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REVIEW ARTICLE

Teachers' Attitudes Toward Bullying and Intervention Responses: A Systematic and Meta-analytic Review

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Abstract

Teachers are key to antibullying efforts, and their attitudes toward bullying can influence their intervention responses. There has been a proliferation of this type of research but thus far no review has been performed to coalesce the evidence. Following PRISMA and Cochrane guidelines, we performed a systematic and meta-analytic review. A total of 3990 titles and abstracts identified across 7 databases (PsycINFO, Education Source, ERIC via EBSCOhost, ERIC via ProQuest, Web of Science, ProQuest Dissertations and Theses, Google Scholar) were screened against inclusion and exclusion criteria. After screening, 27 studies were included in the systematic review, 25 of which were included in meta-analyses. The association between antibullying attitudes and intervention responses differed depending on whether (1) measures assessed retrospective reports of intervention responses (i.e., how often teachers used that response) versus intervention intentions (i.e., likelihood they would intervene in hypothetical scenarios) and (2) the specific type of intervention response. Results indicate that teachers' antibullying attitudes were positively related to some responses (disciplining/punishing bullying, victim support, involving parents, involving peer bystanders), negatively related to some responses (advocating avoidance, encouraging independent coping), and unrelated to others (advocating assertion, enlisting other adults, separating students). Results also indicate a positive overall association between antibullying attitudes and intervention likelihood. No moderation by form of bullying was found. Implications for preservice training and in-service teachers' professional development to target bullying attitudes are discussed.

Keywords Teachers' attitudes · Bullying · Intervention responses · Systematic review · Meta-analysis

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Bullying is a specific form of aggressive behavior that often occurs in the school setting (Cook et al., 24; Menesini & Salmivalli, 99; Modecki et al., 102; Olweus, 108). Bullying negatively impacts individuals at multiple levels: students involved suffer (Copeland et al., 25; Gini & Pozzoli, 62; McDougall & Vaillancourt, 98), students who witness bullying suffer (Midgett & Doumas, 100), the school community suffers (Dorio et al., 44; Yang et al., 150), and society suffers (Brimblecombe et al., 14; Jadambaa et al., 81). Such deleterious consequences underscore the pressing need for antibullying approaches.

In the school setting, teachers are key agents in the social ecology. Given their position as the authority figure in the classroom, teachers are uniquely situated to influence bullying and victimization dynamics (Colpin et al., 23; De Luca et al., 32; Farmer et al., 51; Troop-Gordon, 132; Veenstra et al., 143; Yoon & Bauman, 151). Their response to bullying incidents—or lack thereof—communicates the acceptability of the behavior to students and impacts the adjustment of those involved (e.g., victims; Flashpohler et al., 56). Recognition of the importance of teachers' responses to bullying incidents has spurred research into factors associated with their intervention efforts. This systematic and meta-analytic review focused on one key factor's association with teachers' intervention responses: teachers' attitudes toward bullying. Clarifying how attitudes relate to intervention behavior is critical information for implementation efforts that rely extensively on teachers taking active roles in antibullying initiatives.

Why Teacher Intervention Matters

Teachers are considered critical agents in antibullying efforts in the school context (Colpin et al., 23; De Luca et al., 32; Troop-Gordon, 132; Veenstra et al., 143; Yoon & Bauman, 151). As such, they are tasked with responding to bullying and victimization that occurs within their classroom. Research indicates that teachers' actions impact the adjustment of those involved and communicate the acceptability of bullying in the classroom (Bjereld et al., 11; Cunningham et al., 28; Wachs et al., 146). If teachers do not intervene in bullying cases, their (in)action can negatively impact victims: victims are likely to feel unprotected, suffer in silence, and continue to experience bullying (Yoon & Kerber, 152).

Inaction from teachers may also be perceived by students as an implicit acceptance of bullying. This, in turn, can increase the occurrence of bullying in the classroom and reduce the likelihood that students who witness bullying will be willing to intervene (Burger et al., 15; Campaert et al., 19; Hektner & Swenson, 69; Wachs et al., 146; Yoon, 153). In contrast, when teachers *do* intervene in bullying incidents, there are multiple benefits. First, victims tend to feel socially supported by teachers who intervene (Troop-Gordon & Quenette, 134) and engage in more help-seeking behavior when they view their teachers as not condoning bullying (Blomqvist et al., 12). Second, self-reported bullying tends to be lower in classrooms where teachers use certain intervention strategies (i.e., disciplinary methods, victim support, mediation; van Gils et al., 139), and victimization rates tend to be lower in classrooms where students perceive teachers having antibullying attitudes (i.e., bullying

is wrong) or when teachers communicate that bullying is not acceptable (Novick & Isaacs, 107; Saarento et al., 118; Veenstra et al., 143). Third, student bystanders are more willing to intervene in bullying themselves or report bullying when they see their teachers actively trying to stop bullying (Demol et al., 37; Hektner & Swenson, 69). Both actions—bystander intervention and telling a teacher about bullying—are critical actions from peers that help reduce bullying in the classroom and school environment (Demol et al., 37; Salmivalli, 120).

Antibullying Attitudes and Intervention Responses

If intervention responses are the goal, this raises the question: What predicts teachers' responses to bullying? According to the Theory of Planned Behavior (TPB; Ajzen, 2), behavior is guided by intentions which are influenced by (1) attitudes toward the behavior, (2) subjective norms, and (3) self-efficacy beliefs. Applied to bullying, the TPB assumes that teachers' intervention intentions will be guided by their (1) attitudes toward bullying (e.g., disapproval), (2) subjective norms for intervening in bullying (i.e., are teachers expected to respond to bullying in that context?), and (3) self-efficacy for intervening in bullying (i.e., do they feel confident in their ability to respond to bullying? See Hawley & Williford, 67; van Aalst et al., 137). The utility of this theoretical framework is that each component is assumed to be malleable, meaning they can theoretically be targeted through intervention efforts to increase the desired behavior (i.e., intervention responses).

