Defending behavior of peer victimization in school and cyber context during childhood and

adolescence: A meta-analytic review of individual and peer-relational characteristics

Ting-Lan Ma[1], Diana J. Meter[2], Wei-Ting Chen[3],

& Yen Lee[4]

Edgewood College, Utah State University,

National Taipei University of Education, & University of Wisconsin-Madison

[1]Correspondence may be directed to Ting-Lan Ma, Assistant Professor of Education, Educational Leadership Doctoral Program, Edgewood College, 1255 Deming Way, Madison, WI, 53717, USA, Phone (608-692-5516), email (tma@edgewood.edu).

[2]Diana J. Meter, Emma Eccles Jones College of Education and Human Services, Utah State University, 2905 Old Main Hill, Logan, UT, 84322. Phone (435-797-4141), email (diana.meter@usu.edu).

[3]Wei-Ting Chen, Post-doc Research Fellow of Education, National Taipei University of Education, No. 134, Section 2, Heping East Road, Da'an District, Taipei City, Taiwan 106, email (wtchen@tea.ntue.edu.tw).

[4]Yen Lee, Educational Psychology Department, University of Wisconsin-Madison. 1025 W Johnson St, Madison, WI 53706. Email (ylee373@wisc.edu)

Abstract

Adolescent defending of peer victimization in the school and cyber context has received increased attention in developmental science and is an important component of anti-bullying interventions. However, the overall prevalence, and individual characteristics that correlate with defending in adolescence, have not been systematically and statistically reviewed. Framed in Bronfenbrenner's social-ecological theory, this meta-analytic review included 172 reports out of 155 studies of defending including 150,978 children and adolescent participants from four continents (i.e., North America, Europe, Asia, and Australia) to analyze two aspects: (1) the average proportion of defenders in the population and (2) associations between defending and individual and peer-relational correlates of defending in school and cyber contexts. Using mixed-effects modeling, our results confirmed prior findings of gender differences (favoring girls) and age differences (favoring younger children) in defending. We found positive correlations between defending and affective empathy, cognitive empathy, experiences of peer victimization, self-efficacy, popularity and acceptance, and a negative correlation between defending and moral disengagement. We also found substantial heterogeneity in these effect sizes. The reporter of defending consistently moderated all mean effect sizes. Implications for prevention efforts and future research are discussed.

Key words: Meta-analysis, defending, peer victimization, bullying

Statement of public significance:

This meta-analytic review is the largest-scale comprehensive review of correlates of children and adolescents' defending others from peer victimization. Small, significant associations between defending and correlates investigated by most researchers were observed. These results suggest that researchers are largely on track in their understanding of characteristics of defenders and that defending researchers should consider these methodological differences and participant characteristics when interpreting their findings.

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Peer victimization is a problem among children and adolescents worldwide that

negatively impacts youth development (Card, Stucky, Sawalani, & Little, 2008; Nakamoto &

Schwartz, 2010; Nickerson, 2017; Prinstein, Boergers, & Vernberg, 2001) and holds the

potential for long-term emotional harm as damage can follow individuals into adulthood (Lereya,

Copeland, Costello, & Wolke, 2015; Takizawa, Maughan, & Arseneault, 2014). Peer

victimization is the receipt of peer aggression or intentional harm aimed at a peer. Peer

victimization can include physically violent acts, verbal assaults, relational, social, or indirect

aggression, covert behavior meant to harm one's reputation or social relationships, damage to

property, or a combination of these forms (Archer & Coyne, 2005; Card & Hodges, 2008; Galen

& Underwood, 1997). Victims and aggressors are the actors typically studied, but bystanders are

often present during peer victimization episodes (Hawkins, Pepler, & Craig, 2001; Jones,

Mitchell & Turner, 2015). This meta-analysis focuses on prevalence and correlates of defending,

serving as an active bystander who stands up for victims of peer victimization by asserting

themselves to aggressors, getting help from others, or showing support for victims. Defenders are

important within the peer context because defenders successfully curb bullying or peer

victimization in most cases (Hawkins et al., 2001) and defended victims tend to be less

victimized than non-defended peers and report better psychosocial adjustment (Sainio, Veenstra,

Huitsing, & Salmivalli, 2011).

Defenders of peer victimization were first described by Christina Salmivalli and

colleagues in 1996, in their investigation of *participant roles* among youth. Defending includes

comforting the victim, getting the help of an adult or others, assertively standing up to the

aggressor, retaliating against the aggressor through aggressive means, being friends with the victim and staying with the victim as a protective measure, and other behavior enacted with the intention of supporting victims (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, (1996). Defenders are an essential component of the social-ecological school environment within which youth develop (Bronfenbrenner, 1979; Espelage & Swearer, 2010).

Peer victimization sometimes encompasses bullying, a specific form of peer victimization that includes an imbalance of power between the aggressor and victim, and repetition of the phenomenon (United States Department of Health and Human Services, 2014). To address bullying and peer victimization, school-based intervention programs may include a component aimed at increasing defending, in hopes that more prosocial bystander behavior will lead to less peer victimization. For example, the Finnish KiVa intervention successfully increased prosocial bystander behavior and this model has been applied in other countries (Kärnä, Voeten, Little, Poskiparta, Alanen, & Salmivalli, 2011). The work of Polanin, Espelage, and Pigott (2012) indicated that prevention programs which increase bystander intervention are effective. However, most of the interventions considered in Polanin et al.'s review was teacher-led, designed to increase awareness, and specifically targeted skill-building activities, such as modeling, social-cognitive training, and behavior modification.

Goals of this Meta-Analysis

The purpose of this meta-analysis is to 1) investigate the average proportion of defenders in the population and 2) test associations between defending and critical individual and peer relational correlates of defending in school and cyber contexts. We additionally assessed the moderating effects of methodological factors and the role of publication bias on these associations.

Ecological Systems Theory Applied to Defending Others from Peer Victimization

Theoretically, individual differences (e.g., empathy) and factors in a child or adolescent's ecology (e.g., political climate) may influence how they react in peer victimization situations. The social-ecological perspective of youth development (Espelage & Swearer, 2004), based on Bronfenbrenner's ecological model (1979), places individuals and their biology, cognition, and behaviors at the center of the model. Peer networks are factors that may also affect development or interact with individual differences. This model suggests that behavior occurs through interactions between the individual and the individual's environment (Espelage & Swearer, 2010). To predict whether a child or adolescent is apt to defend, the micro, meso and macro, and chronological systems must be taken into account, meaning that individual and contextual factors, and the historical timeframe in which the event occurs, all shape the choice to defend a peer from victimization (Bronfenbrenner & Morris, 2006).

At the individual level, gender, age (e.g., Evans & Smokowski, 2015), and cognitive factors including efficacy, moral disengagement, and empathy have been studied as predictors of defending (e.g., Correia & Dalbert, 2008). At the peer-relation level, relationship and status characteristics have been found to impact defending. Significant predictors of defending include social status (Salmivalli et al., 1996) and relationships between defenders, bullies, and victims (Tisak & Tisak, 1996); few studies have explored these latter factors.

At the contextual level, bullying interventions (Polanin et al., 2012) and a school climate that includes more defending and less aggression are conducive to defending (Salmivalli, Voeten, & Poskiparta, 2011). At the exosystem and macrosystem levels, cultural ideologies and attitudes seem to affect victimization. For example, Huang and Cornell (2019) found an increase in overall rates of reported bullying and racially targeted bullying in geographic areas with strong

Republican voting in the 2016 Presidential election. However, whether there is an exo- or

macrosystem effect on defending has not, to our knowledge, been investigated. An additional

context in which peer victimization takes place is the digital or cyber context. Features of

different levels of the ecological system may similarly correlate with defending in this context.

Although defending research is growing, most research to date has focused on individual and

peer-relational factors associated with defending. Below, we review previous research on

prevalence of defending, and individual and peer-relational predictors of defending.

Proportion of Defenders

Not all bystanders fulfill a defender role. Across studies, definable bystander roles

include providing support for aggressors, attempting to stay uninvolved, and offering help to

peer victims (Casper, 2013; Fitzpatrick & Bussey, 2011; Goossens, Olthof, & Dekker, 2006;

Sandstrom, Makover, & Bartini, 2013; Sutton & Smith, 1999). Methodologically it is useful to

accurately classify individuals into roles; however, classification is difficult because the same

individual can fulfill more than one participant role and how different roles are classified affects

the prevalence of defending (Huitsing & Veenstra, 2012; Pouwels, Lansu, & Cillessen, 2016).

Further, age and gender differences may account for some of the variance across studies

(Salmivalli, 2010). For instance, in a study utilizing the original Participant Roles Questionnaire,

Salmivalli and colleagues (1996) found that 30.1% of girls and 4.5% of boys were classified as

defenders whereas a study using multiple scoring methods found higher rates of defending for

boys (27.5%-37.4%) and girls (26.5%-53.9%; Sutton & Smith, 1999). Therefore, the number of

children and adolescents classified as defenders of bullying or peer victimization varies between

studies. The rate of defending across studies has not previously been systematically examined,

making it difficult for educators to see the big picture of the prevalence of youth not actively

defending the victims.

Individual and Peer-Relational Characteristics of Defending

Several individual characteristics predict defending. In this section we present a review of

the extant literature on non-varying effects of gender, age, and correlates that may be more fluid

including experiences of victimization, empathy, moral disengagement, and self-efficacy,

followed by their theoretical explanations.

Gender differences. In comparison to boys, girls typically engage in higher levels of

defending as exemplified across more than a dozen studies (e.g. Caravita, Gini, & Pozzoli, 2012;

Espelage, Green, & Polanin, 2012; Goossens et al., 2006; Lambe, Hudson, Craig, & Pepler,

2017; O'Connell, Pepler, & Craig, 1999; van der Ploeg, Kretschmer, Salmivalli, & Veenstra,

2017), although there are exceptions (Craig & Pepler, 1997; Menesini et al., 1997). Girls are

socialized to be nurturing, caring, help-giving, and to provide peer support (Salmivalli et al.,

1996). In the study of heroism, women and girls have been found to engage in risky behavior in

order to help others when the risks to self are high and to show compassion towards groups that

are different from themselves (Becker & Eagly, 2004). Perhaps these women have the

compassion to help others, even if the others are outgroup members, such as from a different

religious group; perhaps this is similar for defenders who stand up for typically low-status

victims (Becker & Eagly, 2004). Girls who engage in defending are likely acting in line with

gender roles. Boys may shy away from defending because they wish to avoid engaging in

stereotypically feminine behavior, especially if they do not believe they will be rewarded. Thus,

we may expect to see a strong gender difference in defending, with girls intervening more around

early adolescence, when gender norms tend to intensify (Galambos, Almeida, & Petersen, 1990).

Most studies of defending have focused on prosocial and non-confrontational forms of defending, although evidence supports the actual and hypothetical use of aggressive defending strategies (Hawkins et al., 2001; Meter, Ma, & Ehrenreich, 2019) and differentiation of bully- and victim-oriented defending (Reijntjes, Vermande, Olthof, Goossens, Aleva, & van der Meulen, 2016). Gender differences favoring boys' defending may emerge if specific risk-taking behavior is investigated, such as bully-oriented defending (Reijntjes et al., 2016), and also depending on the form of victimization witnessed. Specifically, girls may feel less able to defend a victim from physical victimization unless they perceive a serious threat (Meter et al., 2019).

Age differences. Younger children tend to defend more than older youth (Salmivalli & Voeten, 2004). For example, Evans and Smokowski (2015) found that about 24% of 11-year-old participants defended, but only about 8% of 19-year-olds did. Similarly, 4th graders were more likely to defend than 8th graders (Pöyhönen, Juvonen, & Salmivalli., 2010). Lambe and colleagues (2017) found that 4th-6th graders were more likely to report defending than 7th-8th, 9th-10th, or 11th-12th graders. However, amongst middle and high school students, age was not an exact predictor as 7th -8th graders and 11th-12th graders defended to the same degree, and more so than 9th-10th graders.

The explanation for age differences in the prevalence of defending has not been investigated explicitly. However, there are a few theoretical explanations for why older youth consistently defend less than younger youth across samples of different ages. First, it may be more socially acceptable to defend another from peer victimization at younger ages (Salmivalli & Voeten, 2004). As youth develop cliques and the social hierarchy becomes more structured during early adolescence, we might expect to see less defending (Collins & Steinberg, 2006), since youth are oriented toward their peers (Buhrmester & Fuhrman, 1987) and preserving their

peer status (Eder, 1985). To our knowledge, there has not been a study of participants with a large enough age range to test whether the amount of defending increases again during older adolescence, when adolescents begin to spend time in smaller groups instead of crowds (Collins & Steinberg, 2006).

Second, defenders seem to be influenced by social norms in their peer group (Pozzoli, Gini, & Vieno, 2012; Salmivalli & Voeten, 2004). If defending others from peer victimization is rewarded, individuals should engage in this behavior, but if the act is atypical, individuals should be less likely to participate in this behavior. Defending social norms had a stronger impact on secondary school students as opposed to primary school students (Pozzoli et al., 2012), likely due to the greater companionship with and influence of peers during adolescence (Buhrmester & Furman, 1987; Collins & Steinberg, 2006). This tendency, along with a decreased appreciation for the plight of victims and increased pro-bully attitudes as youth gets older (Jeffrey, Miller, & Linn, 2001; Rigby & Slee, 1991), may jointly contribute to less defending among older youth.

Third, meta-analytic results suggest that there is a general increase in prosocial behavior from childhood to adolescence (Eisenberg & Fabes, 1998). Decreased defending may be attributed somewhat to developing children's broadening perspective-taking ability, and the shifting motivations youth have toward prosocial-relevant goals. Although the increase in perspective-taking ability allows children to understand and empathize with others' distress, it is also possible that such social-cognitive capacity contributes to children's increased understanding of behavioral costs associated with defending (House et al., 2013). Hence, the reduced defending rate could be the result of a gradually sharpened awareness that defending may no longer be socially rewarded. It is worth noting that peer victimization may generally decrease by the end of adolescence, and youth may have fewer opportunities to defend others

from peer victimization at this developmental stage, leading to a lower observed prevalence of defending (Evans & Smokowski, 2015).

Experiences of peer victimization. Findings regarding the association between experiencing peer victimization and defending are limited and mixed. Victimization and defending were associated in multiple studies (Barchia & Bussey, 2011; Lambe et al., 2019), but not all (van der Ploeg et al., 2017). Victims who witness others' victimization tend to experience social maladjustment at a higher rate than their peers who witness peer victimization but are not victimized (Werth, Nickerson, Aloe, & Swearer, 2015). Children and adolescents' own peer victimization may lead to empathy and perspective taking, factors also associated with defending (Meter & Card, 2015). Victimization has been found to be negatively associated with cognitive empathy, and to have a more complex relation to affective empathy, with studies finding positive, negative and no association between the two (van Noorden, Haselager, Cillessen, & Bukowski, 2015).

One might think that defenders would not also be victimized, in that those who are victimized would be too fearful to stand up for others and risk more victimization. There has been support for this retaliation hypothesis—that defenders are at risk for victimization at the hands of the bullies of the victims they defend. However, researchers also found that victims defend *each other* from peer victimization (social support hypothesis; Huitsing, Snijders, Van Duijn, & Veenstra, 2014).

Affective and cognitive empathy. Empathy has often been investigated as a predictor of defending among peers (e.g., Correia & Dalbert, 2008; Gini, Albiero, Benelli, & Altoè, 2008; van der Ploeg et al., 2017). Empathy is thought to encourage altruistic behavior (Zych, Ttofi, & Farrington, 2016) such as defending. Empathy is defined as "an emotional response that stems

from another's emotional state or condition and is congruent with the other's emotional state or condition" (Eisenberg, Shea, Carlo, & Knight, 1991, p. 65). There are two types of empathy that, although different, are both hypothesized to be associated with defending others from peer victimization. *Affective empathy* refers to being able to experience others' emotional states (Lovett & Sheffield, 2007). *Cognitive empathy* refers to understanding the emotions of others (Hogan, 1969; Zych et al., 2016). Empathizing with peers and understanding the hurt and isolation that accompanies peer victimization is proposed to lead defenders to stand up for their victimized peers (Batanova, Espelage, & Roa, 2014). A meta-analysis investigating differences between defenders and non-defenders on empathy reported that defenders scored significantly higher on cognitive empathy, affective empathy, and a combination of the two (Zych et al., 2016).

Moral disengagement. Moral disengagement refers to excusing one's morally unacceptable behavior to preserve one's psychological wellbeing (Gini, 2006). This construct is related to bullying and aggression toward others because it is used to justify aggression toward peers. Those who tend not to morally disengage from harmful behavior toward others should be more likely to be affected by others' victimization and feel morally obliged to intervene or help. Indeed, a study of early adolescents showed that anticipated guilt and shame for *not* helping victims predicted defending (Pronk, Olthof, & Goossens, 2016). Numerous studies have found a negative association between moral disengagement and defending of peers (e.g., Caravita et al., 2012; Doramajian & Bukowski, 2015), although sometimes findings are mixed and dependent on age or gender. A study of primary school children found defenders to report less moral disengagement than bullies, reinforcers, and assistants (Gini, 2006). Given the mixed findings,

an analysis of the relation between defending and moral disengagement across multiple studies would provide valuable insight regarding the strength of this relation.

      Self-efficacy. To defend others from peer victimization, children and adolescents may need to feel efficacious in their ability to successfully help their peer. This factor has been investigated to understand what contributes to defending and what might prevent prosocial, concerned bystanders from intervening (van der Ploeg et al., 2017). In a study of defender self-efficacy, participants were asked if "they would be able to stop" bullying and whether they had "high confidence in [their] ability to intervene…" (Thornberg & Jungert, 2013, p. 478). The authors found agreement with these statements to be a strong predictor of defending. Other studies have examined the relationship between general or social self-efficacy and defending. Gini and colleagues (2008) investigated the relationship between "being able to make new friends," "being able to express personal opinions in a group," etc., and defending. They found a positive, significant association between the general form of self-efficacy they measured and defending.

      Acceptance and Popularity. Social preference or popularity and being liked or accepted by peers are important characteristics associated with defending (Caravita et al., 2012; Lambe et al., 2019; Pouwels et al., 2016). Pöyhönen and colleagues (2010) suggested that defenders' social status among the peer group may enable them to defend others without fear of negative repercussions. Youth have reported evaluating the social positions of others when trying to decide how to respond during a peer victimization situation (Thornberg et al., 2012). Low-status individuals may choose not to defend if they fear becoming victims themselves; however, victims have been shown to defend each other (Huitsing et al., 2014). Therefore it is not just individual status that matters, but how one compares to the other actors in the peer victimization

situation; quick evaluation of peer status might be especially critical during adolescence when youth tend to be peer-oriented (Buhrmester & Fuhrman, 1987). Although a factor rarely measured in studies of defending (for exception see Hawkins et al., 2001), the relative social status of a defender, in regard to peer acceptance, may influence their willingness to defend others.

Moderators of Effect Sizes of Correlates of Defending

In addition to the individual and peer-relational characteristics that are correlated with defending, there are methodological study characteristics that may affect the magnitude of the association between defending and its correlates. Consideration of the moderating effects of these additional variables would help researchers interested in measuring and increasing defending among youth know whether methodological choices may affect observed associations between defending and correlates of interest.

Study Methods and Characteristics as Moderators of Defending

The magnitude of the association between the individual and peer-relational characteristics described above and defending may be moderated by methodological characteristics of studies. Specifically, we investigated the moderating effects of publication bias, type of measurement employed (use of vignette), the reporter of defending, participant age group, percent of ethnic minorities, form of victimization (e.g., overt and relational), and national context of the study.

Publication bias. In comparison to unpublished studies, published studies may have systematically larger effect sizes and significant results (Hopewell, Clarke, & Mallett, 2006; Rothstein, Sutton, & Borenstein, 2006). Our inclusion of gray, or unpublished, literature allows

for investigation of the presence of systematic differences in effect sizes between published and unpublished results.

Use of Vignette. Different methods of data collection could account for variation in effects from study to study, but to our knowledge, the difference in effect sizes of correlates of defending has not been systematically investigated across data collection methods. Two popular modes of data collection in defending research include the use of vignettes, which involve a text, video, or a pictorial story of a peer victimization situation (e.g., Gini et al., 2008), and self-report of "actual" defending during real-life victimization situations. Rarely have both methods of data collection been investigated in unison to compare effects based on different data collection methods (for exception see see Bellmore, Ma, You, & Hughes, 2012).

Variation in the reporter of defending. In addition to *how* the measure is constructed, it is also important to examine *who* reports the information. Defending has been self-reported by children and adolescents (e.g., Thornberg & Jungert, 2013), assessed via peer nomination techniques (e.g., Salmivalli, Lappalainen, & Lagerspetz, 1998), teacher reports (e.g., Sandstrom & Bartini, 2010), and observed by researchers (e.g., Hawkins et al., 2001). Currently, there is not agreement among researchers about the best way to measure defending. In one regard, youth may be the best reporters of their behavior, especially if it is unobservable such as privately telling a teacher about someone else's victimization. At the same time, some researchers are concerned that youth may respond in socially desirable ways when questioned about defending (Barhight, Hubbard, & Hyde, 2013), reporting the behavior in which their ideal selves would engage. Potential variation in effect sizes between predictors and defending by difference in who the reporter was, have not been systematically evaluated. We expect that shared informant

effects, when defending and the correlate are measured in the same way, may lead to stronger correlations.

