer Likeability	.30***	.36***	-			0 (0.18)
4. Grade Level	-.51***	-.51***	-.20***	-		
5. Gender	-.20***	-.21***	-.03	.02	-	
6. Empathy	.17***	.20***	.05**	.05**	-.37***	0 (0.70)

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

The assumption of normality was assessed using the Shapiro-Wilk normality test. The test revealed a significant deviation from normality for the response variable, defending at T2 (W =

0.86, $p < .001$), indicating a heavily skewed distribution. Indeed, many participants received a "0" for defending at T2. Considering the large sample size and previous studies often treating peer-reported defending as a continuous variable despite its skewed distribution (e.g., Lucas-Molina et al., 2018; Yun & Graham, 2018), we chose to apply linear approach in the main analyses rather than categorizing defending, to maintain comparability with prior research.

5.2 Main Analyses

The results of the multilevel linear regression analyses are presented in Table 2 (see Appendix 1) with unstandardized regression coefficients, standard errors, 95% confidence levels, and p-values for each predictor. Additionally, the conditional and marginal R^2, Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and ICC for each model are reported.

The null model, which included only a random effect for classroom, explained 70,87% (R^2 = 0.7087) of the variance, suggesting that a large proportion of the variance in the defending behavior was explained by differences at the classroom level. Adding empathy at T1, control variables (grade level, gender and prior defending behavior), and a random effect for the classroom in Model 1 significantly improved the fit compared to the null model ($\chi 2\ (6) = 1849.80$, $p < .001$). Together, these variables explained 53.4% of the variance in defending behavior at T2. Empathy at T1 was positively and significantly associated with defending at T2 ($p = .02$). Of the control variables defending at T1 was significantly positively associated ($p < .001$) and grade level significantly negatively associated ($p < .001$) with defending at T2. With girls as the reference group, being a boy was significantly negatively associated with defending at T2 ($p < .001$), indicating that girls were more likely to defend than boys.

Model 2, including peer likeability at T1, explained 53.3% of the variance in the outcome variable; however, it did not significantly improve the model ($\chi 2(1) = 2.86$, $p = .09$). Moreover, peer likeability at T1 was not significantly associated with defending at T2 ($p = .09$). The positive effect of empathy on defending T2, however, remained significant ($p = .03$). The pattern of associations for the control variables remained similar to that observed in Model 1.

In Model 3, an interaction between empathy and peer likeability was added to Model 2. Model 3 explained 53.4% of the variance in outcome variable and significantly improved the model ($\chi 2(1) = 16.04$, $p < .001$). Peer likeability moderated the association between empathy and defending behavior ($p < .001$). Examination of simple slopes (Fig. 1) revealed that empathy at T1 was positively associated with defending behavior at T1 among students with high

(B = 0.01, SE = 0.00, t(221) = 4.38, p < .001) and average levels of peer likeability (B = 0.00, SE = 0.00, t(221) = 2.43, p = .02), but not among students at low level of peer likeability (B = −0.00, SE = 0.00, t(221) = −0.88, p = .38). A similar pattern of associations for the control variables was observed as in Models 1 and 2.