Recent similar systematic reviews have assessed components of the TPB to better understand teachers' perceptions and responses to bullying. Fischer and colleagues (54) reviewed the association between in-service and preservice teachers' self-efficacy and their bullying prevention and intervention efforts. van Aalst and colleagues (137) reviewed links between primary school teachers' characteristics, components of the TPB theoretical framework (e.g., norms, self-efficacy), and several outcomes of interest (e.g., intervention responses, classroom bullying experience). We were similarly motivated to assess the link between teachers' attitudes and their intervention responses but sought to fill a critical gap in the literature about the strength of this association which can only be achieved by combining data from multiple studies and conducting a meta-analysis. Other meta-analyses on attitudes and behavior intentions suggest a strong link between the two (McDermott, 97; Steinmetz et al., 127), yet the strength of the association between bullying attitudes and intervention responses remains in question, prompting the current study.

Ajzen (2) discussed attitudes toward a behavior as follows: "people generally hold a number of behavioral beliefs in relation to any given behavior. Each of these beliefs links the behavior to an outcome, and each outcome has a certain subjective value. […] it is assumed that these behavioral beliefs and outcome evaluations combine to produce an overall positive or negative *attitude toward the behavior*" (p. 441). Applied to bullying, attitudes reflect thoughts about whether bullying causes harm and the subjective evaluation that the harm is detrimental to the individual (Ajzen, 2). For example, teachers may believe that bullying behavior is benign and does not cause significant harm to youth, yielding a more positive attitude toward

the behavior. In contrast, if teachers are aware of the consequences of bullying for those involved (e.g., psychosomatic problems, depression; Gini & Pozzoli, 62; Moore et al., 103), and they evaluate those outcomes negatively (i.e., those outcomes are bad and should be avoided), then it follows that they would endorse beliefs that bullying is problematic, harmful, and serious—reflecting an antibullying attitude. Accordingly, bullying attitudes can be broadly categorized as being either (a) probullying—meaning bullying is not viewed as problematic—or (b) antibullying—meaning bullying is seen as a problem. According to the TPB, teachers' probullying attitudes (e.g., bullying is normative) may reduce their likelihood of intervening which can escalate bullying behavior among students. In contrast, antibullying attitudes are assumed to prompt intervention responses which should reduce bullying in the classroom.

Empirical evidence bolsters these theoretical assumptions. For instance, one study found that teachers' attitudes toward bullying were a key mechanism explaining reductions in bullying following an intervention program (KiVA; Saarento et al., 118). Specifically, when students viewed their teacher as disapproving of bullying (i.e., antibullying attitude), self- and peer-reports of bullying perpetration decreased (Saarento et al., 118). Another study found that the more teachers endorsed bullying as normative (i.e., probullying attitude), the less likely they were to reprimand aggressive students and the more likely they were to tell victims to deal with it on their own (i.e., independent coping; Troop-Gordon & Ladd, 133). Such responses are not aligned with recommended practice (Ttofi & Farrington, 135) and could amplify problems for victims, underscoring the need to ensure that teachers respond appropriately in these situations.

These malleable cognitions (i.e., attitudes) can be targeted through training efforts either during preparation programs (as preservice teachers) or through professional development opportunities for in-service teachers. Thus, there are clear real-world educational implications of this work. That said, to effectively guide translational and implementation efforts, it is vital to understand the degree to which this factor—teachers' attitudes toward bullying—relates to teachers' intervention responses in bullying situations. Understanding the robustness of this association will allow the field to design intervention programs targeting factors that will maximize effects in ways that support teachers' behavior and, subsequently, student adjustment.

Current Review

The current systematic and meta-analytic review sought to coalesce evidence on the association between teachers' attitudes toward bullying and their intervention responses. This review adds to the growing evidence assessing the efficacy of the TPB applied to bullying generally (e.g., Hawley & Williford, 67) and teachers' responses more specifically (Fischer et al., 54, 55; van Aalst et al., 137). Based on the TPB (Ajzen, 2), we expected that probullying attitudes would be associated with a decreased likelihood for intervention or use of intervention responses by teachers whereas antibullying attitudes would be associated with an increased likelihood for intervention or use of intervention responses. Further, during the scoping review that

informed our review protocol, we found several studies assessing attitudes and intervention likelihood for different forms of behavior. Therefore, we examined the role of forms of bullying (e.g., physical, relational) on the association between attitudes and intervention. Given existing evidence suggesting teachers report more concern for physical bullying (Maunder et al., 96; Mishna et al., 101), we expected the association between antibullying attitudes and intervention likelihood to be stronger for physical forms compared to other forms.

Method

Search Strategy

Before beginning our search, we registered our systematic review protocol on Open Science Framework (OSF; https://osf.io/tqyvp) and worked with a university librarian to develop our key search terms. We grouped search terms under four topics to identify studies on the association between teachers' attitudes toward bullying and peer victimization and their bullying intervention responses: (1) in-service teachers, (2) bullying, (3) attitudes, and (4) intervention responses (see Appendix A in the Online Resources for full key term search information). Our search yielded a total of 6784 records across the following databases to identify both peer-reviewed and grey literature: PsycINFO (1404 records), Education Source (867), ERIC via EBSCOhost (1257), ERIC via ProQuest (977), Web of Science (1061), ProQuest Dissertations and Theses (918), and Google Scholar (300; per recommendations by Haddaway et al., 66 to focus on the first 300 results when using Google Scholar to search for grey literature). Records were imported into reference management software to remove duplicates (2794) leaving a total of 3990 records that proceeded to the title and abstract screening phase.

Inclusion and Exclusion Criteria

The following inclusion criteria were used: (1) published in English; (2) published between 1993 and 2020 (to ensure that research reflected bullying as opposed to aggression, articles were included that were published after 1993 when Olweus' widely-read book outlined the hallmarks of bullying; Olweus, 108); (3) published in peer-reviewed journals/grey literature, as dissertations, or as conference papers/presentations/abstracts; (4) founded upon empirical data, providing statistical analysis (i.e., quantitative and mixed method studies); (5) included participants who are in-service teachers; (6) studies with teacher reports of attitudes on bullying and/or peer victimization; (7) studies with an outcome measure assessing teachers' intervention response to bullying; and (8) studies report the association between attitudes and intervention responses.