Unexplored moderating variables. How age moderates associations between predictors of defending and the action of defending has not, to our knowledge, been investigated, nor have studies examined whether ethnic minorities defend to a different degree than ethnic majority group members. We suspect that in line with research on who defends whom, there may be situations where minority group victims defend each other, but we are unsure how this will affect results as a moderating variable. Therefore, we explored the percent of ethnic minority youth in the sample as a moderating variable. The effect of the form of victimization (overt, relational) on defending has only begun to be explored (Meter, 2015). Although not systematically evaluated previously, defenders may be apt to defend some forms of peer victimization before others. Due to lack of previous research, it is unclear why this might be the case, but perceptions of the seriousness of the victimization are one hypothesized reason why the defenders may be more likely to intervene when they witness physical aggression in comparison to relational aggression (Bastiaensens et al., 2014). Moreover, the majority of defending research has been conducted in Western countries including the United States, Canada, the Netherlands, and Finland. Although infrequently studied, differences between national contexts may impact associations between defending and its correlates.

Contribution to the Field

Based on social-ecological theory, we conducted a meta-analytic review of 172 reports from 155 studies of defending and microsystem correlates to realize two goals. First, we examined the proportion of defenders in the population. Second, we investigated the magnitude of correlations between defending and individual and peer-relational characteristics in the school

and cyber context. We additionally tested moderators of the associations between defending and the aforementioned correlates when enough data were available. We also examined whether publication bias is an issue in these associations.

This meta-analysis builds upon knowledge gained from previous reviews of defending (Lambe, Cioppa, Hong, & Craig, 2019; Meter & Card, 2015) by including gray literature and employing statistical techniques to account for heterogeneity. Although published, peer-reviewed studies may be considered of higher quality, the phenomenon of non-significant findings being less likely to be published (Ledgerwood, 2019) may bias the conclusions made by authors of reviews based on published literature (Card, 2008). Additionally, authors who leave academia may not publish their results for dissemination. Lambe and colleagues' (2019) review included published literature only; Meter and Card (2015) included one dissertation. The current meta-analysis included over 50 unpublished studies which allowed us to evaluate the impact of publication bias on effect sizes.

Further, the present study builds upon prior work by employing statistical techniques to account for heterogeneity that exists among defending correlate effect sizes. Meter and Card's (2015) review was strictly theoretical. Lambe et al. (2019) used a vote-counting approach in which they tallied the number of significant results from studies investigating correlates of defending. Hence, we contribute to the literature by identifying correlates of defending and methodological factors that may impact associations between defending and other variables, the results provide valuable information to researchers striving to improve the knowledge of this field, and to interventionists attempting to decrease peer victimization among youth by enlisting peers to defend.

Method

Selection of Studies

We obtained studies reviewed in this meta-analysis through five approaches. First, we conducted literature searches through ERIC, Proquest (for unpublished dissertations and theses), and PsycINFO databases using the keywords "participant role," "school bullying," "bystander intervention," "peer victimization," "defend," and "help." The last database search was performed in October 2018. Second, we examined references cited in other articles using both backward and forward search methods. Third, we asked many defending researchers for their unpublished research data on this topic. Researchers provided this work and suggested other works to include. We also asked several experts in the field to review the included article lists and suggest other studies. Fourth, we emailed all first authors for studies that did not contain enough information for the effect sizes of interests for additional information. Finally, we reviewed the recent-year program books from three major academic conferences in the developmental science field: Society of Research in Child Development, Society of Research on Adolescence, and American Psychological Association to obtain unpublished studies that might not be available through other means. Note that we included studies of both peer victimization and bullying, but we used the broader term peer victimization in this paper to include all forms of received peer aggression (Finkelhor, Turner, & Hamby, 2012). We reviewed a total of 350 journal articles, book chapters, unpublished dissertations, theses, and manuscripts in selecting studies for potential inclusion. Figure 1 presents the flow of information through the review process.

We included studies that met four criteria. First, studies presenting data on defending and individual or peer relation correlates that were relevant to questions of interest in this meta-analytic review (i.e., gender, age, empathy, moral disengagement, self-efficacy, experiences of

peer victimization, popularity, and social preference) were included. Second, study samples had to consist of children younger than 18 years; adult samples and samples that were cross-ranged into adulthood were excluded. Third, the sample had to be considered normative (children in psychiatric or criminal settings were excluded). Fourth, the context examined had to include in-school or cyber forms of bullying. A total of 172 reports from 155 independent studies consisting of 150,978 children in the offline bullying context and a total of 10 studies consisting of 6,291 children in the online bullying context were included in the current meta-analytic report. A study was included if it contained one or more of the correlates of interest. When correlates were examined in a study but statistics were not presented, we reached out to the authors to obtain the relevant effect sizes.

Coding of Studies

For all studies and reports, we coded sample size, mean age, the proportion of girls and ethnic minority participants, internal consistencies of relevant scales, and effect sizes of interest (see below). We also coded the proportion of the defenders in the studies if the number was available and the same moderation analyses would be applied. Moreover, we coded ten variables as moderators of effect sizes. Moderators included: the proportion of **girls** and ethnic **minorities** in the sample, **age group** (1 = childhood, 2 = adolescence, 3 = cross-range that included both children and adolescents), **mean age** of the sample, the **reporter** of defending (1 = self-report, 2 = peer nomination, 3 = observation, 4 = others), the **country** from which the sample was drawn (1 = United States, 2 = Finland, 3= other European countries, 4 = Asian countries, 5 = multiple countries, 6 = others). We separated Finland from other European countries because Finland was where defending was first studied, and it is the only country where a nation-wide prevention program targeting bystanders (i.e., KiVa) was implemented. It is possible that the effect sizes of

defending and its correlates reported in Finland may be different from countries that do not have

a national prevention program. We also coded **publication status** (0 = unpublished, 1 =

published), if **vignettes** were used to describe the bullying (0 = no, 1 = yes), and if the **relational**

form and **physical form** of victimization was included in the assessment of defending (0 = no, 1

= yes).

We also coded if defending was reported separately for boys and girls, separately for

bullying forms (overt, relational bullying), and separately for defending type (aggressive,

assertive). To assess the accuracy of coding, three authors independently coded a sample of 40

studies, and the agreement rate was compared. There was a high level of agreement (for

categorical characteristics, median $k = 0.89$, range = 0.75-1.00; for continuous characteristics,

median $r = .97$, range = .89- 1.00). Disagreements were resolved through discussion.

The effect size for proportion of defenders was reported as a proportion. Effect sizes for

other investigations were correlations between defending and other variables. Correlates

included gender, age, peer victimization, defined as receipt of peer aggression (Perry, Kusel, &

Perry, 1988), affective empathy, defined as being able to share others' emotional states (Zych et

al., 2016), cognitive empathy, defined as understanding others' emotions (Zych et al., 2016),

self-efficacy, defined as "confidence in one's ability to engage in a behavior both in general or

specific to the witnessed bullying situation (Thornberg & Jungert, 2013, p. 478), and moral

disengagement, defined as the ability for one to psychologically excuse one's morally

unacceptable behavior in order to preserve one's psychological wellbeing (Gini, 2006). We also

coded correlations between defending and two peer-relational variables: perceived popularity

(i.e., being considered popular by peers) and peer acceptance (i.e., being liked by peers). When

the effect size for defending behaviors was reported using subtypes (e.g., aggressive defending,

overall defending), we coded the effect sizes for overall defending (weighted, averaged *r* across defending types), and for each defending type.

Statistical Analysis

Effect size calculations. We reported most effect sizes (gender and age differences in defending behavior, correlations between defending and individual and peer-relational characteristics) as Pearson correlations, *r*. For studies reporting effect sizes using other metrics such as Cohen's *d*, results of significance tests such as *t*-tests, and descriptive data such as means and standard deviations, these data were transformed to *r* using standard procedures (Card, 2012). Studies which reported only that a particular effect size was nonsignificant with no other information from which to compute an effect size were assigned *r* = 0. The use of this conservative approach may have led to the slight underestimation of overall effect sizes.

To obtain accurate effect sizes and account for possible measurement errors, we corrected for the unreliability of scales that attenuated effect sizes of correlations. The artifact corrections were estimated based on reported reliabilities of both variables used in the correlations using the formula provided in Card's (2012) book. For studies that did not report internal consistencies of measures, we used the mean reliabilities obtained from meta-analyses of studies reporting internal consistencies (Card, 2012).

Combining and comparing effects across studies. All effect sizes were combined using weighted mixed effects analyses in the metafor package of R (Card, 2012; Viechtbauer, 2010). We preferred this approach because all the meta-analyses performed in this review indicated significant heterogeneity around the mean effect sizes and therefore rendered the fixed-effects models inappropriate. To reduce the sample dependencies, we combined multiple effect sizes representative of the same participants to derive an individual effect size for each study (e.g.,

across peer-nomination and self-report, defending types, and multiple victimization forms). For example, the effect sizes were combined if a participant reported both peer-nominated and self-reported defending in a single study. Treating multiple effect sizes obtained from the dependent sample as individual effect sizes would erroneously inflate the sample weight in the calculation of the final effect size (Card, 2012). Effect sizes that were obtained from independent subsets of the sample in the same study (e.g., participants from different age groups or different countries) were not combined and were included as separate reports. Effect sizes were weighted because effect sizes that are more precise should be given more weight than others. We did not conduct separate meta-analyses for different defending types and across multiple forms of victimization due to the small percentages of these studies (e.g., 12% and 3%, respectively). Defending types were not consistent across studies; therefore, we were unable to conduct the meta-analysis separately by types of defending, nor to use it as a moderator.

Calculation of effect sizes and moderation analysis. When averaging across multiple studies, we weighted effect sizes by an inverse variance weight using the general formula provided in Card et al. (2008, p. 1192). When sufficient studies existed, and the mean effect size showed evidence of significant heterogeneity (as indexed by Q), we then examined several moderators including mean age of participants, proportion girls, proportion ethnic minorities, country, if vignette was used, the reporter of defending, if relational forms of victimization were included, and publication status. We analyzed the categorical and continuous moderators using a weighted regression procedure that involved regressing effect sizes onto the study-comparison variables by using a mixed-effects approach, such that the moderator variables were fixed, whereas effect sizes of individual studies were allowed to randomly vary (Hedges & Vevea, 1998; Overton, 1998). We also examined the interaction between key moderators using a model

comparison procedure if the meta-analysis of a specific individual or peer-relational correlate included a total of at least 50 studies ($k > 50$) to approximate adequate power to detect the effect of interacting moderators on the effect size estimates. The correlates that did not meet this criteria and were therefore excluded in the interaction analysis included cognitive and affective empathy, self-efficacy, moral disengagement, popularity acceptance, and cyber bullying studies. The interaction was included in the model if the likelihood ratio test was significant. The exploratory process stopped when no heterogeneity was detected (i.e., when QE was non-significant) or there was no further model fit improvement. Mean age was centered before the interaction analysis was conducted to aid in the interpretation of the results.

Publication bias. We examined two major types of publication bias (Rothstein et al., 2005). We first examined publication status as a binary moderator of the main effect sizes to reveal whether effect varied by publication status. Second, we created funnel-plots (Sterne & Harbord, 2004) and employed the trim-and-fill method (Duval, 2005) to examine the publication bias stemming from the higher probability of larger scale (versus small scale) studies to be published, since these studies are assumed to have more heterogeneous samples and more valid research designs (Rothstein et al., 2005). A symmetrical funnel plot would indicate a small effect of publication bias, which can be detected by the Egger's regression.

We also utilized selection methods, through estimating the four commonly tested models, to detect the possible changes in effect size estimates due to selection bias (Vevea & Woods, 2005). Publication bias is a concern if the estimated effect size changes significantly under the specification of different types of selection bias. First we ran a moderate one-tailed selection model, a situation where all significant results were published whereas nearly half of the non-significant reports were not published nor included. Second we tested a severe one-tailed

selection model, which indicated almost all non-significant reports were not published nor

included. Third, we ran a moderate two-tailed selection model, indicating a situation where

studies with very small and very large *p*-values were likely to be included. Fourth, we tested a

severe two-tailed selection model, indicating that only results with a *p*-value > .9 or < .05 were

published. (For more details, see Vevea & Woods 2005, and an example of meta-analysis by

Cheng, Lau, & Chan, 2014).

Results

The general characteristics of the 172 reports out of the 155 studies included in this

review are presented in Table 1. Self-reports and peer nominations were the two primary

methods used to assess defending. Most studies were conducted in the United States or European

countries. We present summary statistics of the 12 meta-analyses in Table 2 and the estimated

effect size at different levels for categorical moderators in Table 3. In Tables 4-5 we illustrate the

moderator and effect size codes for each study included in the analysis. The results of

examination for publication bias are outlined in Table 6 and heterogeneity among studies (i.e.,

forest plots) are shown in Figures 2-10. We organized all the forest plots by the reporter of

defending because it consistently moderated all the effect sizes when a heterogeneity was

present.

We present the results of our meta-analyses in four parts: First, we present a meta-

analysis of the proportion of defenders in a sample ($k = 37$) and moderation of this proportion

when possible. Second, we share results of analyses to assess the associations between childhood

and adolescent defending and individual and peer-relational characteristics frequently examined

in the defending literature: gender ($k = 112$), age ($k = 52$), experiences of peer victimization ($k = 62$), affective empathy ($k = 36$), cognitive empathy ($k = 20$), moral disengagement ($k = 17$),

self-efficacy (k = 10), popularity (k = 20) and acceptance (k = 17). Next, we present the

magnitude of gender and age differences in online defending and offline defending (k = 9 and k

= 7, respectively). Given the small number of these studies and lack of statistical power, we did

not assess moderation of the study characteristics for online defending. Last, we present the

results of publication bias analyses using funnel plots, trim and fill, and selection methods.

Proportion of Defenders

Thirty-seven studies (52,568 participants, Table 5 and Figure 2) reported the proportion

of defenders' in the sample. The overall random-effects mean defending rate was logit = -.27, *SE*

= .06, *p* < .001. Backtransformed into a proportion, the mean defenders' proportion was .43

(95% CI [.41, .46]). Significant heterogeneity was found among studies reporting a defending

rate, Q (36) = 938.38, *p* < .001, I^2 = .96. The examination of moderation revealed that the

reporter of defending significantly predicted the heterogeneity, *QM* (2) = 11.07, *p* = .004. Table

3 shows the obtained defending proportion by reporter. The use of self-report yielded a larger

proportion of defenders compared to the use of peer nomination (prop. =.47 and .40,

respectively). Other moderators such as age group, the proportion of girls in the study, the use of

vignette, and the publication status were not significantly related to the magnitude of defenders'

proportion.

Individual and Peer-Relational Characteristics of Defending Behaviors in School Context

We first assessed the strength of the correlations between defending and individual

characteristics that are typically assessed in defending studies in the traditional school context

(i.e., offline). These characteristics include gender, age, affective empathy, cognitive empathy,

experiences of peer victimization, self-efficacy, and moral disengagement.

Gender differences. As listed in Table 5 and displayed in Figure 3, 112 studies
(consisting of 75,356 participants) reported results containing the magnitude of gender
differences in defending during childhood and adolescence. Overall, the random-effects analyses
showed gender differences in defending were generally consistent with prior literature (e.g.,
Caravita et al., 2012) stating that girls were more likely to defend than boys, with an average
effect that was small in magnitude, $\bar{r}$ = -.07, $p < .001$ (note that negative rs indicate lower levels
of defending for boys). However, we found significant heterogeneity among these studies in the
magnitude of gender differences in defending, Q (111) = 866.17, $p < .001$, $I^2 = .81$. The mixed-
effects models that evaluated moderators revealed noteworthy findings such that the effect sizes
of gender differences in defending was moderated by country, QM (4) = 28.05, $p < .001$, reporter
of defending QM (3)= 14.68, $p = .002$, and an interaction of age group by mean age, QM (5) =
13.10, $p = .02$. Studies conducted in Finland yielded a larger magnitude of gender differences in
defending compared to those in the United States (see Table 3 for estimates at each moderator
level). Similarly, studies that used peer nomination had a larger magnitude of gender differences
in comparison to self-reported defending. In Figure 4 we present the interaction effect of mean
age and age group predicting the heterogeneity of gender differences in defending; the slope of
mean age predicting the magnitude of gender differences in defending is steeper in childhood
than in adolescence. There was a gender difference in defending favoring girls in childhood
(especially between ages eight and 11), but this trend was absent during adolescence (from age
12-18). The other moderators (age group, mean age, inclusion of relational victimization, use of
vignette, and publication status) were not significant moderators of the effect size for gender
differences.

Age differences. As listed in Table 5 and displayed in Figure 5, 52 studies (consisting of 41,919 participants) reported results of the magnitude of age differences in defending during childhood and adolescence. Overall, younger children were more likely to defend or be nominated as a defender of their peers compared to older children, with an average effect that was small in magnitude, $\bar{r} = -.03$, $p < .001$ (note that negative rs indicate lower levels of defending for older children). This result is consistent with previous literature stating that children in lower grades were more likely to defend compared to children in higher grades (e.g., Evans & Smokowski, 2015).

Significant heterogeneity was found among studies of the magnitude of age differences in defending, Q (51) = 114.33, $p < .001$, $I^2 = .59$. Analysis of moderators of this effect size revealed that the reporter of defending, QM (1) = 5.11, $p = .02$, and an interaction between country and the reporter of defending, QM (3) = 22.56, $p < .001$, predicted the heterogeneity found in the magnitude of age differences in defending. There were smaller effect sizes among studies that used peer nominations in comparison to those that used self-report. Studies conducted in Finland that used self-report showed the strongest negative relation between age and defending, whereas studies conducted in the United States that used peer nomination yielded the strongest positive relation between age and defending (favoring older children). The other study characteristics (e.g., publication) were not related to the magnitude of effect sizes for age differences and defending.

Defenders' experiences of peer victimization. The 60 studies consisting of 55,137 participants that reported the effect sizes between peer victimization and defending can be seen in Table 5 and Figure 6. In previous research, the association between peer victimization and defending has been inconsistent (e.g., Huitsing et al., 2014; Salmivalli, 2014). Our analysis

showed that when children and adolescents were victimized themselves, they were more likely to defend and be nominated as a defender by their peers, with an average effect that was small in magnitude, $\bar{r} = .06, p < .001$.

Significant heterogeneity was found among studies reporting the correlations between peer victimization and defending, Q (59) = 330.02, $p < .001$, $I^2 = .83$. The moderator analysis showed that the reporter of defending, QM (1) = 5.98, $p = .01$, and an interaction between the reporter of defending and mean age, QM (3) = 11.98, $p = .007$, were significantly related to the magnitude of effect sizes between defenders' experiences of being a victim and their defending behaviors. The use of peer nomination compared to self-report yielded a smaller magnitude of effect sizes (closer to 0). When self-report was used, there was a shift point at age nine such that a negative correlation was observed among youth under nine, whereas a positive correlation between victimization and defending was observed among studies including children older than nine. The magnitude of this positive correlation increased with age. The correlation between victimization and defending was non-significant and close to zero across all ages of participants when peer nomination was used. Other moderators did not produce any difference in the magnitude of effect size.

Affective and cognitive empathy. In Table 5 and Figure 7 we summarize the meta-analytic syntheses of the effect sizes between affective empathy and defending, and cognitive empathy and defending, respectively. Thirty-six studies (consisting of 26,404 participants) assessed affective empathy and defending, and 20 studies (consisting of 17,400 participants) assessed cognitive empathy and defending. Combined effect sizes indicated that children and adolescents with higher affective empathy and cognitive empathy were more likely to defend or

be nominated as a defender, with an average effect that was small in magnitude for each

association, $\bar{r} = .15, p < .001$, and $\bar{r} = .12, p < .001$, respectively.

We found significant heterogeneity for studies reporting correlations between affective

empathy and defending, $Q (35) = 89.44, p < .001, I^2 = .70$, and for studies assessing cognitive

empathy and defending, $Q (19) = 32.01, p = .03, I^2 = .45$. For affective empathy and defending,

the moderator analysis showed that country, $QM (4) = 17.99, p < .001$, the reporter of defending,

$QM (1) = 5.50, p = .019$, and the use of vignettes, $QM (1) = 3.95, p= .04$, significantly moderated

the effect sizes. For cognitive empathy, the reporter of defending, $QM (1) = 15.92, p <.001$, and

the use of vignettes, $QM (1) = 8.29, p= .004$, significantly moderated the effect sizes.

Specifically, studies conducted in the United States in comparison to other European countries

(excluding Finland) and Asian countries showed a larger magnitude of effect sizes between

affective empathy and defending. The use of vignettes was related to greater effect sizes between

both forms of empathy and defending. The use of peer nomination was related to smaller effect

size between both forms of empathy and defending. Other moderators did not produce any

difference in the magnitude of affective empathy and defending.