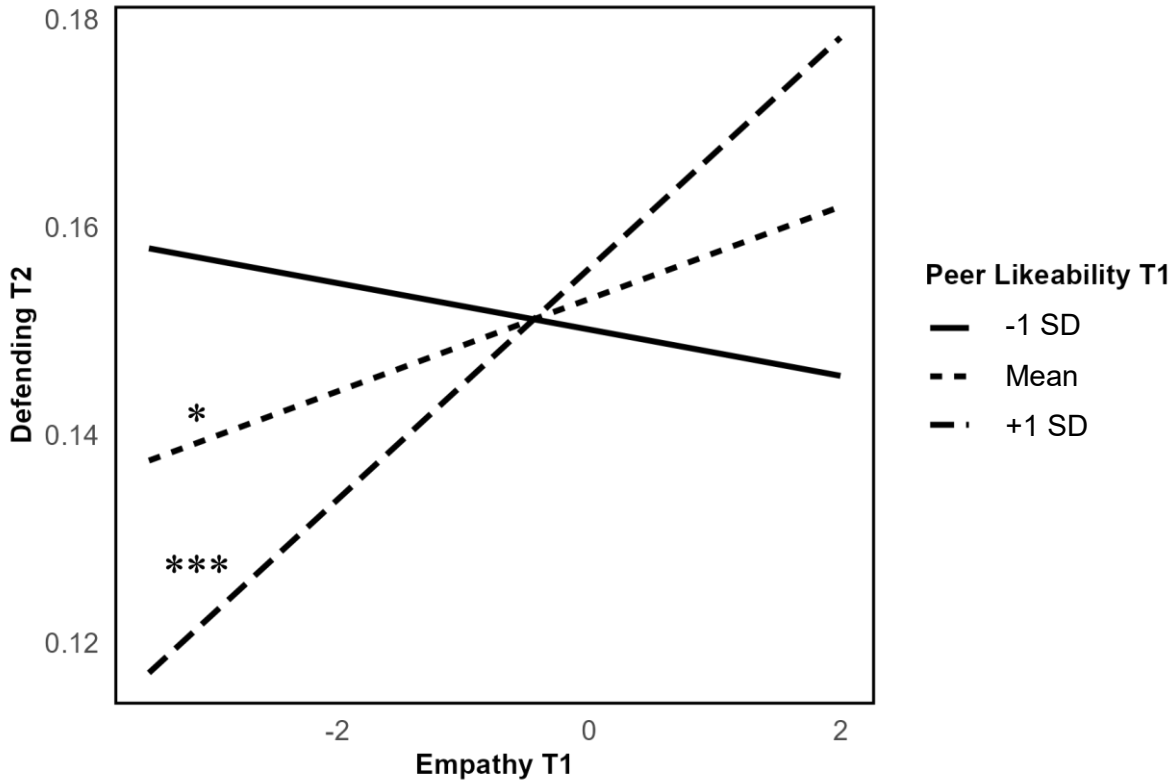

FIGURE 1. The moderating effect of peer likeability at T1 on the association between empathy at T1 and defending at T2. *p < .05. **p < .01. ***p < .001.

6 Discussion

Previous research, including a meta-analysis (Nickerson et al., 2015), has found a positive, concurrent association between empathy and defending. However, limited research has examined prospective associations between empathy and defending, which is needed to clarify the direction of the association. This is a crucial gap, as defending is an important behavior that can help reduce bullying in the peer group (Nocentini et al., 2013), making it critical to understand under which circumstances youth are more likely to defend their peers. Therefore, in the current study, we examined the longitudinal association between empathy and defending behavior. We further extended previous research by examining the moderating role of peer likeability, as it is important to understand how contextual interpersonal factors may impact the empathy-defending link.

6.1 Prospective Associations Between Empathy and Defending

Consistent with the limited previous longitudinal studies (Barchia & Bussey, 2011; van der Ploeg et al., 2017), we found a positive longitudinal association between empathy and defending behavior. Thus, the current study provides important insight into the directionality of this association, suggesting that higher levels of empathy may predict subsequent defending behavior. One plausible explanation is that empathetic youth may be more attuned to others' distress, as empathy is an emotional response in the observer (Eisenberg et al., 2015; Trach et al., 2023). Observing others' distress may enhance youth's motivation on alleviating the perceived distress (Batson et al., 1997; Batson & Shaw, 1991), but possibly only when their concern for others is stronger than their own distress (Carrera et al., 2013).

The results suggest empathy may be a key factor in youth defending their peers, implying that fostering empathy development might in turn lead to more defending. Therefore, future studies could examine whether interventions targeting children's empathic abilities lead to increased defending behavior over time.

6.2 The Moderating Role of Peer Likeability

However, in the current study, we found that the main association between empathy and defending depended on youth's social standing – specifically, peer likeability. We found that empathy was positively associated with defending over time for youth who with high or average levels of peer likeability, but not for those who were low in peer likeability. Prior research

has shown that the concurrent empathy-defending association is stronger among youth with high social preference (Caravita et al., 2009), sometimes used interchangeably with peer likeability (Gifford-Smith & Brownell, 2003). Our findings are consistent with these results, suggesting that empathy alone may not translate into prosocial action without the supportive intrapersonal circumstances.

The reason for the moderating role of peer likeability might lie in that empathy itself may not always be enough to initiate prosocial action (Eisenberg et al., 2015), for example because of defenders' concerns that they may be putting themselves at risk of victimization (Strindberg et al., 2020). However, well-liked individuals seem to be less likely to become victimized (Bukowski et al., 2010), and thus might not be as afraid of defending their peers. Likeability has also been associated with stronger friendships (Rubin et al., 1998; Sandstrom & Cillessen, 2006), so these youth may have more support in the peer group, allowing them to defend more. Thus, some individuals high in empathy may want to defend, but refrain from doing so due to a fear of becoming victimized themselves, a concern that well-liked peers might be less susceptible to.