The titles and abstracts of the records that were extracted from the initial key term search were screened independently for inclusion by two reviewers (first and third authors). Articles were coded as (1) include, (2) unsure, (3) exclude, or (4) duplicate.

Before screening, there was a training phase for the research assistant assigned to double code entries for inclusion. The first 321 entries (< 8% of total number of reports) were used for training purposes. There were four rounds of training: the first 21 entries were screened together with the first author to train how to evaluate titles and abstracts according to the inclusion and exclusion criteria followed by three rounds of 100 reports each. Interrater reliability was assessed with percentage agreement between coders and Cohen's kappa. To interpret kappa values, we used the following categories outlined by Viera and Garrett (145): kappa values from 0.81 to 1.00 indicate almost perfect agreement, values from 0.61 to 0.80 indicate substantial agreement, and values from 0.41 to 0.60 indicate moderate agreement. Results from the three rounds of training indicate interrater agreement was high with an average agreement of 94% and average $\kappa = 0.42$. Discrepancies were resolved through discussion until consensus could be reached.

Once acceptable interrater reliability was achieved during the training phase, the remaining 3669 titles and abstracts were coded independently according to the inclusion and exclusion criteria. Interrater agreement was again high (96% agreement) with a $\kappa = 0.50$ indicating moderate agreement. Of the total 3990 titles and abstracts screened, 3887 (of which 64 were duplicates) were excluded for failure to meet inclusion criteria, yielding a total of 103 reports that proceeded to the full-text screening phase. Studies were excluded for these reasons: participants were not in-service teachers (50.3% of excluded studies), not a quantitative study (18.2%), did not assess bullying between PK-12 students (e.g., workplace bullying, 17.7%), an unaccepted publication status (e.g., book chapter, report, 8.9%), did not assess attitudes toward bullying (3.6%), did not assess self-reported intervention responses (1.1%), published before 1993 (0.2%), or not in English (0.1%).

Full texts were likewise independently coded as (1) include or (2) exclude with all reasons for exclusion coded at this stage (interrater agreement = 67%, $\kappa = 0.63$). Discrepancies were reconciled through discussion for all but six of the full texts that were further discussed with an additional coder (second author) until a consensus was reached. Of the 103 full texts screened, 13 were included and 59 were excluded for failing to meet the inclusion criteria (see Fig. 1). The remaining 31 studies did not provide the necessary statistics to calculate the correlation between attitudes and intervention responses. Per recommendations to seek unpublished data (Li et al., 92), we reached out to those authors and received a response from 11 out of 31 authors contacted (response rate of 35.5%). Of these 31 studies, 5 were included after the authors provided the requested information, and 26 were excluded either because the authors were unable to provide the information ($n = 7$), contact information was not available ($n = 7$), or we received no response ($n = 11$). Following this process, a total of 18 reports were determined to meet eligibility criteria and included in the systematic review.

To align with recommendations to perform supplemental searches (Li et al., 92), we (1) conducted a continuous search using the same key terms and search strategy in March 2022 and (2) searched the reference lists of the included articles. The key term search yielded 771 results which were screened for inclusion and exclusion. The first author screened all titles and abstracts, and the second author screened a random sample of 20% of titles and abstracts. Interrater

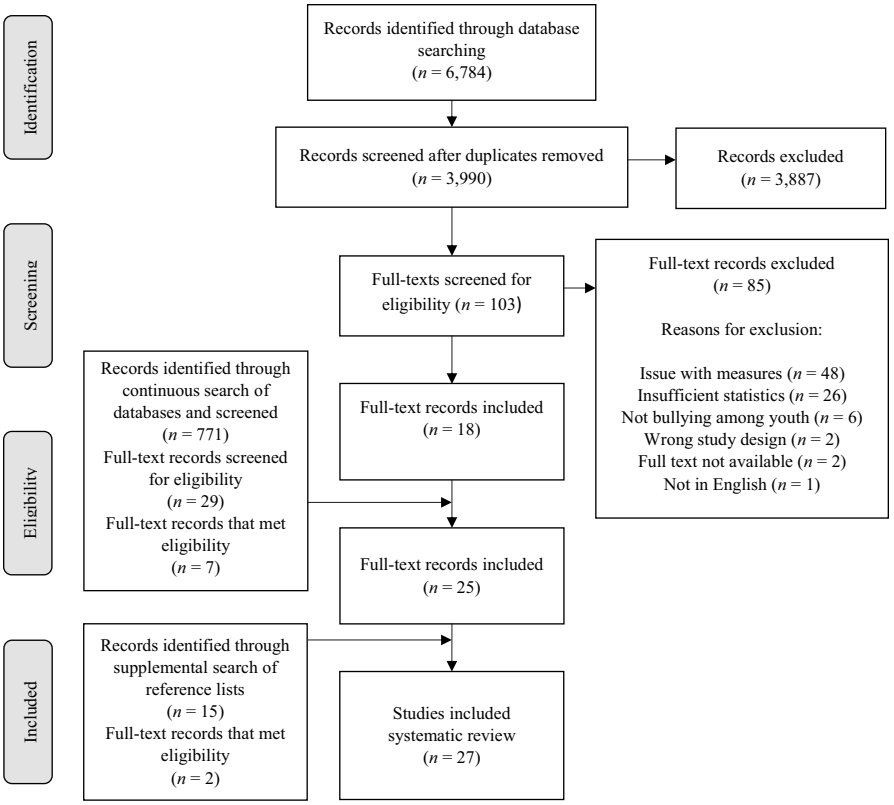

Fig. 1 Flow diagram of the systematic review selection process

agreement was high (91% agreement, $\kappa = 0.42$). Discrepancies were discussed until mutual agreement was reached. After this process, 29 results moved to the full-text screening phase, of which 16 were excluded, 5 were included, and the authors of the 5 remaining studies were contacted for additional information per recommendations (Li et al., 92). Two additional studies were included after the authors provided the necessary data, and the other three were excluded ($n = 1$ author contact information not found; $n = 2$ no response from authors). Thus, a total of 7 studies were included in the review from the continuous key term search. Lastly, the reference lists of the 25 included articles (18 from original key term search, 7 from continuous key term search) were screened. A total of 15 titles were identified for possible inclusion. After screening titles and abstracts against the inclusion criteria, the full texts of 3 articles were screened with two included and one excluded (no response from the author for requested information). Following these continuous search procedures, 9 additional studies were included in the review, yielding a final total of 27 studies.