Self-efficacy. Ten studies (consisting of 5,049 participants) reported the association

between self-efficacy and defending. In Table 5 and Figure 8 we summarize the results of the

meta-analytic syntheses of these effect sizes, which showed a small in magnitude but

significantly different from zero mean effect size between self-efficacy and defending, $\bar{r} = .10, p$

$< .001$. No significant heterogeneity was found among studies reporting a correlation between

self-efficacy and defending, $Q (9) =11.02, p = .27, I^2 = .33$.

Moral disengagement. Seventeen studies consisting of 6,078 participants (see Table 5,

Figure 8) reported the association between moral disengagement and defending. There was, on

average, a significant but small effect size across these studies, $\bar{r} = -.12, p < .001$. This result is consistent with literature suggesting that children and adolescents who reported higher moral disengagement showed lower defending or were less likely to be nominated as peer defenders. No significant heterogeneity was found among studies reporting the correlation between moral disengagement and defending, Q (16) = 4.44, $p = .99$, $I^2 = 0$.

Popularity and acceptance. There were 20 studies (26,979 participants) that reported effect sizes for the associations between popularity and defending and 17 studies (14,144 participants) that examined acceptance and defending in the offline context. In Table 5 and Figure 9 we, summarize the results which showed a significant, but small in magnitude, effect size between popularity and defending, $\bar{r} = .10, p < .001$, and between acceptance and defending, $\bar{r} = .13, p < .001$. These results are consistent with the literature suggesting that more popular and socially accepted children and adolescents were more likely to defend or be nominated as defenders of peer victimization (e.g., Salmivalli et al., 1996).

Significant heterogeneity was found among studies that reported correlations between popularity and defending, Q (19) =32.03, $p < .001$, $I^2 = .48$, and between social acceptance and defending, Q (16) = 99.67, $p < .001$, $I^2 = .84$. For popularity and defending, the use of peer nomination, QM (1) = 14.15, $p < .001$, the study occurring in Europe (including Finland) and Asian countries, as compared to the United States, QM (5) = 13.11, $p = .022$, and being published, QM (1) = 12, $p < .001$, were related to larger effect sizes between popularity and defending. For social acceptance and defending, moderator analysis showed that the use of peer nomination to assess defending, QM (1) = 8.32, $p = .004$, and being published, QM (1) = 4.65, $p = .03$, were consistently related to larger effect sizes between social acceptance and defending.

Individual Characteristics of Defending Behaviors in Cyber Context

Gender differences. Nine studies (consisting of 6,199 participants, Table 5, Figure 10) reported results containing the magnitude of gender differences in defending in the online context. The random-effects analyses showed gender differences in defending were generally consistent with those found in offline studies showing that girls were more likely to defend than boys, with an average effect size of $\bar{r}$ = -.06, $p < .001$. However, no significant heterogeneity was found among these studies, $Q(8) = 5.44$, $p = .71$, $I^2 = 0$.

Age differences. There were seven studies (5,138 participants, Table 5 and Figure 10) that reported of the association between age and defending in the online context. The average effect size between age and defending was not significantly different from zero, $\bar{r} = -.001$, $p = .97$. Significant heterogeneity was found, $Q(6) = 24.57$, $p < .001$, $I^2 = .76$; however, the coded study characteristics and publication status failed to predict heterogeneity.

Publication Bias

In addition to the examination of publication status reported in the aforementioned results section, we also created funnel plots, and used the trim and fill method, Egger's regression, and sensitivity analysis (i.e., selection method) to examine publication bias. We summarized multiple statistics of this effort in Table 6.

Funnel plots. In Figure 11 and 12 we depict funnel plots with effect size plotted against standard error. If no retrieval or inclusion bias is present, the distribution of effect sizes in the funnel plot should be centered on and symmetric around the mean effect size, with less variability toward the top of the figure (Sterne & Harbord, 2004). Publication bias is present if the distribution is asymmetric around the mean effect size. We performed the Egger's regression test (Egger, Smith, Schneider, & Minder, 1997) for funnel plot asymmetry (Table 6), which

showed that the funnel plots for our 12 meta-analyses were roughly symmetrical except for the meta-analyses of cognitive empathy and social acceptance.

Trim and fill. We also used the trim and fill method (Duval, 2005) to examine the expected number of studies that are needed to complete the symmetry of funnel plots and the adjusted effect size estimates after imputing values for missing studies (see Table 6). Adjusted effect size estimates did not change our conclusions regarding study findings except for the age differences of defending in the cyberbullying context, for which the mean effect size became statistically significant.

Selection method. We performed sensitivity analyses to investigate whether different conclusions would be drawn if various selection models were adopted (Vevea & Woods, 2005). The results are summarized in Table 6. The adjusted estimates yielded by models with different types of selection bias were similar to the unadjusted estimates from the main analyses. For the majority of the meta-analyses we conducted, the largest difference between the adjusted and unadjusted estimates was around an average of .03 with no change of signs (indicating no change in direction of effects). This result indicates that distinct types of selection bias were not likely to affect the current meta-analytic findings. However, for the effect size between experiences of peer victimization and defending, the change in magnitude of estimates was .09 along with a change in direction if severe-one-tailed selection was assumed. This result suggests that in the case that only very significant results were published, the conclusion regarding the magnitude and direction of the association between experiences of peer victimization and defending would likely change. Given that the construct of experiences of peer victimization was often included as a covariate of defending (e.g., Bellmore et al., 2012; Ma, 2019) rather than a main predictor in

the defending literature, it may be less likely the case that the severe one-tailed condition would

prevent the insignificant correlations between victimization and defending from being published.

Discussion

Although developmental researchers have long understood the importance of studying the

effects of peer victimization on adjustment across childhood and adolescence, only recently has

research attention focused on child and adolescent defending as a means of terminating peer

victimization, and its positive role in victims' post-victimization adjustment (Ma & Chen, 2017;

Sainio et al., 2011). Since then, research has documented multiple factors in the social-ecological

system that are associated with youth defending. This meta-analysis synthesized the available

evidence to address two topics: The average proportion of defenders in the population, and

associations between defending and individual and peer-relational correlates of defending in the

school and cyber contexts. Below, we discuss findings, identify limitations, suggest directions

for anti-bullying intervention and prevention efforts, and offer ideas for future research.

Proportion of Defenders

In the meta-analytic review across 37 studies that reported the proportion of defenders,

we found an average defending rate of .43, with self-report studies yielding a larger proportion

than studies that used peer nomination. Different methods were used across studies to obtain a

value for the proportion of defenders. For example, Salmivalli et al. (1996) reported a .17

defending rate because they allowed the assignment of "no participant role." That is, a portion of

youth who have defended their peers may not be assigned a role of the defender if their

defending scores were below the average in a class, whereas, Sutton and Smith (1999) used four

methods to translate the continuous roles into categorical participant roles and showed an

increase in defending rate when "no participant role" was removed. However, the majority of the

studies included in this meta-analysis did not necessarily include assessment of other participant roles, and the defending rate was typically calculated as the proportion of youth reporting they have defended another youth or were nominated at least once as a defender. It was not surprising that self-report yielded a larger proportion of participants identifying as defenders, since participants may engage in socially-desirable responding. Although a significant difference was found between self-report and peer nomination studies, the estimated rates obtained by both reporters were below .50, indicating more than half of the peer population does not actively defend victims.

Individual and Peer-Relational Correlates of Defending

Our findings across the 11 meta-analyses showed small yet significant associations between defending and critical individual and peer-relational characteristics. The results are mostly consistent with the defending literature (e.g., Lambe et al., 2019) such that being a girl, older youth, being more empathetic, have experienced peer victimization, less morally engaged, more popular and socially accepted by peers, are generally associated with defending. Yet, we found great heterogeneity among these associations depending on study characteristics, and particularly, on who is reporting the defending.

Gender differences. Our results regarding overall gender differences in defending are consistent with results found across most studies of defending such that girls were more likely to defend than boys (e.g., van der Ploeg et al., 2017), in line with a review of published articles reporting that most studies find girls to defend more than boys (Lambe et al., 2019). Researchers have suggested that girls may defend more because they are fulfilling stereotypical gender roles by helping and nurturing others, but that boys may defend more in certain circumstances, such as when they observe another in a dire situation and have the opportunity to intervene immediately,

when there are other bystanders present who might witness the heroic act, or when the person in need of help is a stranger (Becker & Eagly, 2004). Girls' defending may be more influenced by social norms. Salmivalli and colleagues (1996) suggested that in regard to participant roles, girls were more influenced by the social context than by their own prior behavior. Specifically, the behavior of close peers was more predictive of 8th grade girls' participant roles than were the participant roles they fulfilled in 6th grade; the inverse was true for boys. Investigation of moderators of the gender effect provides an empirical explanation for other reasons why there is heterogeneity in the magnitude of the gender difference in defending.

In the current study, significant heterogeneity in effect size was partially due to the location where the studies were conducted, the reporter of defending, and an interaction between age group and mean age. In general, studies conducted in Finland and those that used peer-nomination yielded a larger magnitude of gender differences favoring girls. A linear increase of gender differences was found particularly during late childhood (ages 8-11), resulting in the largest gender differences in defending between boys and girls at age 11. Previous research has suggested that defending is less typical among older youth, and it seems boys are even less likely to go against the gender norm and defend others from peer victimization as defending becomes less normative for all youth.

Around early adolescence (age 11), girls were found to be more likely to identify themselves as defenders than boys, supporting the gender intensification hypothesis (Galambos et al., 1990) that girls are beginning to engage in behavior in line with gender norms, while boys report less of this behavior. Jeffrey and colleagues discuss a "window of opportunity" for intervention programs to reach youth—before defending tends to decrease, with a focus on masculinity and femininity as they relate to violence and violence prevention (Jeffrey et al.,

2001, p. 153). These results point to the importance of carefully interpreting the results from studies that used different reporters, and we call for future research that utilizes a variety of assessment methods (e.g., observation) within studies to help depict a fuller developmental picture of boys' and girls' defending across childhood and adolescence.

Age differences. Another goal of this review was to examine the association between age and defending. Overall, the results supported previous reviews of the literature suggesting that older children were less likely than younger children to defend victims (Evans & Smokowski, 2015; Lambe et al., 2019). Different reasons have been cited for this phenomenon, including social norms and changing peer group orientation and the importance adolescents put on peer status as youth develop. Despite this seemingly universal finding, significant heterogeneity was identified, and the effect sizes varied greatly by the reporter of defending. Although much previous research has concluded that younger children defend more, we believe it is premature to firmly conclude there are age effects on defending.

It is likely that the age differences observed in defending in previous research were situation-dependent. For example, our review pointed out that the pervasive concept that older children and adolescents defend less was more likely to be true when defending was self-reported. Figure 4 shows that the majority of studies that used peer nomination did not provide evidence for this phenomenon. Previous research suggested that as children age they tend to conform to social norms, which leads to a decreased appreciation for the plight of victims, an increased pro-bully attitude, and a decrease in defending among older youth (Pozzoli et al., 2012; Rigby & Slee, 1991). Yet, prior research also proposed that there is a general increase in prosocial behavior from childhood to adolescence (Eisenberg & Fabes, 1998). Children's broadened perspective-taking ability may contribute to their defending in a variety of ways,

without cost to their own social status (e.g., children may shift from direct defending to indirect defending). It is possible that the decrease in defending only exists for a certain type of defending behavior but not for other types. We suggest future researchers take a closer look at the developmental trend across specific defending behaviors as well as assess the context-dependent predictor of defending across different developmental stages.

Experiences of peer victimization. Perhaps the most surprising result of this review was the positive association between children and adolescents' experiences of peer victimization and defending. The pervasive assumption in the peer victimization literature is that defenders who are not victimized will be more likely to defend victims because they are less likely to be a future target of the bully and may have better social-emotional skills (Huitsing et al., 2014). Our results found the opposite of this assumption. The summary of the 60 studies showed that children and adolescents who self-identified as victims were more likely to defend regardless of participants' countries, the proportion of ethnic minorities in the sample, or the number of boys and girls in the sample. This could be explained by victims' affective empathy, as discussed by Batanova and colleagues (2014), which leads them to stand up for peer victims, or by the finding that victims stand up for each other, specifically when they share a bully (Huitsing et al., 2014).

Yet, one needs to be careful in interpreting our small, significant effect size ($r = .06$), especially since 21 studies reported a negative effect size and 39 studies reported a positive effect size between peer victimization and defending. The results of the selection method showed that our current conclusion could be eliminated in the condition of severe one-tailed selection bias. Also important to note is that the positive association is more likely to be found in studies that used self-report with older youth. Although it generally seems to become less normative to

defend at older ages, victims, who are already experiencing victimization and perhaps have low status, may be at less risk when standing up for peers.

Empathy, self-efficacy, and moral disengagement. The summary of the 36 studies assessing affective empathy and defending, and the 20 studies assessing cognitive empathy and defending, suggested that children and adolescents' ability to share another person's negative emotional status (i.e., affective empathy) and the ability to engage in perspective-taking of another person (i.e., cognitive empathy) are both strong predictors of defending. These findings are consistent with a previous meta-analysis on empathy and defending (Nickerson et al., 2015). The majority of research on defending has investigated its association with empathy and morality (Lambe et al., 2019). It is important to note that our findings suggested that the use of vignettes and self-report, with a clear description of hypothetical victimization, may be more likely to ignite participants' self-identified empathetic feelings for the victim and therefore a willingness to defend. Such a tendency may have inflated the effect size between affective empathy and defending compared to studies in which *actual* defending was reported. In the future, researchers should be careful in their interpretation of the association between defending and empathy when a vignette is used because it may only reflect participants' intention to defending rather than their actual defending in real-life observed by researchers, or reported by the self or peers (Lodge & Frydenberg, 2005).

The association between defending and individual self-efficacy and between defending and moral disengagement is consistent with previous literature such that children with higher self-efficacy were more likely to defend and those with higher moral disengagement were less likely to defend (Pronk et al., 2016; van der Ploeg et al., 2017). Youth who feel they are capable of successfully defending are found to defend more, as are those who take responsibility for their

moral decisions in contrast to those who tend to morally disengage, distancing themselves from the consequences of their immoral actions through cognitive restructuring. It is important to investigate in which situations and contexts self-efficacy, empathy and lack of moral disengagement are likely to lead youth to defend, since recognizing and understanding the pain of others is a skill that can be promoted.

Popularity and acceptance. Consistent with past literature (Lambe et al., 2019; Pouwels et al., 2016; Pöyhönen et al., 2010), our results suggested that defenders' popularity and acceptance among the peer group may enable them to defend others without fear of negative repercussions, but it is important to note that our conclusion is drawn from cross-sectional studies. Researchers have posited that youth with higher status and positive peer regard take less social risk in standing up for peer victims, however, whether status emboldens defenders or whether defending leads to maintenance of status is not understood due to a dearth of longitudinal research on the topic.

Publication status was systematically related to larger magnitude effect sizes. This finding is noteworthy because it indicates that current defending research results may overestimate the associations between adolescents' popularity or acceptance and defending. This result, along with our findings showing a positive association between experiences of peer victimization and defending, suggest the need for prevention scientists to rethink whether children of a variety of social statuses have the potential to become defenders of peer victimization. Since the number of studies assessing social status and defending were small and therefore our conclusion is preliminary, future studies are needed.

Gender and Age Differences in Defending in Cyber Context

Because of the small number of studies that provided statistics for age and gender differences in online defending, our conclusions should be considered preliminary. Interestingly, the nine studies summarizing gender differences in online defending ($\bar{r}$ = -.06) showed very similar results to studies in the offline context ($\bar{r}$ = -.07), with more defending among girls. For age differences in online defending, heterogeneity in effect sizes could not be explained by any of our coded moderators. Thus, we call for further research that specifically investigates whether age is a significant predictor of children's and adolescents' defending of peer victims within online contexts.

Implications and Future Research

Researchers have come to strong conclusions regarding the associations between defending and individual, and peer-relational correlates from formally counting statistically significant findings (Lambe et al., 2019) and informal inferences. The results of our main effects analyses suggest that many of these conclusions are supported by the empirical meta-analytic combination of effect sizes; however, the magnitude of the effects seems to be smaller than believed to be. For all 12 of our main effects analyses (gender, age, experiences of peer victimization, affective empathy, cognitive empathy, self-efficacy, moral disengagement, popularity, acceptance, and proportion of defenders, and gender and age in the cyber context), the effect sizes were small in magnitude, suggesting that when gray literature is included and attention is paid to effect sizes and not just statistical significance, conclusions about the correlates of defending are less strong. The moderation analyses, although they should be interpreted cautiously due to small ks in some analyses, also provide evidence of the nuances in findings to which researchers should pay attention when designing their studies and evaluating their results.

This study also includes defending within both in-person and online contexts. Researchers have argued that, with the rise in social media and its inseparability from children and adolescents' daily lives, it is rare to find a victimization event that happens only in the physical school context (Cross, Lester, & Barnes, 2015). We see the inclusion of online context and the comparison between online and in-person studies to be a strength of this manuscript; however the number of studies of online defending were few.

Statistical power. A meta-analysis is a highly powered empirical study (Cohn & Becker, 2003), and many of the main and moderated effects observed in this meta-analysis were quite small in magnitude (e.g., $\bar{r} < .15$, or smaller). Take gender and age effects in defending, for example. Although the defending literature unanimously argues for gender and age effects on defending behavior, the small magnitude of synthesis results indicated that these effects could not be easily detected with small samples. For age differences in defending, the median sized study in our meta-analysis ($N = 394$) had only 29% power to detect this effect ($\bar{r} = -.07$); 1,596 participants would be needed if researchers wanted to detect the age difference with 80% power. An even larger sample is needed (e.g., $N = 6,384$) if researchers want to show a condition within which the gender effect could be eliminated. Future researchers need to consider very large samples, particularly if they want to build upon prior studies by investigating contextual effects upon which the main associations discussed in this meta-analysis depend (Ledgerwood, 2019).

Publication bias. Publication bias is a potential threat to a meta-analysis in that non-significant results were less likely to be included in the analysis (Rosenthal, 1979). We tried to avoid this drawback by making efforts to locate 79 unpublished studies through searching dissertation databases and soliciting unpublished studies from researchers in the field. Also, when publication bias was examined as a moderator, the results showed little support for

unpublished data producing different effect sizes for defending correlates except for correlates of popularity and acceptance.

For popularity and acceptance, only 3 out of 17 studies reporting effect sizes between acceptance and defending and 2 out of 20 studies reporting effect sizes between popularity and defending were unpublished. Given these small number of unpublished studies yielded extreme results (and particularly asymmetrical effect sizes for acceptance), researchers should be cautious when interpreting the generalizability of peer-relational correlates of defending, and we encourage future studies to include social status in the assessment of defending to close this gap.

Meanwhile, the examination of selection method pointed out that both the direction and the magnitude of the summarized correlation between experiences of peer victimization and defending is likely to change under the condition of the severe-one-tailed problem (i.e., only results with very small p-values were published). Although we considered this situation less likely to happen because experiences of peer victimization were typically included as a covariate (e.g., Bellmore et al., 2012; Ma, 2019) rather than a main predictor of defending, we call for more research reporting this correlation to help reach a more valid conclusion about the association between experiences of peer victimization and defending. Although publication bias is a potential threat to our study, our findings build upon a previous "vote-counting" review of correlates of defending that included only published research (e.g., Lambe et al., 2019).

Limitations and future directions. The current study had three limitations. The first limitation was our ability to identify and test of moderators. There was incomplete coverage across levels of the identified moderators (e.g., there were only two studies that used the observation method). There was also limited power to investigate some of the effects we explored due to the small number of studies included in some of our moderation analyses. We

included these results because they illustrate interesting new avenues of research to investigate

and in some cases speak to the importance of pluralistic methods.

Second, although we have conceptualized 10 common moderators, a substantial portion

of the heterogeneity in associations between defending and correlates remains unexplained,

suggesting we may have failed to fully capture the sources that cause the variances of some

effect sizes. In addition, other aspects of the moderators examined here may themselves be

confounded. For example, the method of the vignette is exclusively used with self-report instead

of peer nomination, the studies that examined peer-relational characteristics (e.g., social

acceptance) using self-report were not published, and the observational method was less likely to

identify defending in relational forms of victimization. Therefore, we believe researchers should

take caution in interpreting these moderation results, and we recommend that future research use

multiple methods to measure defending (e.g., use peer nomination with a vignette for assessing

defending).

Our third limitation is the inclusion of concurrent studies. As a result, this review only

assessed the magnitude of associations and not the direction of effects. This review cannot

disentangle whether empathy is the cause of the defending behavior or whether engaging in

defending fosters empathetic feeling, or whether they are both caused by a third common

variable. However, experimental or longitudinal studies investigating defending behaviors are

rare (8% and 11% in our collected studies, respectively). We therefore encourage future

researchers to control for initial levels of defending or individual characteristics or utilize quasi-

experimental procedures (e.g., propensity score matching) to analyze longitudinal national

datasets that include defending to allow causal inferences to be made—for example, the Finnish

KiVa anti-bullying intervention dataset. In addition, very few studies examined distal factors in

the ecological system that may potentially be linked to defending behavior (e.g., parental practices, teacher expectations, cultural values or orientations, national anti-bullying policies). Hence, we encourage future research to move beyond an examination of individual characteristics and consider distal features that would affect individual level differences on defending of victimization to allow more room for meaningful meta-analytic combinations.