Although the association between empathy and defending was positive and significant for both well-liked and moderately liked youth, this link was stronger for those who were well-liked. One possibility is that being moderately liked may not provide the same feeling of social security to engage in defending behavior. For example, the stronger association for well-liked students may partly reflect their possession of other social resources or other forms of social status, such as perceived popularity, which has also been linked to defending and its interpersonal underpinnings (Pöyhönen et al., 2010). Well-liked students may thus feel secure enough in their social standing to even defend classmates that they are not friends with, as they have the social power to act against bullies (Juvonen & Galvan, 2008). Furthermore, moderately liked students may defend their victimized friends but not classmates they are less close to (Bellmore et al., 2012; Meter & Card, 2015), possibly due to feeling less secure about their social standing.

Of note, as demonstrated in Figure 1, when empathy is low, youth with low peer likeability appear to have higher levels of defending than youth with average or high peer likeability. One possible explanation is that these youth may be engaging in aggressive forms of defending, which have been linked to lower levels of empathy and peer preference, and higher levels of aggression (Wang et al., 2023). Furthermore, low empathy has been associated with higher

levels of aggressive behavior (Jolliffe & Farrington, 2004), and aggressiveness with direct ways of intervening (Lambe & Craig, 2020). There is also evidence of overlap between being a target and a perpetrator in bullying situations (eg. Chan & Wong, 2015; Posick & Zimmerman, 2015). Thus, less empathetic and less liked youth who engage in defending behavior may represent a subgroup that alternates between these roles, and possibly even engages in defending across different bullying contexts. Their involvement in multiple roles may reflect a pattern of engagement in peer conflict, such as aggressive defending, potentially driven by a tendency of reactive behavior.

6.3 Strengths, Limitations, and Future Directions

6.3.1 Strengths

This study has important strengths, including its longitudinal design and the use of moderation analysis, which help clarify the directional association between empathy and defending, as well as identify the conditions under which empathy is more likely to be associated with defending behavior over time. In addition, the current study examines a large sample from multiple grade levels and schools across Finland, resulting in a representative sample of the country. We also used a multilevel design to account for participants being nested within classrooms, which strengthens the study by controlling for classroom level differences, for example in victimization rates and group-level norms, providing more precise and sensitive estimates of the studied associations.

In addition, this study utilized peer-reports of defending and peer likeability as they are less susceptible to social desirability biases and because they utilize multiple informants (i.e., multiple classmates vs. single informant self-report) (Branson & Cornell, 2009; Lambe & Craig, 2020). However, we also measured empathy with a reliable self-report survey (BES; Jolliffe & Farrington, 2006), which mitigates the same-source bias, as our predictor and outcome were assessed with different informants (self and peer, respectively).

6.3.2 Limitations and Future Directions

Despite the notable strengths of this study, it also has limitations that need to be addressed. First, due to a shorter questionnaire provided to students in grades 1 to 3, the study sample included only students from grades 4 to 9. Therefore, these results cannot be directly applied to young children, limiting the generalizability of the findings. Given that peers become more

important to youth in later childhood and early adolescence (Buhrmester & Furman, 1987; Nickerson & Nagle, 2005), it is possible that moderators other than peer likeability may be more relevant for younger children. Future research should consider a broader age range to also capture developmental differences.

Second, the study relied solely on peer nominations to measure defending behavior and peer likeability. Peer-reports of defending reflect youth's reputation in the peer group as someone who defends, while avoiding overreporting defending prevalence and social desirability bias that may arise from self-reports. However, a higher number of nominations does not necessarily indicate greater frequency or quality of defending behavior, which needs to be considered when interpreting the findings. In addition, despite the strengths of peer nominations, other forms of peer-reports, such as peer ratings (i.e., each participant rates each classmate), could offer a more complete view of peer group dynamics (Gifford-Smith & Brownell, 2003). Likewise, measuring peer likeability through nominations reflects general likeability but does not capture the peer rejection of the student or the quality of social interactions. It is also possible that well-liked participants also received more defending nominations due to the same source bias. Consistent with prior research demonstrating weak to moderate concordance between self-, teacher-, and peer-reports on loneliness (Geukens et al., 2021), bullying (Branson & Cornell, 2009), and peer status (van den Berg et al., 2015), future studies should consider multiple informants of defending and peer likeability for a more comprehensive assessment.

Third, the study did not include victimization as a control variable, which could have implications for defending. Participants in classrooms with low levels of victimization may have received fewer nominations on defending. For example, in the current sample participants in higher grade levels exhibited less defending behavior, which may result from lower levels of victimization in secondary than primary school (Kärnä et al., 2011; Pellegrini & Long, 2002). Due to possible classroom level differences, we conducted multilevel analyses. However, future studies could include also victimization as a control.

7 Conclusions

The results from the current study provided support for both of the hypotheses. Empathy was positively associated with defending behavior over time, and this association was moderated by peer likeability. Specifically, empathy was positively associated with defending over time, for students with at least average levels of likeability, but not those with low levels of likeability.