Data Extraction

The following information was extracted from each study: article information (title, year of publication, authors, journal name), sample characteristics (sample size, number of years teaching, % female, % ethnic minority, grade taught, country), measurement information (measure title and citation, response ranges, response anchors), and effect size information for the association between attitude and intervention responses (Pearson's *r*, *p*-values). For each included study, data was independently extracted by two coders (first and second author, first and third author). Of the data extracted that could be compared quantitatively, the average interrater agreement was 78.5% (range 51 to 100%). The remaining data were compared descriptively. All disagreements were resolved by consulting the original study report.

Risk for Bias Assessment

The risk for bias in all included studies was assessed per recommendations (Higgins et al., 72). Two common sources of bias were evaluated using a previously published assessment framework of low and high risk (Earnshaw et al., 46): selection bias and information bias.[1] Given that some studies may have a combination of risks, we added a moderate risk category in line with other assessment tools (Evans et al., 49). Selection bias reflects the degree of representativeness of the population. Selection bias was coded as low if the study employed random selection and if the response rate was high (at least 80%). The moderate risk category was used for convenience sample studies with 100% response rates or for studies where the response rate was high (> 80%) and the representativeness of the sample to the larger population was explicitly discussed by the authors. Studies with low responses were categorized as high risk for selection bias. Information bias reflects concerns with the measurement of key study variables. We assessed bias in measures of (a) attitudes and (b) intervention responses. Measures were deemed to have a low risk for bias if they were previously established, psychometrically valid and reliable, and reliability with the current study's sample was demonstrated. Moderate risk for bias indicated some modifications to established measures or the use of an established, psychometrically valid, and reliable measure that had questionable psychometric properties in the current study. Lastly, new measures not previously validated or the use of existing measures with questionable psychometric properties were coded as having a high risk for bias. Bias was coded independently by two reviewers. Interrater agreement was between 70.4 and 85.2% across the bias categories. Discrepancies were discussed. If coders could not reach a mutual agreement, a third reviewer was consulted to make the final decision (Fig. 2).

[1] In our preregistered protocol, we proposed examining confounding bias (i.e., whether observed outcomes could be contributed to other factors) but this form of bias was deemed less relevant to the review's research question about the strength of the association between antibullying attitudes and intervention responses. Thus, confounding bias was not assessed and not reported in the review.

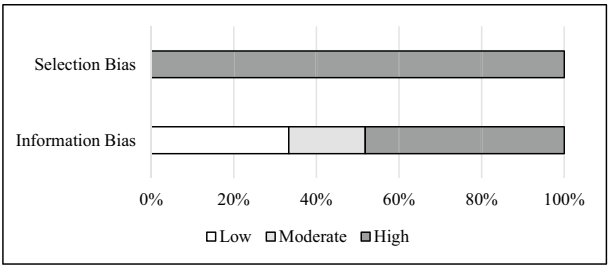

Fig. 2 Risk for bias of included studies

Analytic and Synthesis Plan

This systematic review includes a qualitative and quantitative analysis of the results. There was sufficient similarity in most of the measures used to assess attitudes and intervention responses across studies identified for inclusion in the review, allowing us to conduct a meta-analysis for the quantitative portion of the review. The remaining studies not included in the meta-analysis were subject to qualitative analysis, specifically a narrative summary of results.

We conducted random effects meta-analyses to account for differences in study characteristics (Cheung, 20). Further, because the assumption of independent effect sizes was violated, traditional meta-analytic strategies were deemed inappropriate (e.g., Hox, 76; Lipsey & Wilson, 93). Accordingly, we conducted a three-level meta-analysis given the hierarchical structure of the data with effect sizes nested within studies (Van Den Noortgate & Onghena, 138) using the recommended restricted maximum likelihood estimation (Hox, 76). A three-level model (Assink & Wibbelink, 3; Cheung, 20) considers multiple variance components: variance of the effect sizes extracted (level 1), variance between effect sizes from the same report (level 2; within-study heterogeneity), and variance between studies (level 3, between-study heterogeneity).

Effect size was calculated as the correlation coefficient (Pearson's *r*) between attitudes and intervention responses. Of the 27 studies, 16 reported the correlation coefficient. One study's measures were not sufficiently similar enough to be included in the meta-analysis, thus we did not contact the author for relevant data (Coffee, 22). We contacted the remaining 10 authors two times, 2 weeks apart, and received a response from 9 authors (90% response rate). The remaining study presented statistical information needed to calculate Pearson's *r* based on Peterson and Brown's (109) formula (Lojo Novo, 94). However, some effect sizes for this study were excluded in analyses given recommendations not to use the formula when the value of β falls outside the range of − 0.5 to 0.5 (Peterson & Brown, 109). We analyzed the data with the calculated effects included and excluded to compare the robustness of the results (see the "Sensitivity Analyses" section).

Before meta-analysis, we assessed whether higher scores on attitude measures reflected antibullying norms (i.e., bullying is wrong). If higher scores on the attitude measure reflected a probullying attitude, the direction of the correlation coefficient

(positive or negative sign) was inversed. Next, effect sizes were converted to Fisher's Z score.[2] We used the Q test (Cochran, 21) to test for the existence of heterogeneity and the I^2 test to assess the degree of heterogeneity with low, moderate, and substantial heterogeneity represented by 25%, 50%, and 75%, respectively (Deeks et al., 35; Higgins et al., 71; Huedo-Medina et al., 77). We examined one a priori source of heterogeneity (i.e., form of bullying).

During data extraction, we found two noteworthy aspects of methodological diversity in the outcome of interest. First, measures either assessed (1) retrospective reports of responses to bullying (i.e., how often they used a response; $k=7$ studies) or (2) hypothetical responses to bullying (i.e., intervention likelihood; $k=20$ studies). Second, there was considerable diversity in the type of intervention responses among the retrospective reports (e.g., discipline the bully, advocate assertion). Given the implications for our conclusion about the degree to which attitudes relate to specific intervention responses, separate analyses were conducted according to the measure language (hypothetical or retrospective) and according to the type of intervention response. This decision was bolstered by the significant Q test for the overall association between attitudes and responses (with hypothetical and retrospective reports combined ($Q=2291.04$, $p<0.001$) and the significant Q test for the association between attitudes and retrospective responses (with all types of responses combined; $Q=384.21$, $p<0.001$). Likewise, the substantial heterogeneity as indicated by the I^2 total values of 93.66% and 80.93% respectively suggested separate analyses were warranted.