Our review of the extant literature has also identified some important limitations in this area of research. First, it is critical to assess gender and age differences in defending across forms of defending (e.g., aggressive defending and comforting the victim) when examining the developmental trend of different types of defending across childhood and adolescence. However, studies that examine different forms of defending are few ($N = 20$), and for those that did, effect sizes for age and gender were often reported on the general defending level instead of for specific forms. Although it is critical to differentiate effect sizes for correlations with different forms of defending, the lack of consistency in conceptualizing defending types across these 20 studies made it impossible to reach one unified way of reporting effect sizes of defending types. Some studies differentiate defending dimensions according to the extent that aggression co-occurs with defending (e.g., aggressive defending vs. assertive defending, Meter, 2015). Others differentiate across qualitative differences in defending behaviors (e.g., tell a teacher and tell a friend, Patterson, Allan, & Cross, 2016). One study differentiated the defending types by whom the defending targets (e.g., victim-oriented vs. bully-oriented, Reijntjes et al., 2016). The inconsistency in differentiating defending forms does not allow for clear comparison and contrast between studies investigating these forms. Therefore, we encourage researchers in this field to collaborate on identifying a common framework with which to assess different defending forms during childhood and adolescence.

Conclusion

Despite the limitations described above, this systematic review provides valuable contributions to the field. Specifically, as by far the most comprehensive paper to examine the various factors associated with defending, we were able to depict a picture of how the magnitude of associations between key individual correlates of defending change and evolve across developmental stages and how the associations vary across national contexts. We laid out possible directions for future research collaborations to advance critical knowledge of the developmental mechanisms underlying children's and adolescents' defending within a social-ecological framework. This will, in turn, lay a successful foundation for intervention and prevention practices that target reducing the occurrence and negative effects of aggression toward peers.

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Table 1

The Descriptive Statistics of All Studies in the Meta-Analyses

Continuous description	*M*	*Median*	*SD*	Range
Sample size (*N*)	933.63	394.50	1970.15	52.00-18863.00
Mean sample age (years)	11.98	12.03	2.16	4.87-17.40
% female	51.07	50.00	5.85	36.00-75.00
% ethnic minority	26.09	18.00	20.45	0.00-92.00
Categorical description	% of study			
Age group				
Childhood	19.50			
Adolescence	56.70			
Mixed age	23.80			
Country				
US	36.60			
Finland	9.80			
Other Europe	34.15			
Asian	6.10			
Other	13.41			
Reporter type				
Self	55.50			
Peer nom	38.40			
Observation	1.80			
Combined	4.30			
Vignette	17.10			
Relational victimization	63.40			
Published	73.20			
Gender separated	18.90			
Defending type separated	12.20			
Bullying forms separated	3.00			

Table 2

Summaries of the Main Effects of Effect Sizes for Defending and Its Correlates

	k	N	*logit* (*SE*)	95% CI	τ^2	Q	*df*	I^2
Proportion of Defenders	37	52,568	-.27(.06)***	[-.38, -.15]	.109	938.38***	36	.96

Correlates of Defending	k	N	$Z\bar{r}$ (*SE*)	95% CI	τ^2	Q	*df*	I^2
School context								
Gender (Girl = 0)	112	75,356	-.07 (.01)***	[-.09, -.05]	.006	866.17***	111	.81
Age (Younger = 0)	52	41,919	-.03 (.01)**	[-.05, -.01]	.002	114.33***	51	.59
Victimization	60	55,137	.06 (.01)***	[.03, .08]	.007	330.02***	59	.83
Affective Empathy	36	26,404	.15 (.02)***	[.12, .18]	.005	89.44***	35	.70
Cognitive Empathy	20	17,400	.12 (.02)***	[.09, .15]	.001	32.01*	19	.45
Self-Efficacy	10	5,049	.10 (.02)***	[.06, .14]	.002	11.02	9	.33
Moral Disengagement	17	6,078	-.12 (.02)***	[-.15, -.09]	.000	4.44	16	.00
Popularity	20	26,979	.10 (.01)***	[.08, .13]	.001	32.04*	19	.48
Acceptance	17	14,144	.13 (.03)***	[.07, .20]	.014	99.67***	16	.88
Cyber context								
Gender (Girl = 0)	9	6,199	-.06 (.01)***	[-.09, -.04]	.000	5.44	8	.00
Age (Younger = 0)	7	5,138	-.00 (.03)	[-.06, .06]	.004	24.57***	6	.66

Note. k = number of studies; CI = Confidence Interval for *adjusted effect size*; τ^2 = estimated amount of residual heterogeneity; Q = the test statistic for heterogeneity; I^2 = residual heterogeneity/unaccounted variability. *p < .05. **p < .01. ***p < .001.

Table 3

Effect Size Estimates (r) between Offline Defending and Its Predictors by Types of Categorical Study Characteristics

Moderator	Pro. of Defenders				Gender				Age				Peer Victimization			
	k	QM	Pro.	95% CI	k	QM	r	95% CI	k	QM	r	95% CI	k	QM	r	95% CI
Age group	37	0.53			112	0.25			52	2.68			60	2.22		
Childhood	6		0.46	0.39, 0.53	23		-0.08	-0.12, -0.03	8		-0.02	-0.07, 0.02	10		0.05	-0.02, 0.11
Adolescence	19		0.43***	0.39, 0.47	62		-0.07	-0.09, -0.04	25		-0.02	-0.04, 0.01	39		0.07***	0.04, 0.10
Mixed age	12		0.43**	0.38, 0.48	27		-0.08	-0.11, -0.04	19		-0.05***	-0.07, -0.02	11		0.02	-0.04, 0.08
Country	37	6.65			**112**	**28.05**			52	5.24			60	7.26		
US	8		0.46	0.40, 0.52	45		-0.04**	-0.07, -0.02	19		-0.01	-0.04, 0.02	25		0.07***	0.03, 0.11
Finland	6		0.36***	0.30, 0.43	11		-0.18***	-0.23, -0.14	4		-0.05	-0.10, 0.00	3		0.04	-0.05, 0.14
Other Europe	8		0.43	0.37, 0.49	38		-0.08***	-0.10, -0.05	17		-0.03	-0.06, 0.00	17		0.04	-0.01, 0.09
Asian	1		0.51	0.35, 0.67	3		-0.08	-0.16, 0.01	2		0.01	-0.06, 0.08	6		-0.01	-0.08, 0.07
Other	14		0.45*	0.40, 0.49	15		-0.04	-0.09, 0.01	10		-0.06**	-0.10, -0.01	9		0.12***	0.05, 0.18
Reporter type	**37**	**11.07**			**106**	**14.68**			**48**	**5.11**			**56**	**6.28**		
Self-Report	19		0.48	0.44, 0.51	60		-0.04**	-0.06, -0.02	37		-0.04***	-0.06, -0.02	34		0.08***	0.05, 0.11
Peer nom	16		0.39***	0.35, 0.43	44		-0.11***	-0.14, -0.08	11		0.00	-0.03, 0.04	22		0.01	-0.03, 0.06
Observation	2		0.37*	0.27, 0.49	1		0.01	-0.31, 0.33	–		–		–		–	
Teacher	–		–		1		-0.09	-0.39, 0.20	–		–		–		–	
Vignette	37	1.26			111	0.68			52	1.54			60	0.72		
Not included	32		0.43***	0.49, 0.46	91		-0.08***	-0.10, -0.06	43		-0.02	-0.04, 0.00	52		0.06***	0.03, 0.09
Included	5		0.48	0.40, 0.55	20		-0.06*	-0.10, -0.01	9		-0.06*	-0.11, -0.01	8		0.03	-0.04, 0.10
Relational vic	34	0.16			100	0.30			45	0.51			51	0.39		
Not included	11		0.45	0.39, 0.50	30		-0.08***	-0.12, -0.05	14		-0.02	-0.05, 0.02	13		0.05	-0.01, 0.11
Included	23		0.43***	0.40, 0.47	70		-0.07***	-0.09, -0.05	31		-0.03**	-0.06, -0.01	38		0.07***	0.04, 0.11
Pub status	37	0.03			112	3.22			52	0.00			60	1.26		
Unpublished	10		0.44*	0.38, 0.49	32		-0.04*	-0.08, -0.01	16		-0.03	-0.07, 0.01	19		0.03	-0.01, 0.08
Published	27		0.43***	0.40, 0.47	80		-0.08***	-0.10, -0.06	36		-0.03**	-0.05, -0.01	41		0.07***	0.04, 0.10

Note. k = number of studies; Pro.=proportion; CI = Confidence Interval for estimated values; QM = test statistic for moderator; r = standardized estimated effect size. Reference group among the moderators is boldfaced. The boldfaced QM means the p-value is below .05. The exact p-value can be provided upon request. The r coefficients with asterisk signs mean the coefficients are different from zero. In the case of Pro. of Defenders, the proportion with asterisk signs means it is different from 50/50.

Table 3 (continued)

Effect Size Estimates (r) between Offline Defending and Its Predictors by Types of Categorical Study Characteristics

	Affective Empathy				Cognitive Empathy				Self-Efficacy				Moral Disengagement			
Moderator	*k*	*QM*	*r*	95% CI	*k*	*QM*	*r*	95% CI	*k*	*QM*	*r*	95% CI	*k*	*QM*	*r*	95% CI
Age group	36	2.21			20	1.98			10	0.37			16	0.21		
Childhood	5		0.14***	0.07, 0.21	3		0.11**	0.04, 0.18	2		0.11*	0.02, 0.19	1		-0.07	-0.29, 0.14
Adolescence	23		0.17***	0.13, 0.21	14		0.14***	0.10, 0.18	6		0.10**	0.04, 0.17	10		-0.12***	-0.16, -0.08
Mixed age	8		0.12***	0.06, 0.18	3		0.08*	0.01, 0.15	2		0.07	-0.04, 0.18	5		-0.12***	-0.17, -0.08
Country	36	**18.00**			20	4.66			10	2.62			16	0.68		
US	16		0.07	0.03, 0.11	9		0.12***	0.07, 0.17	5		0.09**	0.04, 0.14	2		-0.13	-0.23, -0.02
Finland	3		0.04	-0.05, 0.14	3		0.09***	0.04, 0.13			–	–			–	–
Other Europe	13		0.04	-0.01, 0.09	7		0.17***	0.11, 0.23	3		0.15***	0.07, 0.22	11		-0.11***	-0.15, -0.08
Asian	2		-0.01	-0.08, 0.07	1		0.11*	0.02, 0.19			–	–	1		-0.11*	-0.22, -0.01
Other	2		0.12	0.05, 0.18			–	–	2		0.04	-0.09, 0.17	2		-0.16**	-0.25, -0.06
Reporter type	35	**5.50**			20	**15.92**			9	0.54			14	0.77		
Self-Report	23		0.18***	0.14, 0.22	10		0.19***	0.14, 0.24	5		0.02	-0.15, 0.19	9		-0.16**	-0.26, -0.06
Peer nom	12		0.11***	0.07, 0.16	10		0.09***	0.07, 0.11	4		0.06	-0.02, 0.14	5		-0.12***	-0.16, -0.09
Observation			–	–			–	–			–	–			–	–
Teacher			–	–			–	–			–	–			–	–
Vignette	36	**3.95**			20	**8.29**			10	1.34			16	0.09		
Not included	29		0.14***	0.11, 0.17	17		0.10***	0.08, 0.12	5		0.12***	0.07, 0.17	14		-0.12***	-0.15, -0.09
Included	7		0.22***	0.15, 0.29	3		0.23***	0.14, 0.32	5		0.06	-0.02, 0.14	2		-0.13**	-0.23, -0.04
Relational vic	32	0.19			17	0.32			9	0.78			14	0.53		
Not included	12		0.16***	0.11, 0.21	8		0.14***	0.08, 0.19	5		0.08**	0.02, 0.14	1		-0.15***	-0.25, -0.06
Included	20		0.15***	0.10, 0.19	9		0.12***	0.06, 0.17	4		0.12***	0.05, 0.20	13		-0.12***	-0.16, -0.08
Pub status	36	0.02			20	0.48			10	0.01			16	0.18		
Unpublished	12		0.16***	0.10, 0.22	8		0.10***	0.04, 0.16	4		0.10**	0.03, 0.16	3		-0.14**	-0.22, -0.05
Published	24		0.15***	0.12, 0.19	12		0.13***	0.09, 0.17	6		0.10**	0.04, 0.16	13		-0.12***	-0.15, -0.08

Note. k = number of studies; CI = Confidence Interval for estimated values; QM = test statistic for moderator; r = standardized estimated effect size. Reference group among the moderators is boldfaced. The boldfaced QM means the p-value is below .05. The exact p-value can be provided upon request. Coefficients with asterisk signs mean the coefficients are different from zero.

Table 3 (continued)

Effect Size Estimates (r) between Offline Defending and Its Predictors by Types of Categorical Study Characteristics

Moderator	Popularity				Acceptance			
	k	QM	r	95% CI	k	QM	r	95% CI
Age group	21	1.45			17	0.46		
Childhood	6		0.10***	0.06, 0.15	6		0.16**	0.05, 0.27
Adolescence	11		0.07***	0.03, 0.11	10		0.12**	0.04, 0.20
Mixed age	4		0.11***	0.06, 0.16	1		0.18	-0.09, 0.45
Country	**21**	**10.43**			17	1.10		
US	4		0.03	-0.01, 0.07	7		0.10*	0.00, 0.20
Finland	4		0.10***	0.08, 0.12	2		0.17	-0.01, 0.35
Other Europe	9		0.12***	0.08, 0.15	8		0.17***	0.07, 0.26
Asian	3		0.09***	0.05, 0.14			–	–
Other	1		0.08	-0.11, 0.27			–	–
Reporter type	**21**	**12.82**			**16**	**8.31**		
Self-Report	4		-0.07	-0.15, 0.02	3		-0.18	-0.41, 0.04
Peer nom	17		0.02	-0.02, 0.06	13		0.00	-0.11, 0.11
Observation			–	–			–	–
Teacher			–	–			–	–
Vignette	21	–			**17**	**4.50**		
Not included	21		0.09	0.07, 0.12	16		0.12***	0.06, 0.18
Included			–	–	1		0.40**	0.16, 0.65
Relational vic	21	1.95			**16**	**8.81**		
Not included	6		0.12***	0.07, 0.17	6		0.25***	0.16, 0.33
Included	15		0.08***	0.05, 0.11	10		0.08**	0.02, 0.15
Pub status	**21**	**10.94**			17	4.65		
Unpublished	2		0.01	-0.04, 0.06	3		0.01	-0.12, 0.14
Published	19		0.10***	0.09, 0.12	14		0.17***	0.10, 0.23

Note. k = number of studies; CI = Confidence Interval for estimated values; QM = test statistic for moderator; r = standardized estimated effect size. Reference group among the moderators is boldfaced. The boldfaced QM means the p-value is below .05. The exact p-value can be provided upon request. Coefficients with asterisk signs mean the coefficients are different from zero.

Table 4

The Summary of the Study Characteristics of All Defending Studies Included in This Paper

Study	N	M age	Pro. girls	Pro. minority	Country	Reporter type	Vignette	Overt vic.	Relational vic.	Pub.
Abbott & Cameron, 2014	855	12.40	0.61	0.11	UK	Self	Yes	Yes	No	Yes
Ahmed, 2008	1,452	8.42	0.49		Bengal	Self	Yes	Yes	No	Yes
*Allison & Bussey, 2017	563	13.53	0.39	0.45	Australia	Self	No	Yes	Yes	Yes
Andreou & Metallidou, 2004	186	10.40	0.48		Greece	Self	Yes			Yes
Barchia & Bussey, 2011	1,285	14.90	0.54	0.10	Australia	Self	No	Yes	Yes	Yes
Barhight, 2011	771	10.58	0.54	0.40	US	Peer Nom.	No	Yes	No	No
Barhight, Hubbard, Grassetti, & Morrow, 2015	751	10.58	0.54	0.40	US	Peer Nom.	No	Yes	No	Yes
Barhight, Hubbard, & Hyde, 2013	771	10.58	0.54	0.40	US	Peer Nom.	No	Yes	No	Yes
*Bastiaensens, Vandebosch, Poels, Van Cleemput, DeSmet, De Bourdeaudhuij, 2014	453	13.29	0.45		Netherlands	Self	Yes			Yes
Batanova, Espelage, & Rao, 2014	653	12.45	0.50	0.42	US	Self	Yes	Yes	No	Yes
Bellmore, Ma, You, & Hughes, 2012	470	12.00	0.52	0.29	US	Self	No	Yes	Yes	Yes
Bixler, 2016	196	9.50	0.54	0.71	US	Self	Yes	Yes	No	No
Bixler, 2018	654		0.44	0.42	US	Self	No	Yes	Yes	No
Camodeca, Caravita, & Coppola, 2015	320	4.87	0.53		Italy	Peer Nom.	No	Yes	No	Yes
Camodeca & Coppola, 2018	332	4.90	0.48		Italy	Peer Nom.	No	Yes	Yes	Yes
Cappadocia, Pepler, Cummings, & Craig, 2012	108	12.50	0.41		Canada	Self	No	Yes	Yes	Yes
Caravita, Di Blasio, & Salmivalli, 2009	461	10.64	0.49		Italy	Peer Nom.	No	Yes	Yes	Yes
Caravita, Di Blasio, & Salmivalli, 2010	211	10.00	0.53	0.16	Italy	Peer Nom.	No	Yes	Yes	Yes
Caravita, Gini, & Pozzoli, 2012	222	9.80	0.48	0.05	Italy	Peer Nom.	No	Yes	Yes	Yes
Caravita, Gini, & Pozzoli, 2012	286	12.48	0.46	0.05	Italy	Peer Nom.	No	Yes	Yes	Yes
Caroll, 2014	282	12.80	0.72	0.27	US	Self	Yes	Yes	Yes	No
Casper, 2013	609	12.03	0.55	0.50	US	Self	No			No
Casper, Card, Bauman, & Toomey, 2017	609	12.03	0.55	0.50	US	Self	No	Yes	Yes	Yes
Chapin & Brayack, 2016	1,742	12.70	0.46	0.18	US	Self	No	No	No	Yes
Cioppa, 2014	52	11.73	0.67	0.23	Canada	Self	Yes	Yes	Yes	No
Correia & Dalbert, 2008	187	14.51	0.48		Portugal	Self	No	No	No	Yes
Crapanzano, Frick, Childs, & Terranova, 2011	284	11.28	0.54	0.51	US	Peer Nom.	No	Yes	Yes	Yes
Cwinn, 2013	326		0.49	0.14	Canada	Self	No	No	No	No
Demaray, Summers, Jenkins, & Becker, 2016	801	12.50	0.51	0.19	US	Self	No	Yes	Yes	Yes
Dollar, 2016	207	12.67	0.57	0.18	US	Self	No	Yes	Yes	No
Doramajian, 2014	130	11.36	0.48		Canada		No	Yes	Yes	No
Doramajian & Bukowski, 2015	130	11.36	0.48	0.23	Canada		No			Yes
D'Ottavio, 2016	173	13.00	0.54	0.28	US	Self	No	No	No	No
D'Ottavio, 2016	88	15.00	0.51	0.28	US	Self	No	No	No	No
Duffy, Penn, Nesdale, Zimmer-Gembeck, 2017	191	11.91	0.65		Australia	Peer Nom.	No	Yes	Yes	Yes
Engert, 2001	412	13.00	0.55	0.92	US	Peer Nom.	No	Yes	Yes	No

Table 4 (continued)

The Summary of the Study Characteristics of All Defending Studies Included in This Paper