Our findings, which indicate that higher empathy is related with elevated defending over time and that this association depends on youth's social standing, extend prior research demonstrating only concurrent associations between empathy and defending. Defending seems to be effective in reducing bullying in the peer group (Nocentini et al., 2013), but still remains relatively rare (Ma et al., 2019), possibly because defenders are taking a risk when helping victimized peers (Do et al., 2017). However, fostering empathy in youth may promote prosocial intentions and encourage defending, particularly among youth with at least moderate social standing. This may be especially relevant for well-liked youth, who could use their social influence in peer relations to promote prosocial behavior (as defending) (Laursen et al., 2023), thereby shaping the social norms around bullying (Dijkstra et al., 2008).

This is particularly important, as defended victims experience better psychological adjustment, including lower depressed mood, greater positive mood, and less self-blame (Laninga-Wijnen et al., 2024), and also report better self-esteem, greater peer acceptance, and less rejection than undefended victims (Sainio et al., 2011). Therefore, given that defending has long been recognized as a key element in bullying interventions due to its effectiveness in reducing the intrapersonal consequences of bullying for victims and in shaping group-level norms around bullying, it should remain a key objective in future interventions. Specifically, we suggest that fostering empathy early, especially among well-liked youth, may be particularly promising, as greater empathy within this group appears to enhance defending.

References

Albiero, P., Matricardi, G., Speltri, D., & Toso, D. (2009). The assessment of empathy in adolescence: A contribution to the Italian validation of the "Basic Empathy Scale." *Journal of Adolescence*, *32*(2), 393–408. https://doi.org/10.1016/j.adolescence.2008.01.001

American Psychological Association. (2018, April 19). *Bullying*. APA Dictionary of Psychology. https://dictionary.apa.org/bullying

American Psychological Association. (2023, November 15). *Empathy*. APA Dictionary of Psychology. https://dictionary.apa.org/empathy

Barchia, K., & Bussey, K. (2011). Predictors of student defenders of peer aggression victims: Empathy and social cognitive factors. *International Journal of Behavioral Development*, *35*(4), 289–297. https://doi.org/10.1177/0165025410396746

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting Linear Mixed-Effects Models Using **lme4**. *Journal of Statistical Software*, *67*(1). https://doi.org/10.18637/jss.v067.i01

Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective Taking: Imagining How Another Feels Versus Imaging How You Would Feel. *Personality and Social Psychology Bulletin*, *23*(7), 751–758. https://doi.org/10.1177/0146167297237008

Batson, C. D., & Shaw, L. L. (1991). Evidence for Altruism: Toward a Pluralism of Prosocial Motives. *Psychological Inquiry*, *2*(2), 107–122. https://doi.org/10.1207/s15327965pli0202_1

Bellmore, A., Ma, T., You, J., & Hughes, M. (2012). A two-method investigation of early adolescents' responses upon witnessing peer victimization in school. *Journal of Adolescence*, *35*(5), 1265–1276. https://doi.org/10.1016/j.adolescence.2012.04.012

Branson, C. E., & Cornell, D. G. (2009). A Comparison of Self and Peer Reports in the Assessment of Middle School Bullying. *Journal of Applied School Psychology*, *25*(1), 5–27. https://doi.org/10.1080/15377900802484133

Buhrmester, D., & Furman, W. (1987). The Development of Companionship and Intimacy. *Child Development*, *58*(4), 1101. https://doi.org/10.2307/1130550

Bukowski, W. M., Laursen, B., & Hoza, B. (2010). The snowball effect: Friendship moderates escalations in depressed affect among avoidant and excluded children. *Development and Psychopathology*, *22*(4), 749–757. https://doi.org/10.1017/S095457941000043X

Buuren, S. van, & Groothuis-Oudshoorn, K. (2011). mice: Multivariate Imputation by Chained Equations in R. *Journal of Statistical Software*, *45*(3), 1–67. https://doi.org/10.18637/jss.v045.i03

Cabedo-Peris, J., Martí-Vilar, M., Merino-Soto, C., & Ortiz-Morán, M. (2021). Basic Empathy Scale: A Systematic Review and Reliability Generalization Meta-Analysis. *Healthcare*, *10*(1), 29. https://doi.org/10.3390/healthcare10010029

Caravita, S. C. S., Di Blasio, P., & Salmivalli, C. (2009). Unique and Interactive Effects of Empathy and Social Status on Involvement in Bullying. *Social Development*, *18*(1), 140–163. https://doi.org/10.1111/j.1467-9507.2008.00465.x