We did not perform tests of publication bias due to the modest number of effect sizes included in each meta-analysis and existence of heterogeneity (Ioannidis, 79; Ioannidis & Trikalinos, 80). Because publication tests cannot distinguish between heterogeneity and publication bias, conducting a publication bias test on heterogeneous effect sizes may result in either a false positive or results that cannot be interpreted (Ioannidis, 79). After meta-analysis, Fisher Z-values were transformed back into correlation coefficients for interpretation and reporting purposes.[3] The effect size of the meta-analytically derived correlation coefficients was interpreted as follows: $r=0.10$ as small, $r=0.20$ as medium, and $r=0.30$ as large effect (Gignac & Szodorai, 61).

Results

Overview of Study Characteristics

Supplemental Table S1 provides an overview of the study characteristics of included reports ($n=27$; see Online Resources). Most studies were published in

[2] Fischer's Z was calculated in Excel prior to importing data into our statistical software using the Excel Function FISHER(). An online calculator was used to calculate the variances (vz) of Fisher's Z-transformed correlations (https://www.campbellcollaboration.org/research-resources/effect-size-calculator.html).

[3] Fisher Z was converted back to Pearson's r using the Excel Function FISHERINV().

peer-reviewed journals (63%, $n=17$) with the remaining reports from dissertations (37%, $n=10$). The studies that included sample size ($n=26$) had a range of 34 to 740 participants and an average of 216.7 participants. Many studies were conducted in the USA (59%, $n=16$), with the second most amount being conducted in Australia (11%, $n=4$). For studies that included demographics, all but one study had a majority of female participants (96%, $n=26$), and all had a majority of white participants ($n=11$). The exception to this pattern was Rocchino (116), where male participants were the majority at 67.2%. For studies who included participant age ($n=17$), the ages ranged from 18 to 75 years, with participants average age being 42 years. Teaching experience (from those studies that assessed experience, $n=21$) ranged from 0 to 40 years, with an average of 12.68 years. Teachers taught students across all grade levels, with the highest percentage being PK/K-12 at 74.1% ($n=20$), followed by primary school at 18.5% ($n=5$) and secondary school at 7.4% ($n=2$).

Overview of Study Measures

Supplemental Figures S1, S2, and S3 in the Online Resources provide an overview of the study measures.

Measures of Bullying Attitudes

Studies used a variety of measures to assess attitudes towards bullying (see Supplemental Figure S2). Although operationalization of the construct varied slightly across studies, each measure tapped into teachers' beliefs about bullying and their subjective evaluation of the outcome of bullying (i.e., evaluative judgments, Ajzen, 1) or their affective judgments capturing positive or negative feelings toward the behavior (Ajzen, 1). For instance, teachers were asked whether they believed bullying to be unfair, problematic, harmful, or serious (e.g., DeSmet et al., 40; Sultana et al., 128; Tremblay et al., 130). Other measures captured the extent to which teachers believed bullying to be just a normal part of going up or a relatively minor problem compared to all the other problems youth have (e.g., Gregus, 64; Troop-Gordon & Ladd, 133). These measures align with the cognitive dimension of attitudes (i.e., specific beliefs about a behavior, Ajzen, 1). Other measures assessed the affective dimension of attitudes, reflecting teachers' feelings about bullying. For instance, measures captured how concerned teachers were about bullying, how upset they would be about bullying, or how sympathetic or empathetic they would feel toward victims (e.g., Begotti et al., 8; Byers et al., 17; Psalti, 111; Williford et al., 147).

The most common measure of attitudes was the perceived seriousness of bullying ($n=16$), empathy toward victims of bullying ($n=14$), and normative beliefs about victimization and bullying (i.e., belief that victimization is normative) ($n=5$). Additionally, teachers were asked about their attitudes toward exclusion (Kollerova & Killen, 89), whether bullying is harmful (Sultana et al., 128), and whether they would

be upset by the bully's behavior ("contrariety"; Tremblay et al., 130). Some teachers were asked about the likelihood that they would dismiss the event (Rocchino, 116; Troop-Gordan & Ladd, 133), if they would focus attention on both the bully and victim ("humanistic attitude"; Şen & Doğan, 123), whether they see bullying as a problem (DeSmet et al., 40), how severe they find the bullying to be (Coffee, 22), the likelihood of having supportive attitudes toward victims (Williford et al., 147), whether they would have an uncompassionate attitude toward victims (Şen & Doğan, 123), and if they view the bullying as unfair behavior (Sultana et al., 128). Response options usually reflected the degree to which participants agreed/disagreed, with higher scores reflecting antibullying attitudes (i.e., bullying is wrong).[4]

Measures of Intervention Likelihood and Responses

Various hypothetical and retrospective measures were utilized in studies to evaluate teachers' intervention responses. Hypothetical measures were used to estimate intervention likelihood. Studies utilized the Bullying Attitudes Questionnaire (BAQ; Bauman & Del Rio, 4; Craig et al., 26; Yoon & Kerber, 152) ($n = 15$), the Handling Bullying Questionnaire (HBQ; Bauman et al., 5), the Bystander Intervention Model in Bullying (BIMB; Nickerson et al., 106), and vignettes (Dedousis-Wallace & Shute, 34). Teachers were asked to indicate the likelihood they *would* respond to bullying scenarios with response options generally ranging from not likely to very likely. Most of these studies simply asked whether they would intervene (Fischer et al., 54, 55), how likely it was that they would intervene at all (i.e., intervention likelihood), or how likely they would help (Eldridge & Jenkins, 47). One study (Şen & Doğan, 123) asked about the likelihood of using specific responses as measured by the HBQ including (1) advocating assertion to the victim, (2) working with the bully, (3) ignoring the situation, and (4) victim support.[5][6]