Study	N	M age	Pro. girls	Pro. minority	Country	Reporter type	Vignette	Overt vic.	Relational vic.	Pub.
Ennis, 2014	113	10.21	0.42	0.20	England	Peer Nom.	No	Yes	Yes	No
*Erreygers, Pabian, Vandebosch, & Baillien, 2016	2,333	12.60	0.50		Belgium	Self	No			Yes
Espelage, Green, & Polanin, 2012	346	12.22	0.51	0.06	US	Self	Yes	Yes	No	Yes
Espelage, Polannin, & Low, 2014	3,616	12.00	0.48	0.75	US	Self	Yes			Yes
Evans, Smokowski, Rose, Mercado, & Marshall, 2018	8,030	12.48	0.51	0.70	US	Self	No	Yes	Yes	Yes
Fitzpatrick & Bussey, 2011	636	13.70	0.49	0.29	Australia	Self	No	No	Yes	Yes
Fluke, 2016	239	16.00	0.47	0.14	US	Self	Yes			No
Fox, Jones, Stiff, & Sayers, 2014	437	10.05	0.48	0.10	UK	Self	Yes	Yes	Yes	Yes
Gagnon, 2012	234	11.90	0.55	0.58	US	Peer Nom.	No			No
Gamm, 2004	1,528	8.50	0.49	0.44	US	Peer Nom.	No	Yes	Yes	No
Gini, 2006	204		0.50		Italy	Peer Nom.	No	Yes	Yes	Yes
Gini, Albiero, Benelli, & Altoè, 2007	308	13.20	0.46	0.00	Italy	Peer Nom.	No	No	No	Yes
Gini, Albiero, Benelli, & Altoè, 2008	294	13.30	0.47		Italy	Peer Nom.	No	Yes	Yes	Yes
Gini, Pozzoli, & Bussey, 2015	918	14.10	0.44	0.04	Italy	Self	No	Yes	Yes	Yes
Goossens, Olthof, & Dekker, 2006	242	9.75	0.49	0.10	Netherlands	Peer Nom.	No			Yes
Grassetti, 2016	1,440	9.00	0.49	0.49	US	Peer Nom.	No	Yes	No	No
Hagloch, 2015	108	9.00	0.57	0.36	US	Self	No	Yes	Yes	No
Hawkins, Pepler, & Craig, 2001	58	9.00	0.36		Canada	Observation	No	Yes	No	Yes
Hektner & Swenson, 2012	328	10.93	0.55	0.08	US	Self	No	Yes	Yes	Yes
Huitsing & Monks, 2018	177	6.38	0.46		England	Peer Nom.	Yes	Yes	Yes	Yes
Jacob, 2001	644	8.00	0.52	0.39	US		No	Yes	Yes	No
Jeffrey, Miller, & Linn, 2001	470	11.45	0.50		US	Self	No	No	No	Yes
Jenkins, 2014	73	10.30	0.64	0.04	US	Self	No	Yes	Yes	No
Jenkins, Demaray, Fredrick, & Summers, 2016	636	12.50	0.47	0.16	US	Self	No	Yes	Yes	Yes
Jenkins, Demaray, & Tennant, 2017	246	11.93	0.45	0.03	US	Self	No	Yes	Yes	Yes
Jenkins & Fredrick, 2017	288	11.95	0.47		US	Self	No	Yes	Yes	Yes
Jenkins & Nickerson, 2017a	299		0.57	0.09	US	Self	No	No	No	Yes
Jenkins & Nickerson, 2017b	299		0.57	0.09	US	Self	No	Yes	Yes	Yes
Kaye, 2012	112	12.92	0.58	0.32	US	Self	Yes			No
Kingston, 2008	574	11.26	0.54		Canada	Self	No	Yes	Yes	No
Kingston, 2008	222	9.45	0.54		Canada	Self	No	Yes	Yes	No
Kingston, 2008	348	12.46	0.55		Canada	Self	No	Yes	Yes	No
Kollerová, Janošová, & Říčan, 2015	512	12.00	0.47		Czech Republic	Peer Nom.	No	No	No	Yes
Kollerová, Yanagida, Mazzone, Soukup, & Strohmeier, 2018	751	12.93	0.51	0.12	Czech Republic		No	Yes	Yes	Yes
Lambe, Hudson, Craig, & Pepler, 2017	1,443	11.81	0.45	0.34	Canada	Self	No	No	No	Yes
Lee, Smith, & Monks, 2016	95	6.17	0.53	0.04	South Korea		No	Yes	Yes	Yes
Li, Chen, Chen, & Wu, 2015	3,441	13.50			Taiwan	Self	No	Yes	No	Yes
Lucas-Molina, Williamson, Pulido, & Calderón, 2014	2,050	9.80	0.51		Spain	Peer Nom.	No	Yes	Yes	Yes

Table 4 (continued)

The Summary of the Study Characteristics of All Defending Studies Included in This Paper

Study	N	M age	Pro. girls	Pro. minority	Country	Reporter type	Vignette	Overt vic.	Relational vic.	Pub.
Ma, 2014	470	11.00	0.52	0.29	US	Self	Yes			No
Ma, 2014	731	12.00	0.56		Taiwan	Self	Yes			No
Ma & Chen, 2017	209	12.80	0.53	0.13	Taiwan	Self	No	Yes	Yes	Yes
*Machackova, Dedkova, Sevcikova, & Cerna, 2018	443	15.33	0.61		Czech Republic	Self	No			Yes
Machackova & Pfetsch, 2016	321	14.99	0.44		Germany	Self	No			Yes
*Machackova & Pfetsch, 2016	321	14.99	0.44		Germany	Self	No			Yes
Maeda, 2003	196	11.01	0.53	0.37	US	Peer Nom.	No	Yes	Yes	No
Malm, 2013	143			0.37	US	Self	No	No	No	No
Masters, 2016	482	13.00	0.47	0.21	Canada	Self	No	No	No	No
Mazzone, Camodeca, & Salmivalli, 2016	404	11.09	0.50		Italy	Peer Nom.	No	Yes	Yes	Yes
*Mazzone, Camodeca, & Salmivalli, 2016	404	11.09	0.50		Italy	Peer Nom.	No	Yes	Yes	Yes
McKinnon, 2001	269	10.58	0.52		Canada	Peer Nom.	No	Yes	Yes	No
McKinnon, 2001	153	10.56	0.54		Canada	Peer Nom.	No	Yes	Yes	No
Meines, van de Poll, Reijnders, & Wouters, 2012	141	14.94	0.48	0.04	Netherlands	Self	No	Yes	Yes	No
Menesini, Codecasa, Benelli, & Cowie, 2003	293	12.50	0.46		Italy	Peer Nom.	No	No	No	Yes
Menesini, Eslea, Smith, Genta, Giannetti, Fonzi, & Costabile, 1997	1,379	11.00	0.47		Italy	Self	No	Yes	Yes	Yes
Menesini, Eslea, Smith, Genta, Giannetti, Fonzi, & Costabile, 1997	6,758	12.00	0.49		US	Self	No	Yes	Yes	Yes
Menolascino, 2016	346	12.50	0.52	0.09	US	Self	No	No	No	No
Menolascino & Jenkins, 2018	346		0.52	0.09	US	Self	No	Yes	Yes	Yes
Meter, 2015	370	14.88	0.48	0.47	US	Self	No	Yes	Yes	No
Meter & Card, 2015	336	13.20	0.49	0.52	US	Peer Nom.	No	Yes	No	Yes
Meter & Card, 2016	485	13.20	0.55	0.56	US	Peer Nom.	No	Yes	No	Yes
Nickerson, Mele, & Princiotta, 2008	210	12.20	0.63	0.10	US	Peer Nom.	No	Yes	Yes	Yes
Nickerson & Mele-Taylor, 2014	262	12.23	0.54	0.11	US	Self	No	Yes	Yes	Yes
O'connell, Pepler, & Craig, 1999	615	9.50	0.49	0.50	Canada	Observation	No	Yes	No	No
*Olenik-Shemesh, Heiman, & Eden, 2017	1,094	12.87	0.48		Israel	Self	No			Yes
Patterson, Allan, & Cross, 2016	292	15.20	0.55		Australia	Self	Yes	Yes	No	Yes
Peets, Pöyhönen, Juvonen, & Salmivalli, 2015	6,078	11.00	0.51		Finland	Peer Nom.	No	No	No	Yes
Pfetsch, Steffgen, Gollwitzer, & Ittel, 2011	638	12.04	0.47		Luxembourg	Self	Yes	Yes		Yes
Piccirillo, 2016	348	12.50	0.51	0.78	US	Self	No	Yes	Yes	No
Poindexter, 2014	154	13.31	0.60	0.46	US	Self	Yes	Yes	Yes	No
Porter, 2009	269	12.97	0.61	0.36	US	Self	Yes	Yes	Yes	No
Pouwels, Lansu, & Cillessen, 2016	1,638	16.38	0.49	0.19	Netherlands	Peer Nom.	No	Yes	Yes	Yes

Table 4 (continued)

The Summary of the Study Characteristics of All Defending Studies Included in This Paper

Study	N	M age	Pro. girls	Pro. minority	Country	Reporter type	Vignette	Overt vic.	Relational vic.	Pub.
Pouwels, Salmivalli, Saarento, van den Berg, Lansu, & Cillessen, 2018	266	16.26	0.55	0.16	Netherlands	Peer Nom.	No	Yes	Yes	Yes
Pöyhönen, Juvonen, & Salmivalli, 2010	489	12.29	0.53		Finland	Peer Nom.	No	No	No	Yes
Pöyhönen, Juvonen, & Salmivalli, 2012	2,044	9.00	0.49		Finland	Peer Nom.	No	Yes	Yes	Yes
Pöyhönen, Juvonen, & Salmivalli, 2012	2,115	10.00	0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Pöyhönen, Juvonen, & Salmivalli, 2012	2,238	11.00	0.52		Finland	Peer Nom.	No	Yes	Yes	Yes
Pozzoli & Gini, 2010	462	13.33	0.47	0.08	Italy		No	Yes	Yes	Yes
Pozzoli & Gini, 2013a	1,754	11.88	0.48	0.09	Italy	Self	No	Yes	Yes	Yes
Pozzoli & Gini, 2013b	1,485	11.49	0.48		Italy	Peer Nom.	No	Yes	Yes	Yes
Pozzoli, Gini, & Thornberg, 2016	279	11.75	0.44	0.13	Italy	Self	No	Yes	Yes	Yes
Pozzoli, Gini, & Thornberg, 2017	398	12.25	0.47		Italy	Self	No	Yes	Yes	Yes
Pozzoli, Gini, & Vieno, 2012	1,825	11.82	0.48	0.09	Italy	Self	No	Yes	Yes	Yes
Pronk, Goossens, Olthof, De Mey, & Willemen, 2013	761	10.55	0.49	0.06	Netherlands	Peer Nom.	No	Yes	Yes	Yes
Pronk, Lee, Sandhu, Kaur, Kaur, Olthof, & Goossens, 2016	699	13.80	0.42		Netherlands	Peer Nom.	No	Yes	Yes	Yes
Pronk, Olthof, Aleva, van der Meulen, Vermande, & Goossens, 2018	313	10.30	0.53		Netherlands	Peer Nom.	No	No	No	Yes
Pronk, Olthof, & Goossens, 2015	591	11.42	0.50	0.09	Netherlands	Peer Nom.	No	Yes	Yes	Yes
Pronk, Olthof, & Goossens, 2016	489	11.50	0.50	0.07	Netherlands	Peer Nom.	Yes	Yes	Yes	Yes
Quinn, Fitzpatrick, Bussey, Hides, & Chan, 2016	1,255	15.30	0.60	0.15	Australia	Self	No	Yes	Yes	Yes
Quirk & Campbell, 2015	257	14.52	0.75		Australia	Self	No	Yes	Yes	Yes
*Quirk & Campbell, 2015	257	14.52	0.75		Australia	Self	No	No	No	Yes
Reijntjes, Vermande, Olthof, Goossens, Aleva, & Van der Meulen, 2016	394	10.30	0.53		Netherlands	Peer Nom.	No	Yes	Yes	Yes
Rigby & Johnson, 2006	200	12.50	0.50	0.10	Australia	Self	Yes	No	No	Yes
Rigby & Johnson, 2006	200	13.50	0.50	0.10	Australia	Self	Yes	No	No	Yes
Sainio, Veenstra, Huitsing, & Salmivalli, 2011	7,481	11.00	0.50		Netherlands	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, 2001	573	11.50	0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, 2001	316	12.50	0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, 2001	189	13.50	0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, Huttunen, & Lagerspetz, 1997	459	11.50	0.47		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999	316	14.50	0.47		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli, Kaukiainen, & Voeten, 2005	1,220	10.00	0.49		Finland		No	Yes	Yes	Yes
Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996	573		0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli & Voeten, 2004	395	9.50			Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli & Voeten, 2004	408	10.50			Finland	Peer Nom.	No	Yes	Yes	Yes
Salmivalli & Voeten, 2004	417	11.50			Finland	Peer Nom.	No	Yes	Yes	Yes
Sandstrom & Bartini, 2010	91	13.00	0.54	0.11	US	Observation	No	Yes	No	Yes

Table 4 (continued)

The Summary of the Study Characteristics of All Defending Studies Included in This Paper

Study	N	M age	Pro. girls	Pro. minority	Country	Reporter type	Vignette	Overt vic.	Relational vic.	Pub.
Sandstrom, Makover, & Bartini, 2013	179	9.00	0.50	0.10	US	Self	No			Yes
Sandstrom, Makover, & Bartini, 2013	267	13.00	0.50	0.10	US	Self	No			Yes
Siegel, 2008	265	12.50	0.57	0.22	US	Self	Yes	Yes	Yes	No
Siegel, 2008	265	12.50	0.57	0.22	US	Self	Yes	Yes	Yes	No
Sijtsema, Rambaran, Caravita, & Gini, 2014	133	9.36	0.43	0.07	Italy	Peer Nom.	No	Yes	Yes	Yes
Sijtsema, Rambaran, Caravita, & Gini, 2014	236	11.91	0.43	0.07	Italy	Peer Nom.	No	Yes	Yes	Yes
Sokol, Bussey, & Rapee, 2015	206	12.28	0.48	0.14	Australia	Self	Yes	Yes	No	Yes
Song & Oh, 2017	467	16.50	0.49		South Korea	Self	No	Yes	Yes	Yes
*Song & Oh, 2018	331	16.50	0.47		South Korea	Self	No	No	No	Yes
Summers, 2008	250		0.55	0.15	US	Self	No	Yes	Yes	No
Sutton & Smith, 1999	193	9.00	0.53	0.62	England	Peer Nom.	No	Yes	Yes	Yes
Sutton, Smith, & Swettenham, 1999	193	9.00	0.53	0.62	England	Peer Nom.	No	Yes	Yes	Yes
Tamm & Tulviste, 2015	682	13.02	0.55	0.18	Estonia	Self	Yes	Yes	No	Yes
Taylor, 2012	262	12.23	0.54	0.11	US	Self	No	Yes	Yes	No
Tennant, 2018	596		0.47	0.34	US	Self	No	Yes	Yes	No
Thornberg & Jungert, 2013	347	17.40	0.59		Sweden	Self	No	Yes	Yes	Yes
Thornberg & Jungert, 2014	372	12.36	0.48		Swiss	Self	Yes	Yes	Yes	Yes
Thornberg, Pozzoli, Gini, & Jungert, 2015	561	11.67	0.49		Sweden	Self	No	Yes	No	Yes
Thornberg, Wänström, Hong, & Espelage, 2017	900	11.00	0.48	0.16	Sweden	Self	No	Yes	Yes	Yes
Torchia, 2016	657	16.11			US	Self	No	No	No	No
Trach, Hymel, Waterhouse, & Neale, 2010	9,397		0.49	0.56	Canada	Self	No	Yes	Yes	Yes
Turetsky, 2011	319		0.55		US	Self	Yes	Yes	Yes	No
Van Beurden, Braakhekke, Derks, & Terpstra, 2012	92	15.78	0.70	0.05	Netherlands	Self	No	Yes	Yes	No
*Van Beurden, Braakhekke, Derks, & Terpstra, 2012	92	15.78	0.70	0.05	Netherlands	Self	No	No	No	No
Van Cleemput, Vandebosch, & Pabian, 2014	519	13.51			Belgium	Self	No			Yes
van der Ploeg, Kretschmer, Salmivalli, & Veenstra, 2017	4,209	11.25	0.50		Finland	Peer Nom.	No	Yes	Yes	Yes
Veenstra, Verlinden, Huitsing, Verhulst, & Tiemeier, 2013	2,135	8.00	0.50		Netherlands	Peer Nom.	No	Yes	Yes	Yes
Wassdorp & Bradshaw 2018	18,863	15.94	0.51	0.51	US	Self	No	Yes	Yes	Yes
Wolfgang, 2017	322	12.44	0.65	0.38	US	Peer Nom.	No	Yes	Yes	No
Yun, 2018	1,373	14.00	0.40		South Korea	Peer Nom.	No	Yes	Yes	No
Yun & Graham, 2018	1,373	14.00	0.40		South Korea	Peer Nom.	No	Yes	Yes	Yes

Note. Studies marked with an asterisk indicate defending in cyber context. Pro. girls = proportion of girls; Pro. minority = proportion of participants in a minority group; Overt vic. = overt victimization; Relational vic. = relational victimization; Pub. = publication status.

Table 5

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Abbott & Cameron, 2014				0.29						
Ahmed, 2008	-0.04	0.02	-0.01							
*Allison & Bussey, 2017	-0.12	0.00								
Andreou & Metallidou, 2004	-0.04					0.10				
Barchia & Bussey, 2011			0.26							
Barhight, 2011			-0.01	0.11	0.11	0.04				
Barhight, Hubbard, Grassetti, & Morrow, 2015				0.15						
Barhight, Hubbard, & Hyde, 2013		0.17	-0.07	-0.09		0.06				
*Bastiaensens, Vandebosch, Poels, Van Cleemput, DeSmet, De Bourdeaudhuij, 2014	-0.08									
Batanova, Espelage, & Rao, 2014	-0.12		0.11							
Bellmore, Ma, You, & Hughes, 2012										0.42
Bixler, 2016	0.00	-0.08			0.28					
Bixler, 2018	-0.01		0.14							
Camodeca, Caravita, & Coppola, 2015			-0.05							
Camodeca & Coppola, 2018	0.00	0.15	0.07						0.06	
Cappadocia, Pepler, Cummings, & Craig, 2012		-0.08								0.80
Caravita, Di Blasio, & Salmivalli, 2009	-0.22	0.00		0.15	0.08			0.10		
Caravita, Di Blasio, & Salmivalli, 2010	-0.17	-0.04	0.06	0.11				0.19	0.34	
Caravita, Gini, & Pozzoli, 2012	0.23						-0.12	0.10	0.23	
Caravita, Gini, & Pozzoli, 2012	0.19						-0.09	0.03	0.17	
Caroll, 2014	0.04	-0.01		0.18		0.08	-0.15			
Casper, 2013	-0.02	0.00	0.13						0.00	
Casper, Card, Bauman, & Toomey, 2017			0.13						0.00	
Chapin & Brayack, 2016	0.00	0.04								0.36
Cioppa, 2014				0.29						

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Correia & Dalbert, 2008	-0.13		-0.01	0.31						
Crapanzano, Frick, Childs, & Terranova, 2011	-0.06									
Cwinn, 2013										0.59
Demaray, Summers, Jenkins, & Becker, 2016	-0.08	0.00	0.12	0.04						
Dollar, 2016	-0.01		0.06	0.12	0.14		-0.09			
Doramajian, 2014	-0.12	0.01	-0.19				-0.15			
Doramajian & Bukowski, 2015	-0.06	0.02					-0.17			
D'Ottavio, 2016	-0.06									
D'Ottavio, 2016	-0.09	-0.01								
Duffy, Penn, Nesdale, Zimmer-Gembeck, 2017	-0.15							0.08		
Engert, 2001	-0.17		-0.05						0.03	
Ennis, 2014	-0.18		-0.08							
*Erreygers, Pabian, Vandebosch, & Baillien, 2016	-0.05	-0.11								
Espelage, Green, & Polanin, 2012	-0.02	-0.14			0.33					
Espelage, Polannin, & Low, 2014			-0.11							
Evans, Smokowski, Rose, Mercado, & Marshall, 2018			0.06							
Fitzpatrick & Bussey, 2011	-0.06	0.00	0.16							
Fluke, 2016	-0.07				0.09					
Fox, Jones, Stiff, & Sayers, 2014	-0.03	-0.02		0.21						
Gagnon, 2012	-0.12	0.04	-0.09		0.00					
Gamm, 2004	0.00									
Gini, 2006	-0.09		-0.01				-0.12			0.19
Gini, Albiero, Benelli, & Altoè, 2007	-0.28				0.13					
Gini, Albiero, Benelli, & Altoè, 2008	-0.29			0.10	0.08	0.10				
Gini, Pozzoli, & Bussey, 2015		-0.07					-0.08			
Goossens, Olthof, & Dekker, 2006			-0.06							0.19
Grassetti, 2016	-0.05			0.16		0.16				
Hagloch, 2015		-0.01								

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Hawkins, Pepler, & Craig, 2001	0.01									0.19
Hektner & Swenson, 2012	-0.05	0.02	0.01	0.15						
Huitsing & Monks, 2018	-0.08									
Jacob, 2001	-0.11		0.04							
Jeffrey, Miller, & Linn, 2001	-0.05	-0.07								0.27
Jenkins, 2014	0.02	0.15								
Jenkins, Demaray, Fredrick, & Summers, 2016	-0.02			0.05						
Jenkins, Demaray, & Tennant, 2017	-0.07		0.13	0.06						
Jenkins & Fredrick, 2017	-0.09									
Jenkins & Nickerson, 2017a	-0.06			0.29						
Jenkins & Nickerson, 2017b	-0.06		-0.02							
Kaye, 2012	-0.01									
Kingston, 2008		-0.13	0.09							0.35
Kingston, 2008	0.03									
Kingston, 2008	-0.07									
Kollerová, Janošová, & Říčan, 2015	-0.16							0.28	0.34	
Kollerová, Yanagida, Mazzone, Soukup, & Strohmeier, 2018	-0.13	0.00	0.22	0.20		0.17			0.02	
Lambe, Hudson, Craig, & Pepler, 2017	-0.05	-0.09								0.63
Lee, Smith, & Monks, 2016			0.13							
Li, Chen, Chen, & Wu, 2015			0.09							
Lucas-Molina, Williamson, Pulido, & Calderón, 2014								0.11		
Ma, 2014			-0.03	0.17						
Ma, 2014			-0.03	0.11						
Ma & Chen, 2017										0.52
*Machackova, Dedkova, Sevcikova, & Cerna, 2018	-0.07									0.88