Carrera, P., Oceja, L., Caballero, A., Muñoz, D., López-Pérez, B., & Ambrona, T. (2013). I feel so sorry! Tapping the joint influence of empathy and personal distress on helping behavior. *Motivation and Emotion*, *37*(2), 335–345. https://doi.org/10.1007/s11031-012-9302-9

Chan, H. C. O., & Wong, D. S. W. (2015). The Overlap between School Bullying Perpetration and Victimization: Assessing the Psychological, Familial, and School Factors of Chinese Adolescents in Hong Kong. *Journal of Child and Family Studies*, *24*(11), 3224–3234. https://doi.org/10.1007/s10826-015-0125-7

Copeland, W. E., Wolke, D., Angold, A., & Costello, E. J. (2013). Adult Psychiatric Outcomes of Bullying and Being Bullied by Peers in Childhood and Adolescence. *JAMA Psychiatry*, *70*(4), 419. https://doi.org/10.1001/jamapsychiatry.2013.504

Cuff, B. M. P., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A Review of the Concept. *Emotion Review*, *8*(2), 144–153. https://doi.org/10.1177/1754073914558466

Demaray, M. K., Malecki, C. K., Ryoo, J. H., & Summers, K. H. (2021). Deconstructing bullying roles: A longitudinal latent profile analysis of bullying participant behaviors for students in grades 4 through 12. *Journal of School Psychology*, *86*, 32–48. https://doi.org/10.1016/j.jsp.2021.02.006

Dijkstra, J. K., Lindenberg, S., & Veenstra, R. (2008). Beyond the Class Norm: Bullying Behavior of Popular Adolescents and its Relation to Peer Acceptance and Rejection. *Journal of Abnormal Child Psychology*, *36*(8), 1289–1299. https://doi.org/10.1007/s10802-008-9251-7

Do, K. T., Guassi Moreira, J. F., & Telzer, E. H. (2017). But is helping you worth the risk? Defining Prosocial Risk Taking in adolescence. *Developmental Cognitive Neuroscience*, *25*, 260–271. https://doi.org/10.1016/j.dcn.2016.11.008

Dvash, J., & Shamay-Tsoory, S. G. (2014). Theory of Mind and Empathy as Multidimensional Constructs: Neurological Foundations. *Topics in Language Disorders*, *34*(4), 282–295. https://doi.org/10.1097/TLD.0000000000000040

Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial Development. In R. M. Lerner (Ed.), *Handbook of Child Psychology and Developmental Science* (1st ed., pp. 1–47). Wiley. https://doi.org/10.1002/9781118963418.childpsy315

Eisenberg, N., & Strayer, J. (1990). *Empathy and Its Development*. Cambridge University Press Archive.

Fox, J., & Weisberg, S. (2019). *An R Companion to Applied Regression* (Third). Sage. https://www.john-fox.ca/Companion/

Gest, S. D., Sesma, A., Masten, A. S., & Tellegen, A. (2006). Childhood Peer Reputation as a Predictor of Competence and Symptoms 10 Years Later. *Journal of Abnormal Child Psychology*, *34*(4), 507. https://doi.org/10.1007/s10802-006-9029-8

Geukens, F., Maes, M., Cillessen, A. H. N., Colpin, H., Van Leeuwen, K., Verschueren, K., & Goossens, L. (2021). Spotting Loneliness at School: Associations between Self-Reports and Teacher and Peer Nominations. *International Journal of Environmental Research and Public Health*, *18*(3), 971. https://doi.org/10.3390/ijerph18030971

Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of School Psychology*, *41*(4), 235–284. https://doi.org/10.1016/S0022-4405(03)00048-7

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

Huitsing, G., Snijders, T. A. B., Van Duijn, M. A. J., & 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

Janssen, K. J. M., Donders, A. R. T., Harrell, F. E., Vergouwe, Y., Chen, Q., Grobbee, D. E., & Moons, K. G. M. (2010). Missing covariate data in medical research: To impute is better than to ignore. *Journal of Clinical Epidemiology*, *63*(7), 721–727. https://doi.org/10.1016/j.jclinepi.2009.12.008

Jolliffe, D., & Farrington, D. P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and Violent Behavior*, *9*(5), 441–476. https://doi.org/10.1016/j.avb.2003.03.001

Jolliffe, D., & Farrington, D. P. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, *29*(4), 589–611. https://doi.org/10.1016/j.adolescence.2005.08.010

Juvonen, J., & Galvan, A. (2008). Peer influence in involuntary social groups: Lessons from research on bullying. In M. J. Prinstein & K. A. Dodge, *Understanding Peer Influence in Children and Adolescents*. Guilford Press.