Only hypothetical reports provided effect sizes that were used to test our a priori expected source of heterogeneity (i.e., form of bullying) in the association between teachers' attitudes and intervention likelihood. Studies used vignettes depicting different forms of bullying including physical (e.g., hitting; Beebout-Bladholm, 7; Davis, 29; Psalti, 111; Williford et al., 147), verbal (e.g., threats, insults; Beebout-Bladholm, 7; Davis, 29; Psalti, 111; Williford et al., 147), relational (e.g., exclusion; Beebout-Bladholm, 7; Doherty, 42; Davis, 29; Fischer et al., 55; Kollerová & Killen, 89; Psalti, 111; Williford et al., 147), and cyberbullying (e.g., humiliating photos posted online; Eldridge & Jenksin, 47; Williford et al., 147). Other studies collapsed

[4] Some response options from several studies' attitude measure did not align in terms of higher values representing antibullying attitudes. Prior to meta-analysis, the sign of the correlation coefficient was inversed so that higher attitude values represented antibullying attitudes (see Table S2).

[5] Şen and Doğan (123) modified the Handing Bullying Questionnaire (HBQ) prompt language to reflect likelihood of intervening (how would they respond) with response options ranging from definitely would not to definitely would.

[6] 6Per Şen and Doğan (123) attitude measure description, "High scores were interpreted as indicating that teachers had optimal attitudes towards bullying" p. 49. Meaning that higher scores on the uncompassionate attitude measure reflected compassionate (i.e., optimal) attitudes.

forms of bullying into two categories: direct/overt versus indirect/covert. Direct/overt forms were confrontational in nature such as physical and verbal forms of bullying that were directed to the target (e.g., receiving a bloody nose, name-calling; Begotti et al., 8; Byers et al., 17; Dedousis-Wallace & Shute, 34; Dedousis-Wallace et al., 33). Indirect/covert bullying was categorized as exclusion or turning friends against a peer, meant to damage one's relationships often in a circuitous way (e.g., excluding a peer; Begotti et al., 8; Byers et al., 17; Dedousis-Wallace & Shute, 34; Dedousis-Wallace et al., 33).

The retrospective measures asked about how often teachers responded to bullying in specific ways. Studies utilized the Classroom Management Policies Questionnaire (CMPQ; Troop & Ladd, 131) ($n=3$), the Handling Bullying Questionnaire (Bauman et al., 5), and the Student Altercation Survey (Coffee, 22; based on Bullying Situations Identification Instrument; Hazler et al., 68). Intervention response options were worded to capture several actions. To ensure measures had adequate similarity, we reviewed the subscale items to identify areas of overlap that would enable us to conduct meta-analyses on specific intervention actions. This content analysis yielded 11 separate responses (see Supplemental Figure S3): (1) *advocate assertion to victims*; (2) *advocate avoidance to victims*; (3) *encourage independent coping*; (4) *victim support*; (5) *enlist other adults/higher authority*; (6) *discipline/punish bully*; (7) *work with bully*; (8) *involve parents of victims and bullies*; (9) *separate students*; (10) *involve peer bystanders*; and (11) *ignore*. Response options generally ranged from *never* to *often*. Only responses with effect sizes from at least 2 studies were included in the quantitative analysis (i.e., meta-analysis). If not, results were discussed in the qualitative analysis portion of the review.

Qualitative Analysis of Effect Sizes Excluded from Meta-analysis

A few effect sizes from different studies were excluded from the meta-analysis but are qualitatively described herein. Some effect sizes were excluded due to a lack of measurement similarity (DeSmet et al., 40; Sultana et al., 128). For instance, DeSmet and colleagues (40) had the only study examining teachers' retrospective reports of "ignoring the situation." They found that as teachers' antibullying attitudes increased, teachers' frequency of ignoring the situation decreased ($r=-0.158$, $p=0.003$; DeSmet et al., 40). Other effect sizes excluded from the meta-analysis due to measurement dissimilarity were reported in Sultana and colleagues' (128) study. They found no association between antibullying attitudes and how often (within the last 3 months) teachers would talk to bullies without placing blame (rs range 0.02 to 0.11, ps <0.331).

Effect sizes from two other studies (Beebout-Bladholm, 7; Lojo Novo, 94) were excluded from the meta-analysis due to issues with converting available statistics from each report to the effect size information necessary for meta-analysis. Specifically, we followed recommendations not to convert β to Pearson's r when β is greater than ± 0.5 (Peterson & Brown, 109). In both studies, attitudes were positively and significantly related to teachers' likelihood for intervening in verbal and relational forms of bullying (βs $>=0.51$, ps <0.001; Beebout-Bladholm, 7), in cyberbullying (βs >0.59, ps <0.001), and in-person bullying ($\beta=0.53$, $p<0.001$; Lojo Novo, 94).

Two studies (Coffee, 22; Şen & Doğan, 123) were excluded from meta-analysis due to a lack of similarity in how responses were measured. Şen and Doğan (123) asked teachers about the likelihood of using different responses (compared to other hypothetical measures that asked about intervention likelihood in general). Teachers' antibullying attitudes were positively associated with their likelihood of working with the bully ($rs > 0.14$, $ps < 0.05$) and negatively associated with the likelihood of ignoring the situation ($rs > -0.19$, $ps < 0.001$). Other associations between hypothetical responses differed depending on the attitude measure in their study: a humanistic attitude was positively related to the likelihood of working with victims, enlisting other adults, and disciplining/punishing the bully (rs ranged 0.22 to 0.47, $ps < 0.05$). However, an uncompassionate attitude[7] was negatively related to the likelihood teachers would work with the victim ($r = -0.12$, $p < 0.05$) and unrelated to the likelihood of enlisting other adults or disciplining/punishing the bully (rs 0.10, −0.11, respectively).