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Machackova & Pfetsch, 2016	-0.09	0.00		0.30	0.20					
*Machackova & Pfetsch, 2016	-0.07	0.02								
Maeda, 2003	-0.01									0.19
Malm, 2013			0.11							
Masters, 2016	0.07									0.58
Mazzone, Camodeca, & Salmivalli, 2016	-0.14						-0.07			
*Mazzone, Camodeca, & Salmivalli, 2016	-0.13	0.00								
McKinnon, 2001			0.00							0.14
McKinnon, 2001										0.16
Meines, van de Poll, Reijnders, & Wouters, 2012	-0.11	-0.10	0.04	0.24	0.23					
Menesini, Codecasa, Benelli, & Cowie, 2003	-0.17									
Menesini, Eslea, Smith, Genta, Giannetti, Fonzi, & Costabile, 1997	0.00	-0.03								
Menesini, Eslea, Smith, Genta, Giannetti, Fonzi, & Costabile, 1997	-0.01	-0.04								
Menolascino, 2016	-0.08			0.12	0.09			0.04		
Menolascino & Jenkins, 2018	-0.08			0.13	0.09			0.04		
Meter, 2015								0.01	0.00	
Meter & Card, 2015			0.24						0.21	
Meter & Card, 2016	-0.07		0.01					0.11	0.10	
Nickerson, Mele, & Princiotta, 2008	-0.02									0.69
Nickerson & Mele-Taylor, 2014	0.03		0.22	0.18						
O'connell, Pepler, & Craig, 1999										0.25
*Olenik-Shemesh, Heiman, & Eden, 2017	-0.02	0.07								0.36
Patterson, Allan, & Cross, 2016	-0.05									
Peets, Pöyhönen, Juvonen, & Salmivalli, 2015	-0.26	0.00		0.15	0.09			0.10		

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Pfetsch, Steffgen, Gollwitzer, & Ittel, 2011	-0.04		0.05							
Piccirillo, 2016	0.01		0.16							
Poindexter, 2014	0.04					0.03				
Porter, 2009	-0.07									
Pouwels, Lansu, & Cillessen, 2016	-0.13		-0.06							0.19
Pouwels, Salmivalli, Saarento, van den Berg, Lansu, & Cillessen, 2018			-0.02							0.20
Pöyhönen, Juvonen, & Salmivalli, 2010	-0.13	-0.08		0.06	0.06			0.14	0.18	
Pöyhönen, Juvonen, & Salmivalli, 2012	-0.22	-0.03								
Pöyhönen, Juvonen, & Salmivalli, 2012	-0.22									
Pöyhönen, Juvonen, & Salmivalli, 2012	-0.20									
Pozzoli & Gini, 2010	-0.05									
Pozzoli & Gini, 2013a	-0.05	-0.09								
Pozzoli & Gini, 2013b	-0.13	-0.08								
Pozzoli, Gini, & Thornberg, 2016			0.05				-0.13			
Pozzoli, Gini, & Thornberg, 2017				0.32	0.25					
Pozzoli, Gini, & Vieno, 2012			0.10							
Pronk, Goossens, Olthof, De Mey, & Willemen, 2013	-0.02	0.01								0.51
Pronk, Lee, Sandhu, Kaur, Kaur, Olthof, & Goossens, 2016			0.00					0.15		
Pronk, Olthof, Aleva, van der Meulen, Vermande, & Goossens, 2018	-0.17							0.05	0.23	
Pronk, Olthof, & Goossens, 2015	-0.21									
Pronk, Olthof, & Goossens, 2016	-0.21									
Quinn, Fitzpatrick, Bussey, Hides, & Chan, 2016	-0.03	-0.05	0.24							0.36

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (r)	Age effect size (r)	Vic. effect size (r)	Affective Empathy effect size (r)	Cognitive Empathy effect size (r)	Self-efficacy effect size (r)	Moral Disengagement effect size (r)	Popularity effect size (r)	Acceptance effect size (r)	Pro. defender
Quirk & Campbell, 2015	-0.01	0.03								0.34
*Quirk & Campbell, 2015	-0.09									0.31
Reijntjes, Vermande, Olthof, Goossens, Aleva, & Van der Meulen, 2016								0.12	0.01	0.48
Rigby & Johnson, 2006	-0.06	-0.12	0.04			0.08				0.27
Rigby & Johnson, 2006	-0.08	-0.11	-0.01			0.00				0.27
Sainio, Veenstra, Huitsing, & Salmivalli, 2011			0.03					0.09	0.15	0.42
Salmivalli, 2001										0.17
Salmivalli, 2001										0.20
Salmivalli, 2001										0.20
Salmivalli, Huttunen, & Lagerspetz, 1997	-0.20									0.16
Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999	-0.02									
Salmivalli, Kaukiainen, & Voeten, 2005		-0.11								
Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996			0.01							0.17
Salmivalli & Voeten, 2004	-0.14									
Salmivalli & Voeten, 2004	-0.19									
Salmivalli & Voeten, 2004	-0.16									
Sandstrom & Bartini, 2010	-0.09									
Sandstrom, Makover, & Bartini, 2013	-0.07									
Sandstrom, Makover, & Bartini, 2013	0.04									
Siegel, 2008										0.74
Siegel, 2008										0.56
Sijtsema, Rambaran, Caravita, & Gini, 2014							-0.07			
Sijtsema, Rambaran, Caravita, & Gini, 2014							-0.10			
Sokol, Bussey, & Rapee, 2015				0.37						
Song & Oh, 2017			0.00				-0.11	0.04		0.25
*Song & Oh, 2018	-0.06	0.04								0.31
Summers, 2008			0.09							

Table 5 (continued)

The Summary of the Effect Sizes of All Defending Studies Included in This Paper

Study	Gender effect size (*r*)	Age effect size (*r*)	Vic. effect size (*r*)	Affective Empathy effect size (*r*)	Cognitive Empathy effect size (*r*)	Self-efficacy effect size (*r*)	Moral Disengagement effect size (*r*)	Popularity effect size (*r*)	Acceptance effect size (*r*)	Pro. defender
Sutton & Smith, 1999	-0.04		0.14							0.44
Sutton, Smith, & Swettenham, 1999	-0.08									
Tamm & Tulviste, 2015	0.00									0.37
Taylor, 2012	0.07									
Tennant, 2018	0.00		0.19							
Thornberg & Jungert, 2013	-0.10						-0.21			
Thornberg & Jungert, 2014	-0.10	-0.06	-0.03				-0.12			
Thornberg, Pozzoli, Gini, & Jungert, 2015	-0.09						-0.15			
Thornberg, Wänström, Hong, & Espelage, 2017		-0.05					-0.12			
Torchia, 2016	-0.10	-0.02								
Trach, Hymel, Waterhouse, & Neale, 2010										0.51
Turetsky, 2011	-0.14	-0.13								
Van Beurden, Braakhekke, Derks, & Terpstra, 2012		0.02		0.22						
*Van Beurden, Braakhekke, Derks, & Terpstra, 2012		0.02								
Van Cleemput, Vandebosch, & Pabian, 2014	-0.04	-0.10	0.09	0.19						0.42
van der Ploeg, Kretschmer, Salmivalli, & Veenstra, 2017	-0.20		-0.02	0.16	0.10			0.11		
Veenstra, Verlinden, Huitsing, Verhulst, & Tiemeier, 2013	0.32									
Wassdorp & Bradshaw 2018										0.19
Wolfgang, 2017				0.09	0.03					
Yun, 2018	-0.10	0.00	-0.10							0.24
Yun & Graham, 2018	-0.09			0.12	0.11			0.14		

Note. Studies marked with an asterisk indicate defending in cyber context. *r* = the standardized effect size; Vic. effect size (*r*) = effect size of experiences of peer victimization; Pro. defender = proportion of defenders.

Table 6

Results of Egger's Regression, Trim and Fill, and Selection Methods for Publication Bias

	Egger's Regression		Unadjusted		Trim and Fill Imputed					Selection Method			
Variable	logit	*p*	*k*	logit	*k*	Direction	Adj. $Z\bar{r}$	Change	Strength Change	Moderate one-tailed	Severe one-tailed	Moderate two-tailed	Severe two-tailed
Pro. of defenders	-0.76	.45	37	-.27	4	Right	-.22	.05	-.05	-0.32	-0.43	-0.25	-0.22

Variable	*z*	*p*	*k*	$Z\bar{r}$	*k*	Direction	Adj. $Z\bar{r}$	Change	Strength Change	Moderate one-tailed	Severe one-tailed	Moderate two-tailed	Severe two-tailed
Offline context													
Gender	.74	.45	112	-.07	18	Left	-.09	-.02	.02	-0.09	-0.12	-0.06	-0.06
Age	.54	.58	52	-.03	0	Left	-.03	0	0	–	–	–	–
Victimization	.96	.34	60	.06	10	Right	.08	-.02	.02	0.03	-0.03	0.05	0.04
Affective Empathy	1.65	.09	36	.15	9	Left	.13	.02	-.02	0.14	0.13	0.15	0.14
Cognitive Empathy	2.24	.03	20	.12	0	Left	.12	0	0	–	–	–	–
Self-Efficacy	1.91	.05	10	.10	5	Right	.14	-.04	.04	0.08	0.07	0.09	0.08
Moral Disengagement	.32	.74	17	-.12	1	Right	-.12	0	0	–	–	–	–
Popularity	.14	.88	20	.10	0	Left	.10	0	0	–	–	–	–
Acceptance	2.66	.01	17	.13	0	Left	.13	0	0	0.11	0.06	0.13	0.11
Cyber context													
Gender	-1.30	.19	9	-.06	5	Right	-.04	.02	-.02	–	–	–	–
Age	.89	.37	7	-.00	3	Left	-.03	.03	-.03	-0.02	-0.05	0.01	-0.01

Note. *z* is the regression test for funnel plot asymmetry. Non significant *p*-value indicates the lack of evidence of asymmetry. Strength change is the difference between the observed and adjusted effect sizes, taken into account the hypothesized effect direction. Pro. of defender = proportion of defenders; $Z\bar{r}$ = unadjusted average effect size; Adj. $Z\bar{r}$ = adjusted average effect size (including imputed studies). Note that we were only able to apply the selection methods to 7 out of the 12 meta-analyses due to the model emergence problem that are possibly caused by the small variances of the effect sizes among some covariates of defending (e.g., age, cognitive empathy).
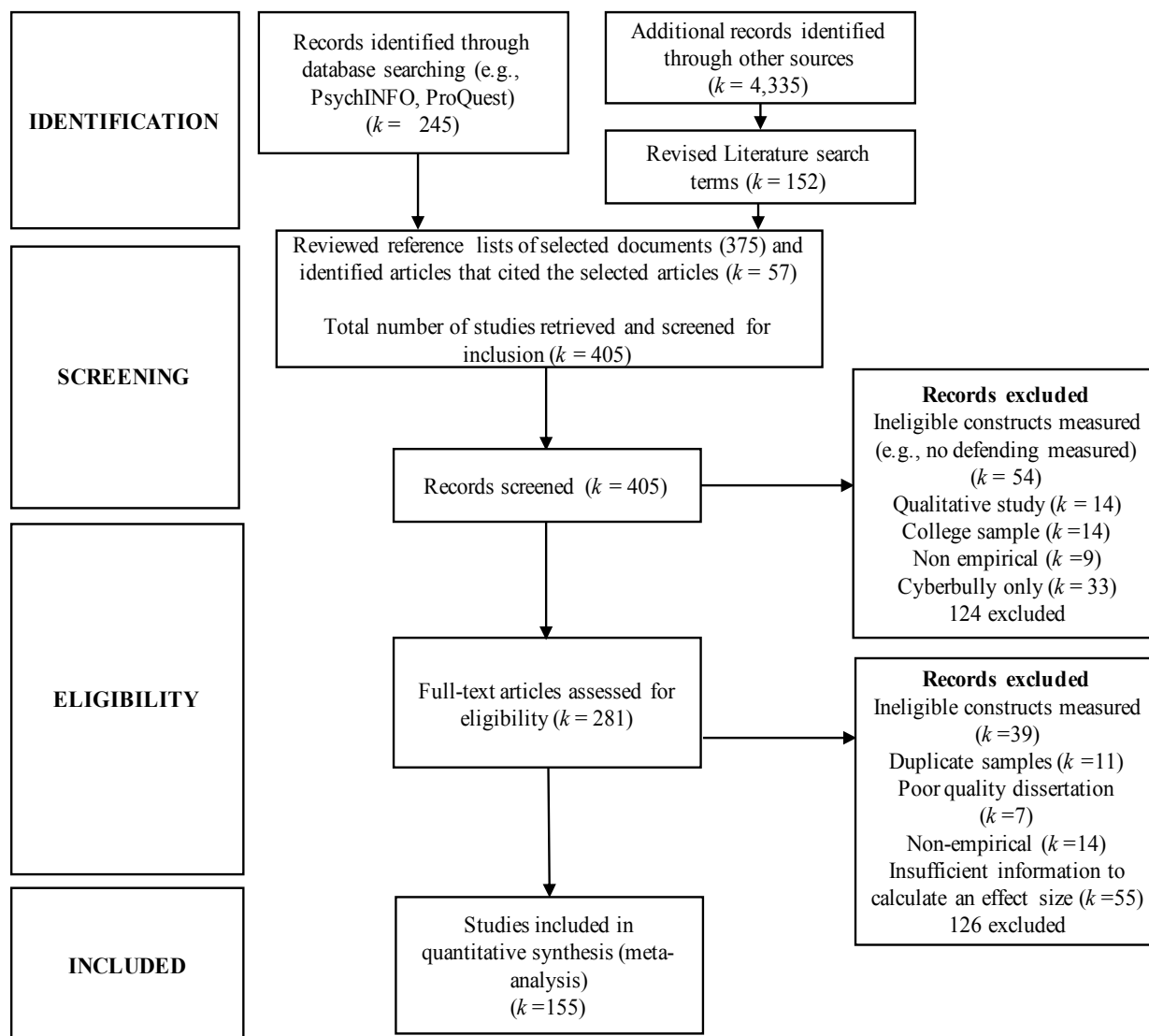
Figure 1. Flow information through the review

Study	Reporter		Proportion [95%CI]
Wassdorp & Bradshaw 2018	Self-report		0.35 [0.33, 0.36]
Rigby & Johnson, 2006			0.38 [0.26, 0.50]
Jeffrey et al., 2001			0.40 [0.32, 0.47]
Rigby & Johnson, 2006			0.41 [0.29, 0.52]
Quirk & Campbell, 2015			0.43 [0.33, 0.53]
Kingston, 2008			0.43 [0.36, 0.50]
Chapin & Brayack, 2016			0.44 [0.40, 0.48]
Quinn et al., 2016			0.44 [0.40, 0.48]
Tamm & Tulviste, 2015			0.45 [0.39, 0.51]
Van Cleemput et al., 2014			0.46 [0.39, 0.53]
Bellmore et al., 2012			0.47 [0.39, 0.54]
Trach et al., 2010			0.50 [0.49, 0.52]
Ma & Chen, 2017			0.51 [0.41, 0.61]
Siegel, 2008			0.52 [0.44, 0.61]
Masters, 2016			0.53 [0.47, 0.60]
Cwinn, 2013			0.54 [0.46, 0.62]
Lambe et al., 2017			0.56 [0.52, 0.59]
Siegel, 2008			0.61 [0.54, 0.69]
Cappadocia et al., 2012	Peer nomination		0.65 [0.54, 0.76]
McKinnon, 2001			0.31 [0.20, 0.42]
Salmivalli et al., 1997			0.33 [0.25, 0.41]
McKinnon, 2001			0.33 [0.19, 0.47]
Salmivalli, 2001			0.34 [0.26, 0.41]
Salmivalli et al., 1996			0.34 [0.26, 0.41]
Maeda, 2003			0.35 [0.22, 0.47]
Gini, 2006			0.35 [0.23, 0.47]
Goossens et al., 2006			0.35 [0.24, 0.46]
Pouwels et al., 2016			0.35 [0.30, 0.39]
Salmivalli, 2001			0.35 [0.26, 0.45]
Salmivalli, 2001			0.35 [0.23, 0.48]
Sainio et al., 2011			0.47 [0.45, 0.48]
Sutton et al., 1999			0.48 [0.37, 0.58]
Reijntjes et al., 2016			0.49 [0.42, 0.57]
Pronk et al., 2013			0.50 [0.45, 0.56]
Nickerson et al., 2008	Observation		0.58 [0.49, 0.67]
Hawkins et al., 2001			0.35 [0.12, 0.58]
O'connell et al., 1999			0.38 [0.32, 0.45]