Kärnä, A., Voeten, M., Little, T. D., Poskiparta, E., Alanen, E., & Salmivalli, C. (2011). Going to scale: A nonrandomized nationwide trial of the KiVa antibullying program for grades 1–9. *Journal of Consulting and Clinical Psychology*, *79*(6), 796–805. https://doi.org/10.1037/a0025740

Kärnä, A., Voeten, M., Poskiparta, E., & Salmivalli, C. (2010). Vulnerable Children in Varying Classroom Contexts: Bystanders' Behaviors Moderate the Effects of Risk Factors on Victimization. *Merrill-Palmer Quarterly*, *56*(3), 261–282. https://doi.org/10.1353/mpq.0.0052

Knol, M. J., Janssen, K. J. M., Donders, A. R. T., Egberts, A. C. G., Heerdink, E. R., Grobbee, D. E., Moons, K. G. M., & Geerlings, M. I. (2010). Unpredictable bias when using the missing indicator method or complete case analysis for missing confounder values: An empirical example. *Journal of Clinical Epidemiology*, *63*(7), 728–736. https://doi.org/10.1016/j.jclinepi.2009.08.028

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

Laninga-Wijnen, L., Malamut, S. T., Garandeau, C. F., & Salmivalli, C. (2023). Does defending affect adolescents' peer status, or vice versa? Testing the moderating effects of empathy, gender, and anti-bullying norms. *Journal of Research on Adolescence*, *33*(3), 913–930. https://doi.org/10.1111/jora.12847

Laninga-Wijnen, L., Pouwels, J. L., Giletta, M., & Salmivalli, C. (2024). Feeling better now? Being defended diminishes daily mood problems and self-blame in victims of bullying. *British Journal of Educational Psychology*, *94*(4), 1294–1322. https://doi.org/10.1111/bjep.12717

Laursen, B., Leggett-James, M. P., & Valdes, O. M. (2023). Relative likeability and relative popularity as sources of influence in children's friendships. *PLOS ONE*, *18*(5), e0283117. https://doi.org/10.1371/journal.pone.0283117

Lease, A. M., Musgrove, K. T., & Axelrod, J. L. (2002). Dimensions of Social Status in Preadolescent Peer Groups: Likability, Perceived Popularity, and Social Dominance. *Social Development*, *11*(4), 508–533. https://doi.org/10.1111/1467-9507.00213

Lereya, S. T., Copeland, W. E., Costello, E. J., & Wolke, D. (2015). Adult mental health consequences of peer bullying and maltreatment in childhood: Two cohorts in two countries. *The Lancet. Psychiatry*, *2*(6), 524–531. https://doi.org/10.1016/S2215-0366(15)00165-0

Little, R. J. A. (1988). Missing-Data Adjustments in Large Surveys. *Journal of Business & Economic Statistics*, *6*(3), 287–296. https://doi.org/10.2307/1391878

Lucas-Molina, B., Pérez-Albéniz, A., Fonseca-Pedrero, E., & Giménez-Dasí, M. (2018). Bullying, defending, and outsider behaviors: The moderating role of social status and gender in their relationship with empathy. *Scandinavian Journal of Psychology*, *59*(4), 473–482. https://doi.org/10.1111/sjop.12453

Lüdecke, D. (2024). *sjPlot: Data Visualization for Statistics in Social Science* (p. 2.8.17) [Dataset]. https://doi.org/10.32614/CRAN.package.sjPlot

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

Malamut, S. T., Trach, J., Garandeau, C. F., & Salmivalli, C. (2021). Examining the Potential Mental Health Costs of Defending Victims of Bullying: A Longitudinal Analysis. *Research on Child and Adolescent Psychopathology*, *49*(9), 1197–1210. https://doi.org/10.1007/s10802-021-00822-z

Malamut, S. T., Trach, J., Garandeau, C. F., & Salmivalli, C. (2023). Does defending victimized peers put youth at risk of being victimized? *Child Development*, *94*(2), 380–394. https://doi.org/10.1111/cdev.13866

McDougall, P., & Vaillancourt, T. (2015). Long-term adult outcomes of peer victimization in childhood and adolescence: Pathways to adjustment and maladjustment. *American Psychologist*, *70*(4), 300–310. https://doi.org/10.1037/a0039174

Meter, D. J., & Card, N. A. (2015). Defenders of victims of peer aggression: Interdependence theory and an exploration of individual, interpersonal, and contextual effects on the defender participant role. *Developmental Review*, *38*, 222–240. https://doi.org/10.1016/j.dr.2015.08.001

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., & Nagle, R. J. (2005). Parent and Peer Attachment in Late Childhood and Early Adolescence. *The Journal of Early Adolescence*, *25*(2), 223–249. https://doi.org/10.1177/0272431604274174

Nocentini, A., Menesini, E., & Salmivalli, C. (2013). Level and change of bullying behavior during high school: A multilevel growth curve analysis. *Journal of Adolescence*, *36*(3), 495–505. https://doi.org/10.1016/j.adolescence.2013.02.004

Olweus, D. (1993). *Bullying at school: What we know and what we can do?* Blackwell.

Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric Popularity and Peer-Perceived Popularity: Two Distinct Dimensions of Peer Status. *The Journal of Early Adolescence*, *18*(2), 125–144. https://doi.org/10.1177/0272431698018002001

Peets, K., Pöyhönen, V., Juvonen, J., & Salmivalli, C. (2015). Classroom norms of bullying alter the degree to which children defend in response to their affective empathy and power. *Developmental Psychology*, *51*(7), 913–920. https://doi.org/10.1037/a0039287

Pellegrini, A. D., & Long, J. D. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. *British Journal of Developmental Psychology*, *20*(2), 259–280. https://doi.org/10.1348/026151002166442

Pepler, D. J., & Craig, W. M. (1995). A peek behind the fence: Naturalistic observations of aggressive children with remote audiovisual recording. *Developmental Psychology*, *31*(4), 548–553. https://doi.org/10.1037/0012-1649.31.4.548

Posick, C., & Zimmerman, G. M. (2015). Person-in-Context: Insights on Contextual Variation in the Victim–Offender Overlap Across Schools. *Journal of Interpersonal Violence*, *30*(8), 1432–1455. https://doi.org/10.1177/0886260514540327

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. https://doi.org/10.1353/mpq.0.0046

R Core Team. (2024). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse & Neglect*, *34*(4), 244–252. https://doi.org/10.1016/j.chiabu.2009.07.009

Roth, P. L. (1994). MISSING DATA: A CONCEPTUAL REVIEW FOR APPLIED PSYCHOLOGISTS. *Personnel Psychology*, *47*(3), 537–560. https://doi.org/10.1111/j.1744-6570.1994.tb01736.x

Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In *Handbook of child psychology: Social, emotional, and personality development, Vol. 3, 5th ed.* (pp. 619–700). John Wiley & Sons, Inc.

Sainio, M., Veenstra, R., Huitsing, G., & Salmivalli, C. (2011). Victims and their defenders: A dyadic approach. *International Journal of Behavioral Development*, *35*(2), 144–151. https://doi.org/10.1177/0165025410378068

Salley, C. G., Hewitt, L. L., Patenaude, A. F., Vasey, M. W., Yeates, K. O., Gerhardt, C. A., & Vannatta, K. (2015). Temperament and Social Behavior in Pediatric Brain Tumor Survivors and Comparison Peers. *Journal of Pediatric Psychology*, *40*(3), 297–308. https://doi.org/10.1093/jpepsy/jsu083

Salmivalli, C. (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior*, *15*(2), 112–120. https://doi.org/10.1016/j.avb.2009.08.007

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<1::AID-AB1>3.0.CO;2-T

Sandstrom, M. J., & Cillessen, A. H. N. (2006). Likeable versus popular: Distinct implications for adolescent adjustment. *International Journal of Behavioral Development*, *30*(4), 305–314. https://doi.org/10.1177/0165025406072789

Strindberg, J., Horton, P., & Thornberg, R. (2020). The fear of being singled out: Pupils' perspectives on victimisation and bystanding in bullying situations. *British Journal of Sociology of Education*, *41*(7), 942–957. https://doi.org/10.1080/01425692.2020.1789846

Swit, C. S., Blakely-McClure, S. J., & Kamper-DeMarco, K. K. E. (2023). Preventing Bullying in Preschool-Age Children: Predictors of Defending Behaviour. *International Journal of Bullying Prevention*, *5*(3), 202–216. https://doi.org/10.1007/s42380-023-00166-w

Trach, J., Garandeau, C. F., & Malamut, S. T. (2023). Peer victimization and empathy for victims of bullying: A test of bidirectional associations in childhood and adolescence. *Child Development*, *94*(4), 905–921. https://doi.org/10.1111/cdev.13907

Trach, J., Hymel, S., Waterhouse, T., & Neale, K. (2010). Bystander Responses to School Bullying: A Cross-Sectional Investigation of Grade and Sex Differences. *Canadian Journal of School Psychology*, *25*(1), 114–130. https://doi.org/10.1177/0829573509357553

van den Berg, Y. H. M., Lansu, T. A. M., & Cillessen, A. H. N. (2015). Measuring Social Status and Social Behavior with Peer and Teacher Nomination Methods. *Social Development*, *24*(4), 815–832. https://doi.org/10.1111/sode.12120

van der Ploeg, R., Kretschmer, T., Salmivalli, C., & Veenstra, R. (2017). Defending victims: What does it take to intervene in bullying and how is it rewarded by peers? *Journal of School Psychology*, *65*, 1–10. https://doi.org/10.1016/j.jsp.2017.06.002