Coffee (22) had teachers read four different hypothetical scenarios depicting bullying situations. Teachers indicated their perceptions of the severity of the problem and their intervention responses ("In my current role, I would primarily…") using a forced choice design. Odds ratio analyses examined the likelihood of teachers involving other school personnel ("…such as counselor, vice principal or security") versus the other response options. In general, there was no difference in the likelihood of involving school personnel versus no intervention, educating students involved, or contacting parents. Only a few significant differences in likelihood emerged: teachers were more likely to involve other school personnel than to discipline ("give a verbal reprimand, time-out, or classroom service") or educate students involved ("Teach the students involved a skill such as mediation, conflict management, or anger management") as their perceptions of the severity of the situation increased. Notably, this difference emerged for the two bullying scenarios that depicted physical violence or the threat of physical violence.

Meta-analysis: Associations Between Antibullying Attitudes and Intervention Responses

Retrospective Reports of Intervention Responses

Effect sizes included in the meta-analyses from retrospective reports are presented in Supplemental Table S2 in the Online Resources. Unsurprisingly, when all types of responses were combined in the same model, the association between antibullying attitudes and intervention was not significant, $r = 0.05$, $p = 0.174$ ($Q = 384.21$, $p < 0.001$, see Supplemental Table S4 for all results). Subsequently, each intervention response with at least $k = 2$ studies was analyzed separately. Teachers' antibullying attitudes were significantly and positively related to disciplining/punishing bullies ($r = 0.16$, $p = 0.001$), victim support ($r = 0.16$, $p = 0.027$), parental involvement ($r = 0.10$, $p < 0.001$), and involving peer bystanders ($r = 0.20$, $p = 0.003$). This means that the more teachers viewed bullying as problematic, the more often they punished bullies, supported victims, involved

parents, and involved peer bystanders in addressing the issue. The magnitude of these effect sizes ranged from small to medium (see Fig. 3).

Antibullying attitudes were negatively related to advocating avoidance to the victim ($r = -0.14$, $p < 0.001$; small effect) and encouraging independent coping ($r = -0.25$, $p = 0.006$; medium effect). Thus, the more teachers viewed bullying as problematic, the less likely they were to tell victims to ignore classmates picking on them or deal with the problem on their own (see Fig. 4).

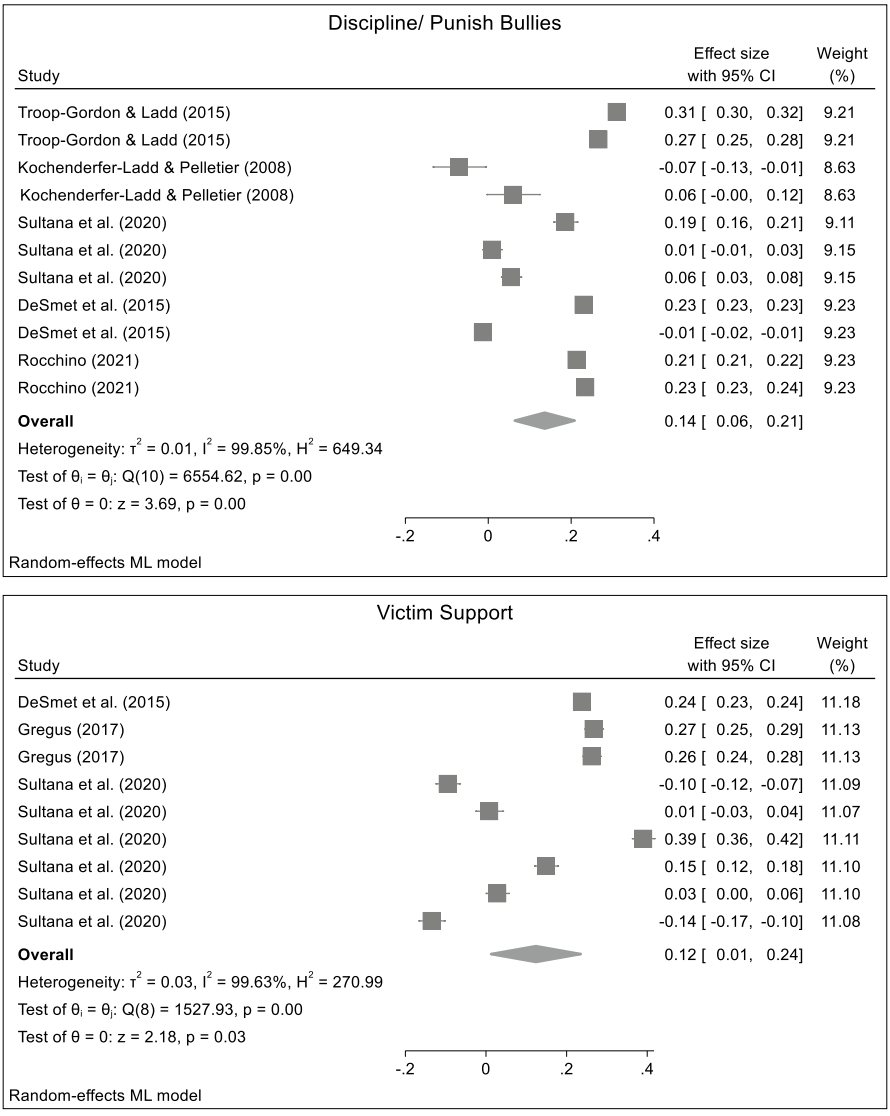

Fig. 3 Forest plots for intervention responses positively associated with antibullying attitudes