0   0.2   0.4   0.6   0.8   1

Proportion

Figure 2. Forest plot for defenders' proportion in school context. For figures 2-10, we systematically arranged the effect sizes by reporters of defending because it consistently predicted heterogeneity.
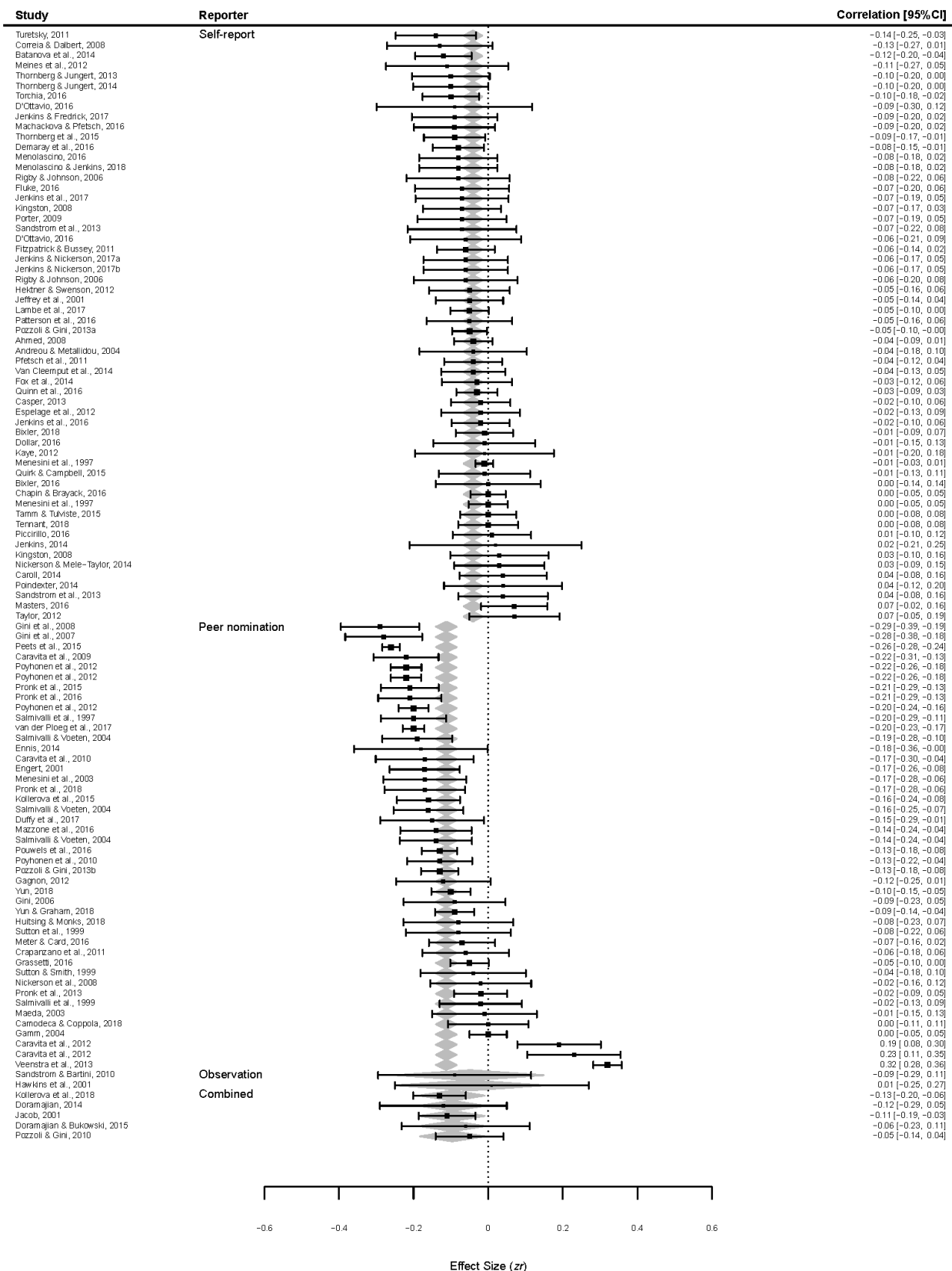
Figure 3. Forest plot of effect sizes between gender and defending of peer victimization in school context.
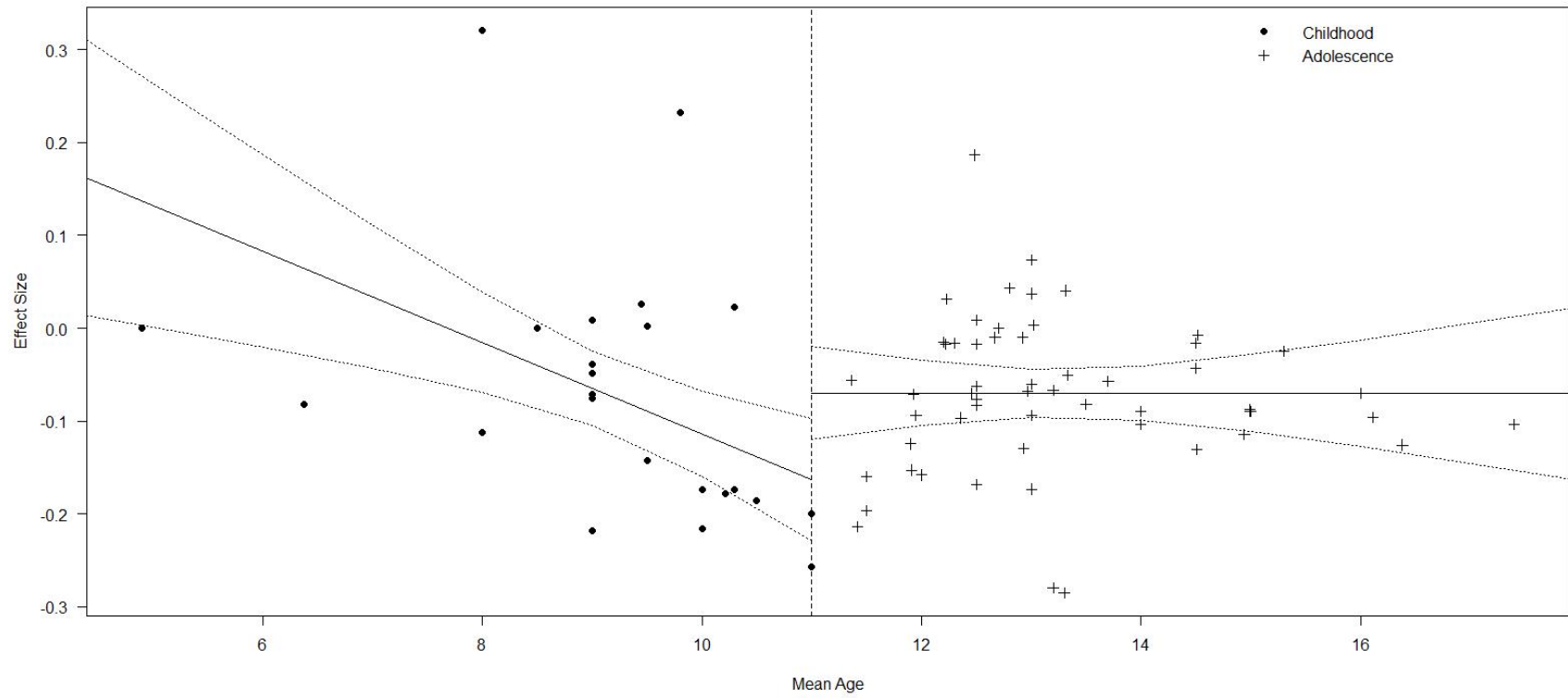
Figure 4. Interaction effects between age group and mean age predicting the heterogeneity of gender differences in defending of peer victimization in school context. On the y-axis, effect sizes > 0 indicate that boys defend more, and effect sizes < 0 indicate that girls defend more.

Study	Reporter		Correlation [95%CI]
Espelage et al., 2012	Self-report		−0.14 [−0.24, −0.04]
Kingston, 2008			−0.13 [−0.21, −0.05]
Turetsky, 2011			−0.13 [−0.24, −0.02]
Rigby & Johnson, 2006			−0.12 [−0.26, 0.02]
Rigby & Johnson, 2006			−0.11 [−0.25, 0.03]
Meines et al., 2012			−0.10 [−0.26, 0.06]
Van Cleemput et al., 2014			−0.10 [−0.19, −0.01]
Lambe et al., 2017			−0.09 [−0.14, −0.04]
Pozzoli & Gini, 2013a			−0.09 [−0.14, −0.04]
Bixler, 2016			−0.08 [−0.22, 0.06]
Cappadocia et al., 2012			−0.08 [−0.27, 0.11]
Gini et al., 2015			−0.07 [−0.13, −0.01]
Jeffrey et al., 2001			−0.07 [−0.16, 0.02]
Thornberg & Jungert, 2014			−0.06 [−0.16, 0.04]
Quinn et al., 2016			−0.05 [−0.11, 0.01]
Thornberg et al., 2017			−0.05 [−0.12, 0.02]
Menesini et al., 1997			−0.04 [−0.06, −0.02]
Menesini et al., 1997			−0.03 [−0.08, 0.02]
Fox et al., 2014			−0.02 [−0.11, 0.07]
Torchia, 2016			−0.02 [−0.10, 0.06]
Caroll, 2014			−0.01 [−0.13, 0.11]
D'Ottavio, 2016			−0.01 [−0.22, 0.20]
Hagloch, 2015			−0.01 [−0.20, 0.18]
Casper, 2013			0.00 [−0.08, 0.08]
Demaray et al., 2016			0.00 [−0.07, 0.07]
Fitzpatrick & Bussey, 2011			0.00 [−0.08, 0.08]
Machackova & Pfetsch, 2016			0.00 [−0.11, 0.11]
Ahmed, 2008			0.02 [−0.03, 0.07]
Hektner & Swenson, 2012			0.02 [−0.09, 0.13]
Van Beurden et al., 2012			0.02 [−0.19, 0.23]
Quirk & Campbell, 2015			0.03 [−0.09, 0.15]
Chapin & Brayack, 2016			0.04 [−0.01, 0.09]
Jenkins, 2014			0.15 [−0.08, 0.38]
Poyhonen et al., 2010	Peer nomination		−0.08 [−0.17, 0.01]
Pozzoli & Gini, 2013b			−0.08 [−0.13, −0.03]
Caravita et al., 2010			−0.04 [−0.18, 0.10]
Poyhonen et al., 2012			−0.03 [−0.07, 0.01]
Caravita et al., 2009			0.00 [−0.09, 0.09]
Peets et al., 2015			0.00 [−0.03, 0.03]
Yun, 2018			0.00 [−0.05, 0.05]
Pronk et al., 2013			0.01 [−0.06, 0.08]
Gagnon, 2012			0.04 [−0.09, 0.17]
Camodeca & Coppola, 2018			0.15 [0.04, 0.26]
Barhight et al., 2013			0.17 [0.10, 0.24]
Salmivalli et al., 2005	Combined		−0.11 [−0.17, −0.05]
Kollerova et al., 2018			0.00 [−0.07, 0.07]
Doramajian, 2014			0.01 [−0.16, 0.18]
Doramajian & Bukowski, 2015			0.02 [−0.15, 0.19]

−0.6 −0.4 −0.2 0 0.2 0.4 0.6

Effect Size (*zr*)

Figure 5. Forest plot of effect sizes between age and defending of peer victimization in school context.

Study	Reporter		Correlation [95%CI]
Espelage et al., 2014	Self-report		−0.11 [−0.14, −0.08]
Ma, 2014			−0.03 [−0.12, 0.06]
Ma, 2014			−0.03 [−0.10, 0.04]
Thornberg & Jungert, 2014			−0.03 [−0.13, 0.07]
Jenkins & Nickerson, 2017b			−0.02 [−0.13, 0.09]
Ahmed, 2008			−0.01 [−0.06, 0.04]
Correia & Dalbert, 2008			−0.01 [−0.15, 0.13]
Rigby & Johnson, 2006			−0.01 [−0.15, 0.13]
Song & Oh, 2017			0.00 [−0.09, 0.09]
Hektner & Swenson, 2012			0.01 [−0.10, 0.12]
Meines et al., 2012			0.04 [−0.13, 0.21]
Rigby & Johnson, 2006			0.04 [−0.10, 0.18]
Pfetsch et al., 2011			0.05 [−0.03, 0.13]
Pozzoli et al., 2016			0.05 [−0.07, 0.17]
Dollar, 2016			0.06 [−0.08, 0.20]
Evans et al., 2018			0.06 [0.04, 0.08]
Kingston, 2008			0.09 [0.01, 0.17]
Li et al., 2015			0.09 [0.06, 0.12]
Summers, 2008			0.09 [−0.03, 0.21]
Van Cleemput et al., 2014			0.09 [0.00, 0.18]
Pozzoli et al., 2012			0.10 [0.05, 0.15]
Batanova et al., 2014			0.11 [0.03, 0.19]
Malm, 2013			0.11 [−0.05, 0.27]
Demaray et al., 2016			0.12 [0.05, 0.19]
Casper, 2013			0.13 [0.05, 0.21]
Casper et al., 2017			0.13 [0.05, 0.21]
Jenkins et al., 2017			0.13 [0.01, 0.25]
Bixler, 2018			0.14 [0.06, 0.22]
Fitzpatrick & Bussey, 2011			0.16 [0.08, 0.24]
Piccirillo, 2016			0.16 [0.06, 0.26]
Tennant, 2018			0.19 [0.11, 0.27]
Nickerson & Mele−Taylor, 2014			0.22 [0.10, 0.34]
Quinn et al., 2016			0.24 [0.19, 0.29]
Barchia & Bussey, 2011			0.26 [0.21, 0.31]
Yun, 2018	Peer nomination		−0.10 [−0.15, −0.05]
Gagnon, 2012			−0.09 [−0.22, 0.04]
Ennis, 2014			−0.08 [−0.26, 0.10]
Barhight et al., 2013			−0.07 [−0.14, 0.00]
Goossens et al., 2006			−0.06 [−0.19, 0.07]
Pouwels et al., 2016			−0.06 [−0.11, −0.01]
Camodeca et al., 2015			−0.05 [−0.16, 0.06]
Engert, 2001			−0.05 [−0.15, 0.05]
Pouwels et al., 2018			−0.02 [−0.14, 0.10]
van der Ploeg et al., 2017			−0.02 [−0.05, 0.01]
Barhight, 2011			−0.01 [−0.08, 0.06]
Gini, 2006			−0.01 [−0.15, 0.13]
McKinnon, 2001			0.00 [−0.12, 0.12]
Pronk et al., 2016			0.00 [−0.07, 0.07]
Meter & Card, 2016			0.01 [−0.08, 0.10]
Salmivalli et al., 1996			0.01 [−0.07, 0.10]
Sainio et al., 2011			0.03 [0.01, 0.05]
Caravita et al., 2010			0.06 [−0.07, 0.19]
Camodeca & Coppola, 2018			0.07 [−0.04, 0.18]
Sutton & Smith, 1999			0.14 [0.00, 0.28]
Meter & Card, 2015			0.24 [0.14, 0.34]
Doramajian, 2014	Combined		−0.19 [−0.36, −0.02]
Jacob, 2001			0.04 [−0.04, 0.12]
Lee et al., 2016			0.13 [−0.07, 0.33]
Kollerova et al., 2018			0.22 [0.15, 0.29]

−0.6 −0.4 −0.2 0 0.2 0.4 0.6

Effect Size (*zr*)

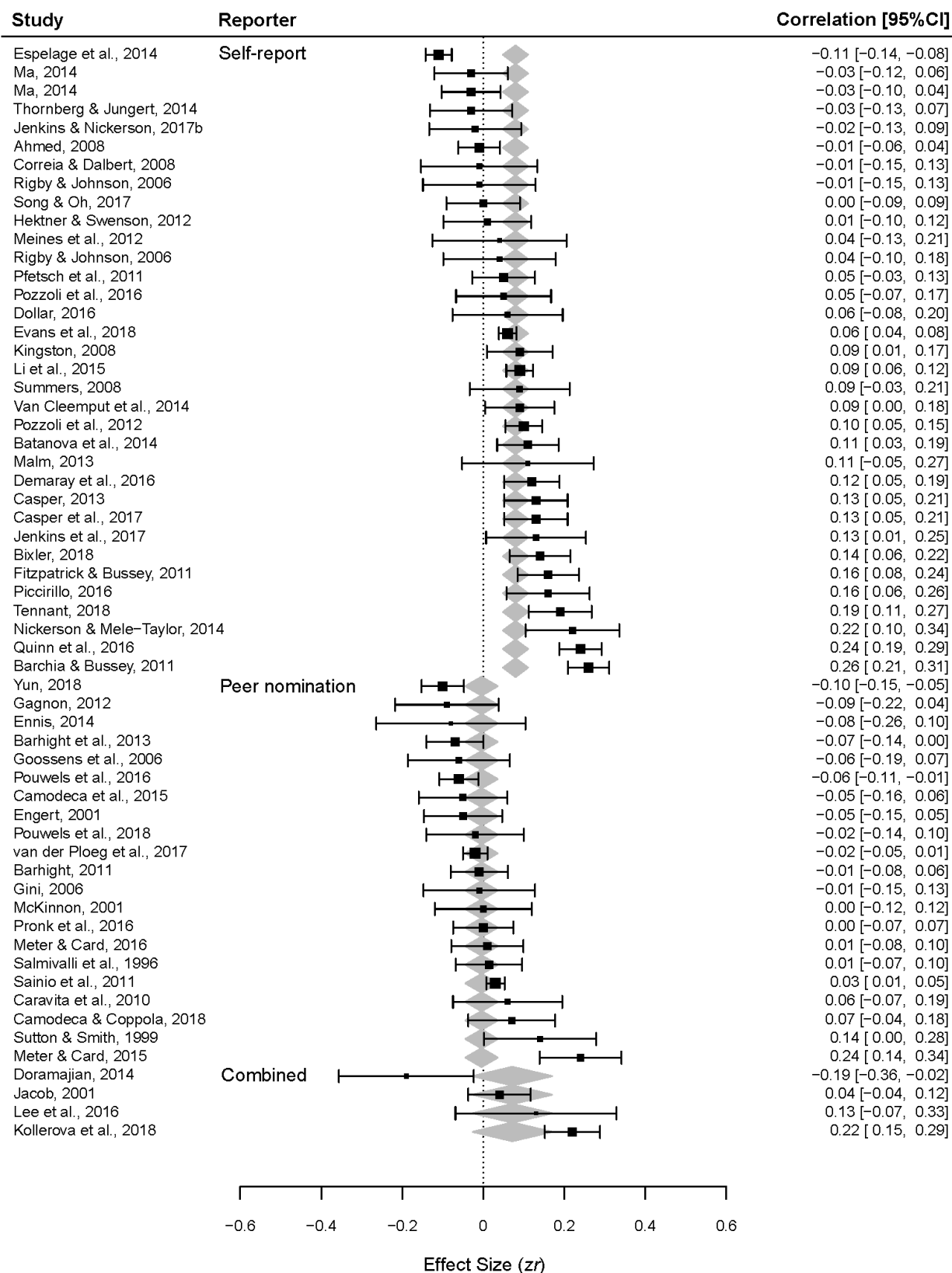*Figure 6.* Forest plot of effect sizes between experiences of peer victimization and defending of peer victimization in school context.
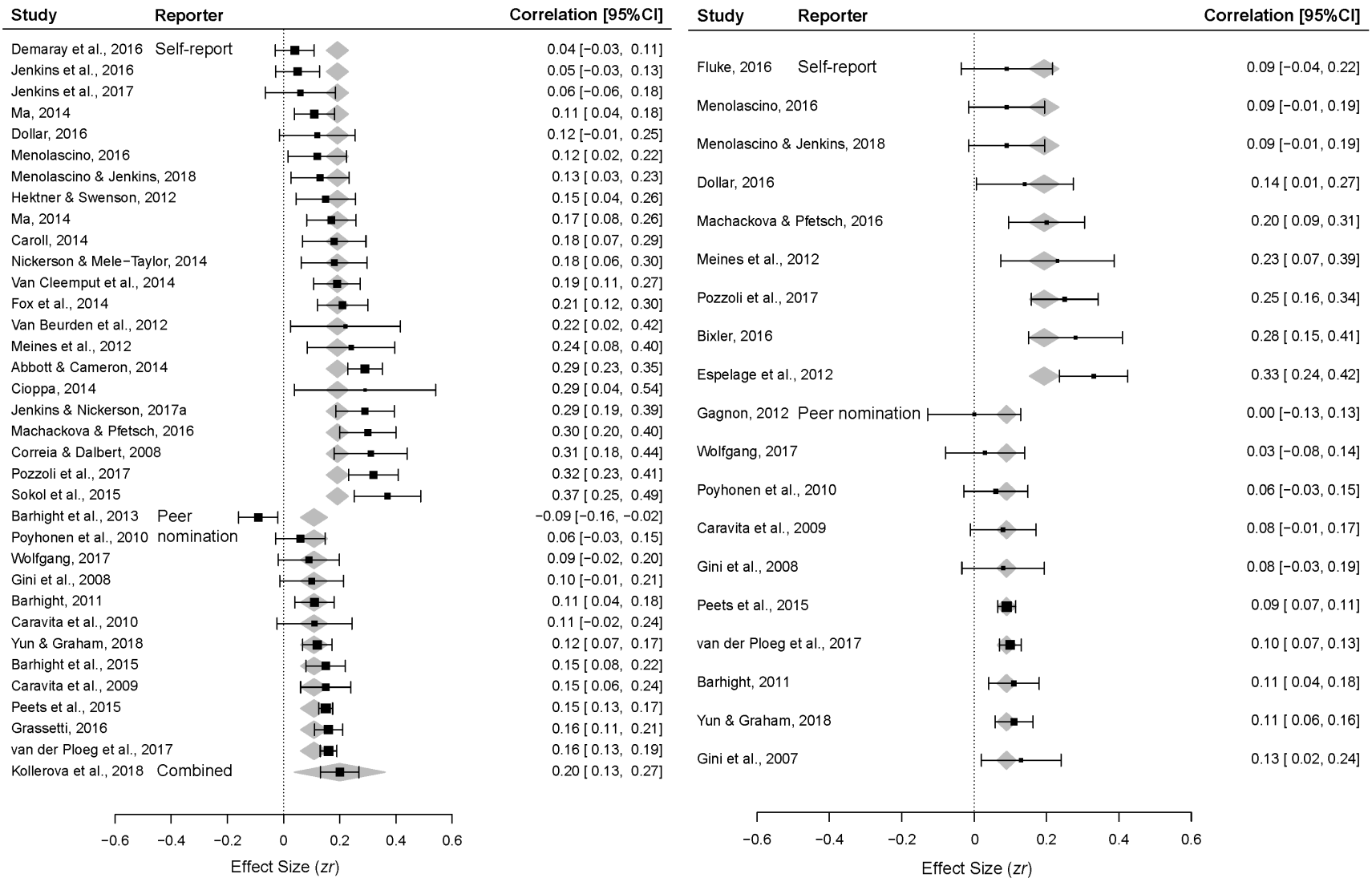
Figure 7. Forest plots of effect sizes between affective empathy (left) and cognitive empathy (right) and defending of peer victimization in school context.
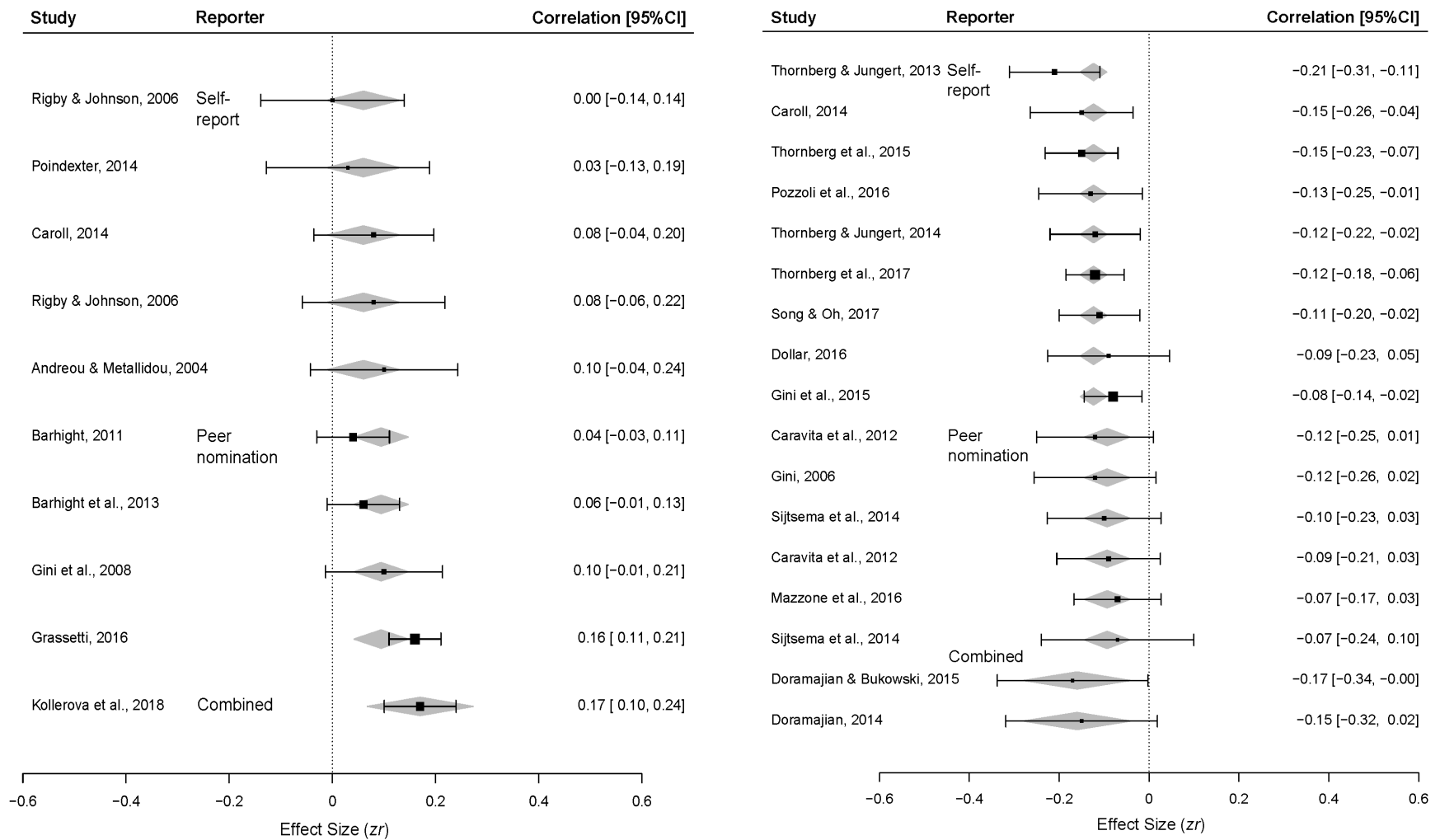
Figure 8. Forest plots of effect sizes between self-efficacy (left) and moral disengagement (right) and defending in school context.
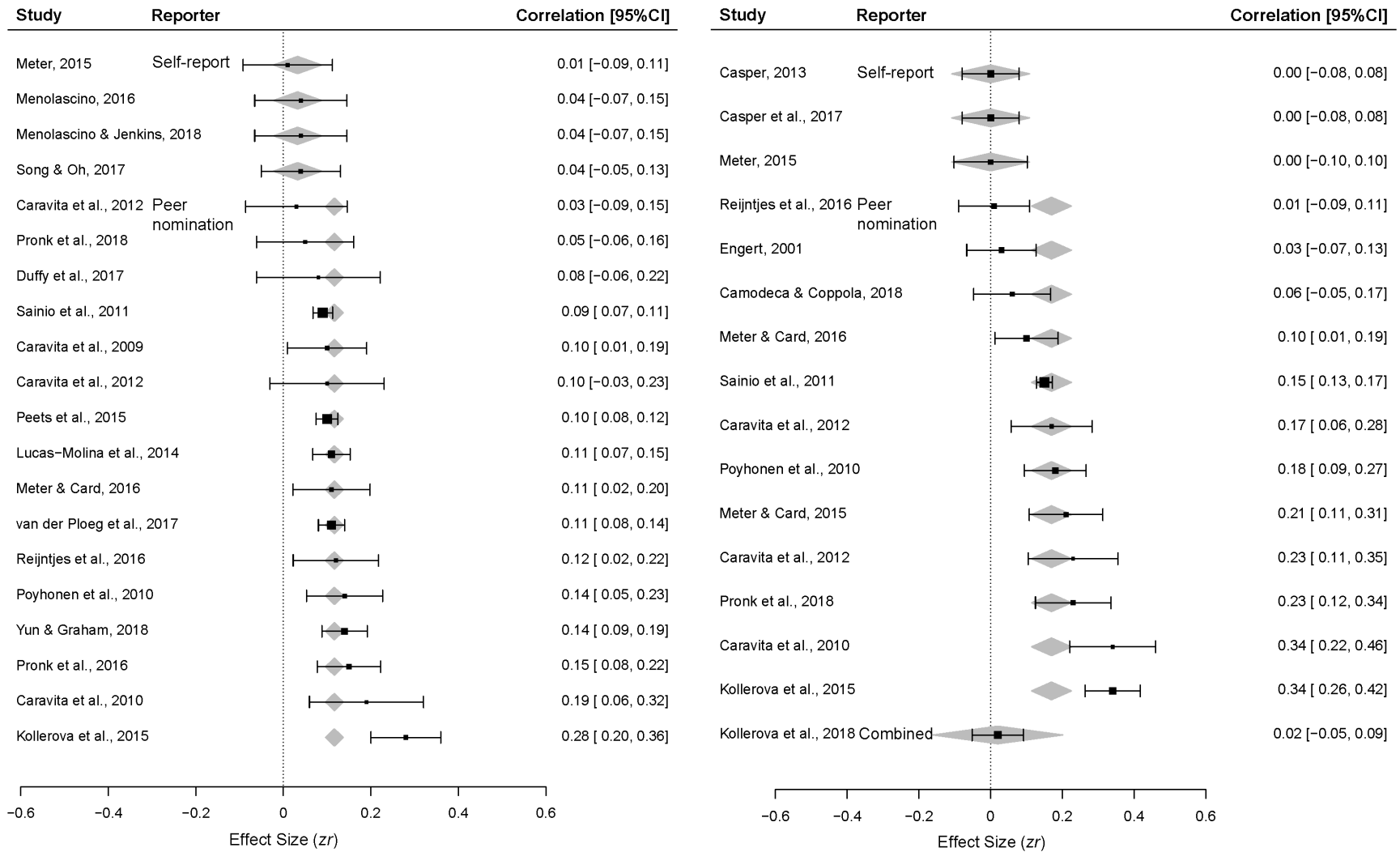
Study	Reporter	Correlation [95%CI]
Meter, 2015	Self-report	0.01 [−0.09, 0.11]
Menolascino, 2016		0.04 [−0.07, 0.15]
Menolascino & Jenkins, 2018		0.04 [−0.07, 0.15]
Song & Oh, 2017		0.04 [−0.05, 0.13]
Caravita et al., 2012	Peer nomination	0.03 [−0.09, 0.15]
Pronk et al., 2018		0.05 [−0.06, 0.16]
Duffy et al., 2017		0.08 [−0.06, 0.22]
Sainio et al., 2011		0.09 [0.07, 0.11]
Caravita et al., 2009		0.10 [0.01, 0.19]
Caravita et al., 2012		0.10 [−0.03, 0.23]
Peets et al., 2015		0.10 [0.08, 0.12]
Lucas−Molina et al., 2014		0.11 [0.07, 0.15]
Meter & Card, 2016		0.11 [0.02, 0.20]
van der Ploeg et al., 2017		0.11 [0.08, 0.14]
Reijntjes et al., 2016		0.12 [0.02, 0.22]
Poyhonen et al., 2010		0.14 [0.05, 0.23]
Yun & Graham, 2018		0.14 [0.09, 0.19]
Pronk et al., 2016		0.15 [0.08, 0.22]
Caravita et al., 2010		0.19 [0.06, 0.32]
Kollerova et al., 2015		0.28 [0.20, 0.36]