Van Noorden, T. H. J., Haselager, G. J. T., Cillessen, A. H. N., & 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

Wang, Z., Laninga-Wijnen, L., Garandeau, C. F., & Liu, J. (2023). Development and Validation of the Adolescent Defending Behaviors Questionnaire Among Chinese Early Adolescents. *Assessment*, *30*(7), 2258–2275. https://doi.org/10.1177/10731911221149082

Warden, D., & MacKinnon, S. (2003). Prosocial children, bullies and victims: An investigation of their sociometric status, empathy and social problem-solving strategies. *British Journal of Developmental Psychology*, *21*(3), 367–385. https://doi.org/10.1348/026151003322277757

Wickham, H. (2016). *ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. https://ggplot2.tidyverse.org

Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T. L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D. P., Spinu, V., … Yutani, H. (2019). Welcome to the tidyverse. *Journal of Open Source Software*, *4*(43), 1686. https://doi.org/10.21105/joss.01686

World Medical Association. (2025). World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Participants. *JAMA*, *333*(1), 71. https://doi.org/10.1001/jama.2024.21972

Wulff, J. N., & Ejlskov, L. (2017). Multiple Imputation by Chained Equations in Praxis: Guidelines and Review. *Electronic Journal of Business Research Methods*, *15*(1), 41–56.

Yun, H.-Y., & Graham, S. (2018). Defending Victims of Bullying in Early Adolescence: A Multilevel Analysis. *Journal of Youth and Adolescence*, *47*(9), 1926–1937. https://doi.org/10.1007/s10964-018-0869-7

Zhou, Y., Wang, S., Deng, X., & Shi, L. (2024). Empathy and defender behaviour in bullying of young children: The mediating role of peer status. *Journal of Psychology in Africa*, *34*(1), 1–6. https://doi.org/10.1080/14330237.2024.2311987

Appendices

Appendix 1: Table 2 Multilevel Linear Regression Models

TABLE 2

Linear Regression Models of Predictors of Defending at T2

	Model 1				Model 2				Model 3			
Predictors	*B*	*SE*	*95% CI*	*p*	*B*	*SE*	*95% CI*	*p*	*B*	*SE*	*95% CI*	*p*
(Intercept)	0.26	0.02	[0.22, 0.30]	**<.001**	0.26	0.02	[0.22, 0.30]	**<.001**	0.26	0.02	[0.22, 0.30]	**<.001**
Grade Level	-0.02	0.00	[-0.02, -0.01]	**<.001**	-0.02	0.00	[-0.02, -0.01]	**<.001**	-0.02	0.00	[-0.02, -0.01]	**<.001**
Gender - Boy	-0.02	0.00	[-0.02, -0.01]	**<.001**	-0.02	0.00	[-0.02, -0.01]	**<.001**	-0.02	0.00	[-0.02, -0.01]	**<.001**
Gender - Nonbinary	-0.01	0.01	[-0.04, 0.01]	.19	-0.01	0.01	[-0.04, 0.01]	.22	-0.01	0.01	[-0.04, 0.01]	.19
Gender - No Answer	-0.01	0.01	[-0.03, 0.00]	.10	-0.01	0.01	[-0.03, 0.00]	.10	-0.01	0.01	[-0.03, 0.00]	.084
Empathy	0.00	0.00	[0.00, 0.01]	**.022**	0.00	0.00	[0.00, 0.01]	**.03**	0.00	0.00	[0.00, 0.01]	**.015**
Defending T1	0.54	0.01	[0.51, 0.57]	**<.001**	0.53	0.01	[0.50, 0.56]	**<.001**	0.53	0.01	[0.50, 0.56]	**<.001**
Peer Likeability					0.01	0.01	[0.00, 0.03]	0.09	0.02	0.01	[0.00, 0.03]	.051
Empathy x Likeability									0.04	0.01	[0.02, 0.06]	**<.001**

TABLE 2 (continued)

Random Effects			
σ2	0.00	0.00	0.00
τ00	0.01_{class}	0.01_{class}	0.01_{class}
ICC	0.57	0.57	0.57
N	351_{class}	351_{class}	351_{class}
Observations	3662	3662	3662
Marginal R^2 / Conditional R^2	0.534/ 0.801	0.533/ 0.801	0.534/ 0.801
AIC / BIC	-8644.90/ -8589.05	-8638.02/ -8575.97	-8644.50/ -8576.24

Note: Gender was dummy coded with "Girl" as the reference group. AICs and BICs are fitted with REML.