Study	Reporter	Correlation [95%CI]
Casper, 2013	Self-report	0.00 [−0.08, 0.08]
Casper et al., 2017		0.00 [−0.08, 0.08]
Meter, 2015		0.00 [−0.10, 0.10]
Reijntjes et al., 2016	Peer nomination	0.01 [−0.09, 0.11]
Engert, 2001		0.03 [−0.07, 0.13]
Camodeca & Coppola, 2018		0.06 [−0.05, 0.17]
Meter & Card, 2016		0.10 [0.01, 0.19]
Sainio et al., 2011		0.15 [0.13, 0.17]
Caravita et al., 2012		0.17 [0.06, 0.28]
Poyhonen et al., 2010		0.18 [0.09, 0.27]
Meter & Card, 2015		0.21 [0.11, 0.31]
Caravita et al., 2012		0.23 [0.11, 0.35]
Pronk et al., 2018		0.23 [0.12, 0.34]
Caravita et al., 2010		0.34 [0.22, 0.46]
Kollerova et al., 2015		0.34 [0.26, 0.42]
Kollerova et al., 2018	Combined	0.02 [−0.05, 0.09]

Figure 9. Forest plots of effect sizes between popularity (left) and acceptance (right) and defending of peer victimization in school context.
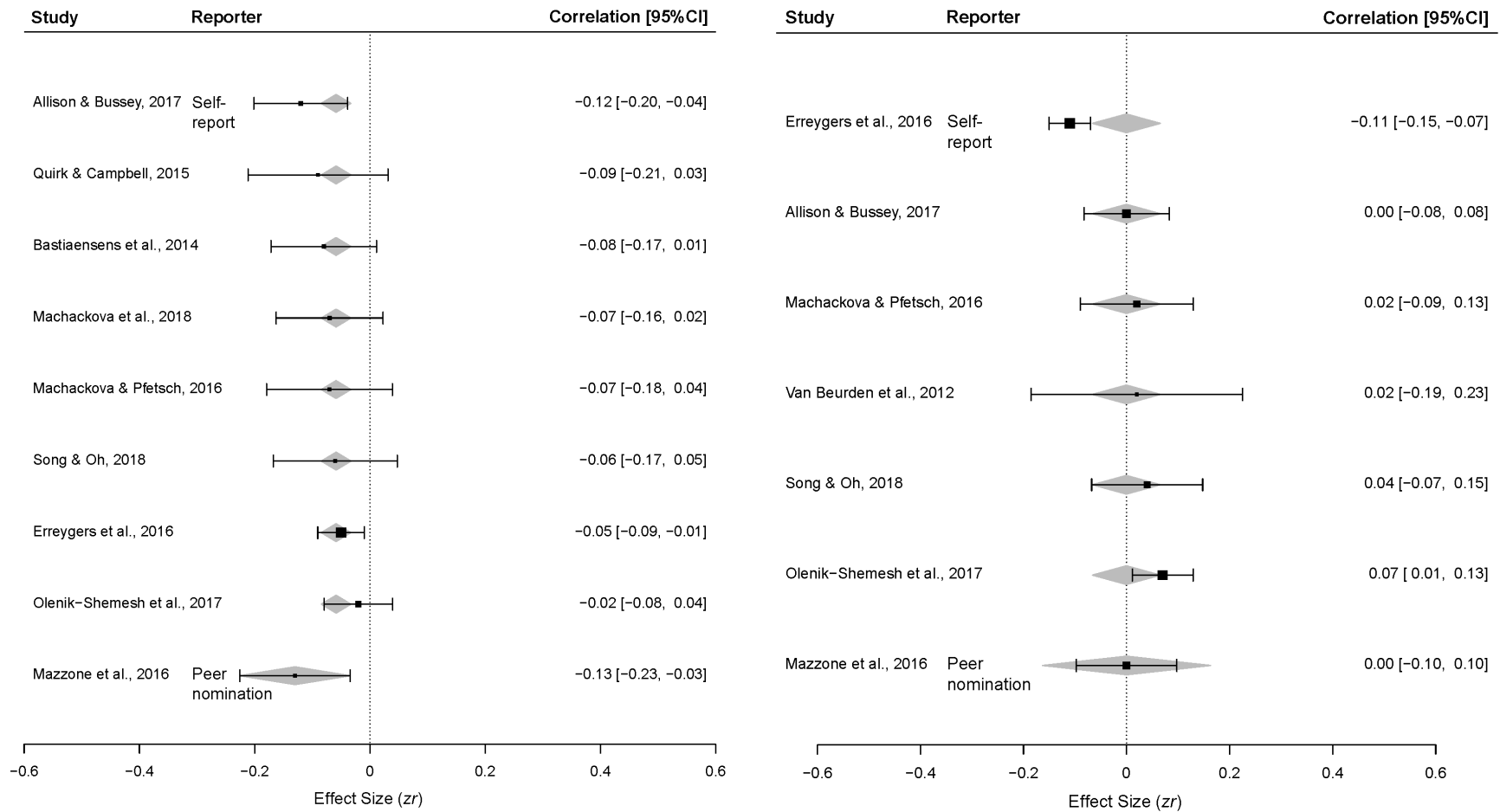
Figure 10. Forest plots of effect sizes between gender (left) and age (right) and defending of peer victimization in cyber context.

(a) Pro. of defenders

(b) Gender

(c) Age

(d) Victimization

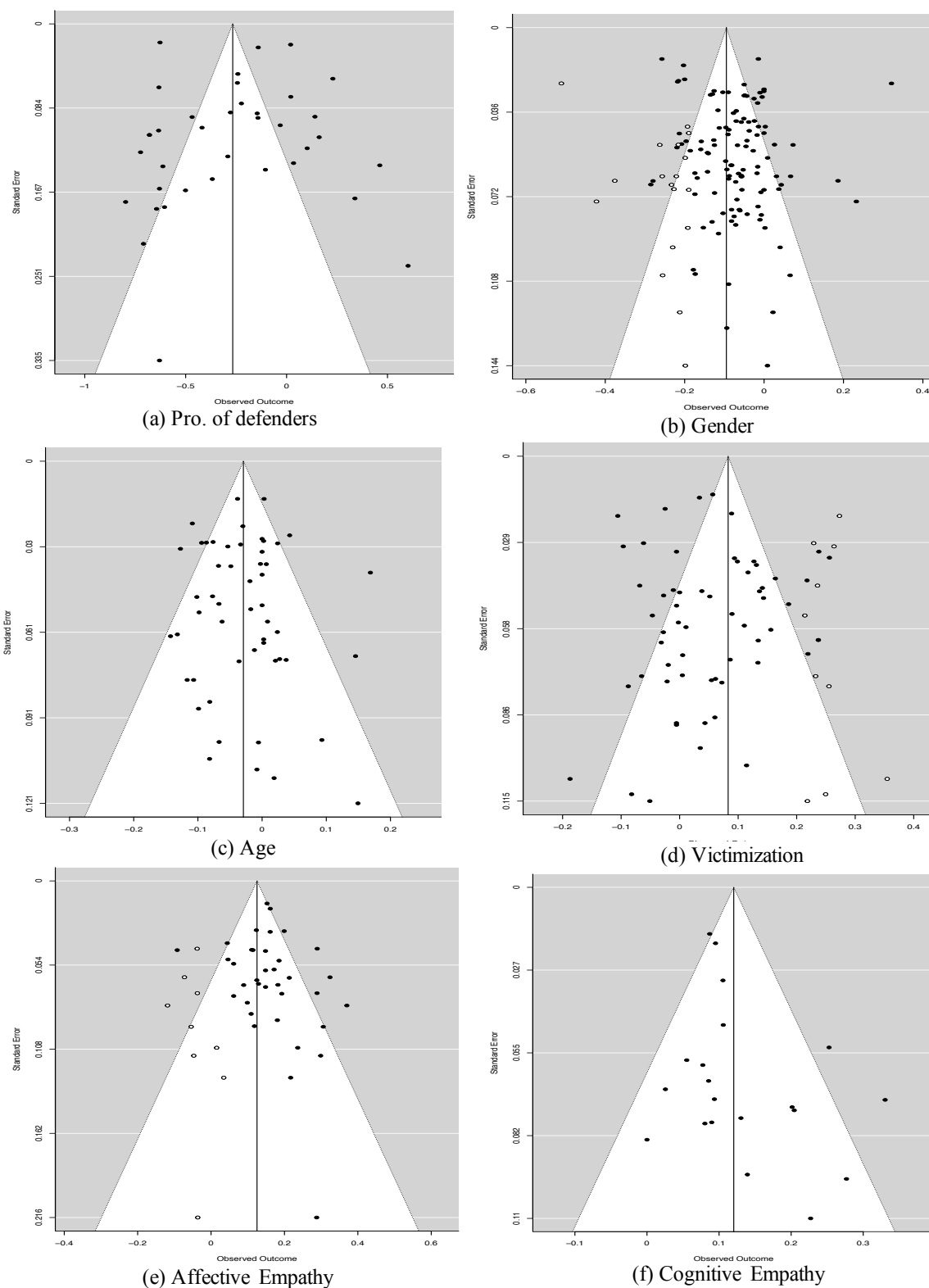(e) Affective Empathy

(f) Cognitive Empathy

Figure 11. Funnel plots part one. The empty dots indicate the filled studies by the trim and fill results to improve the symmetry of the plots. The absence of empty dots (i.e., pro. of defenders, Age, Cognitive Empathy) means the trim and fill test suggest no studies to be filled.
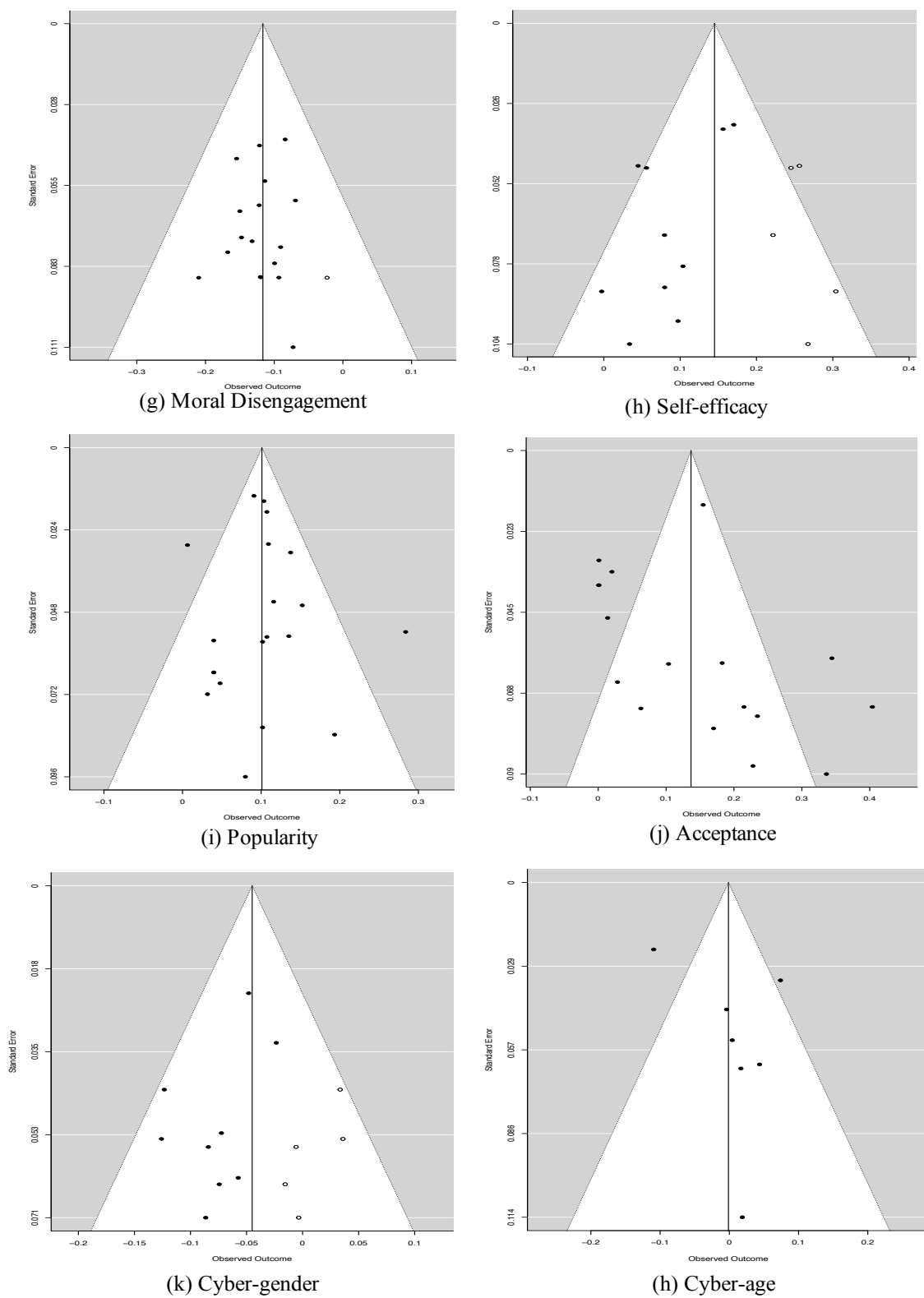
Figure 12. Funnel plots part two. The empty dots indicate the filled studies by the trim and fill results to improve the symmetry of the plots. The absence of empty dots (i.e., Popularity, Acceptance, and Cyber-age) means the trim and fill test suggest no studies to be filled.