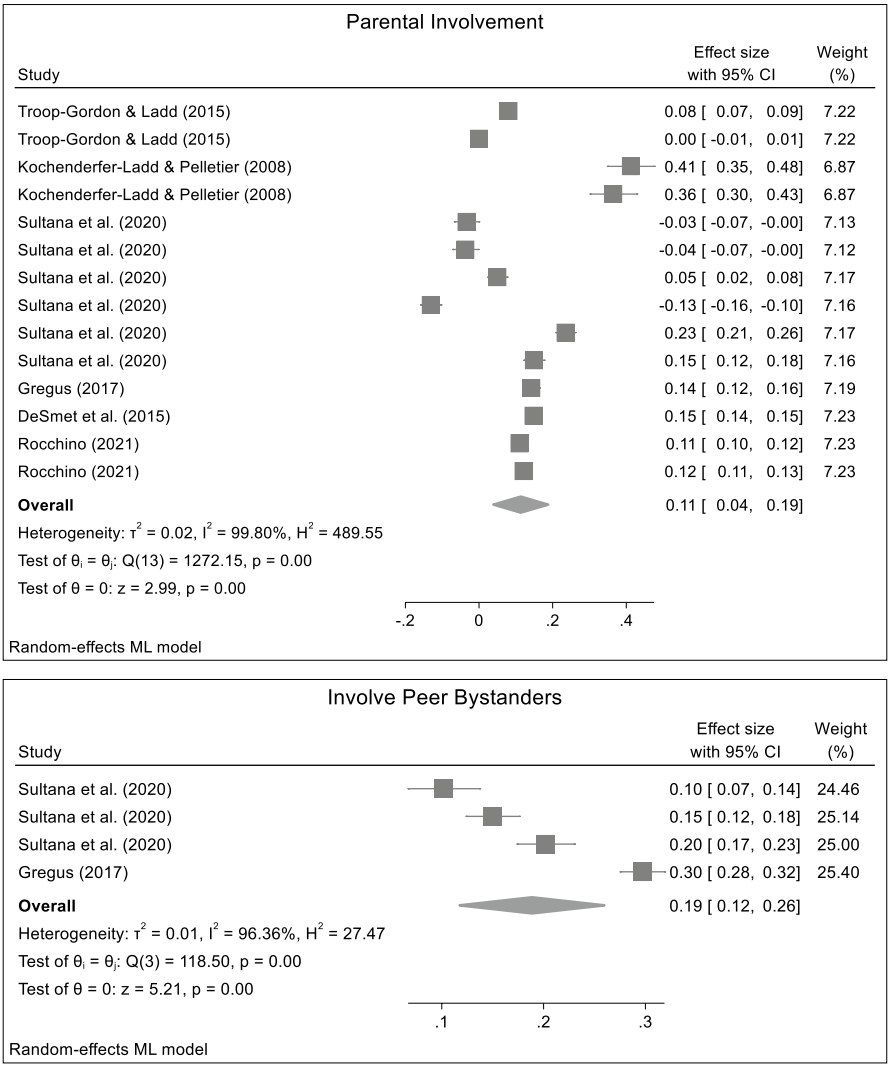

Fig. 3 (continued)

Lastly, teachers' attitudes toward bullying were not significantly related to the extent to which they advocated assertion ($r \cong -0.05$, $p = 0.547$), enlisted other adults ($r = 0.17$, $p = 0.265$), or separated students ($r = 0.00$, $p = 0.959$) (see Fig. 5).

Intervention Likelihood in Hypothetical Scenarios

The overall association between teachers' antibullying attitude and their intervention likelihood was $r = 0.48$, $p < 0.001$. Thus, higher antibullying attitudes were associated with a greater likelihood that teachers would respond in hypothetical

bullying situations. There was substantial heterogeneity within this sample of effects ($Q = 544.96$, $p < 0.001$, I^2 total = 88.14%), justifying moderation analyses with our a priori variable: form of bullying. We conducted two separate multilevel meta-regression analyses. In the first model, verbal, relational, and cyberbullying forms were compared to physical bullying (reference group). In the second model, covert/indirect bullying was compared to overt/direct bullying (reference group). Results reveal that the strength of the association between attitudes and intervention likelihood did not differ between physical bullying and verbal ($p = 0.081$), relational ($p = 0.645$), or cyberbullying ($p = 0.765$). Lastly, the strength of the association between antibullying attitudes and intervention likelihood did not differ between covert/indirect forms and overt/direct forms, $p = 0.436$ (see Fig. 6).

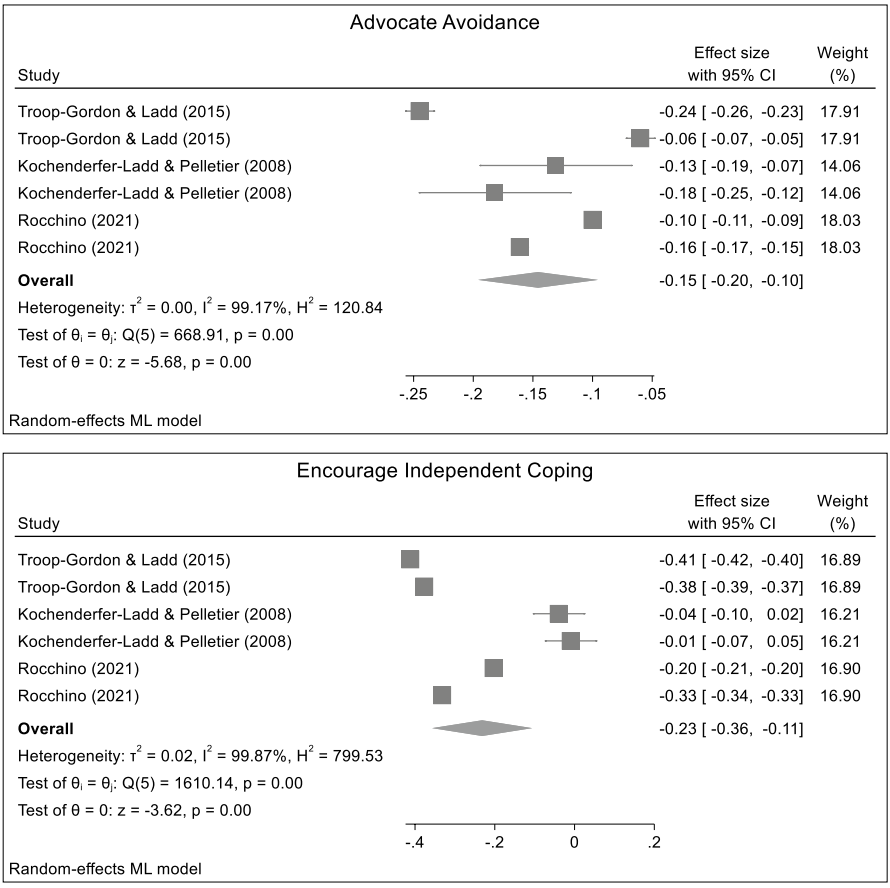

Fig. 4 Forest plots for intervention responses negatively associated with antibullying attitudes

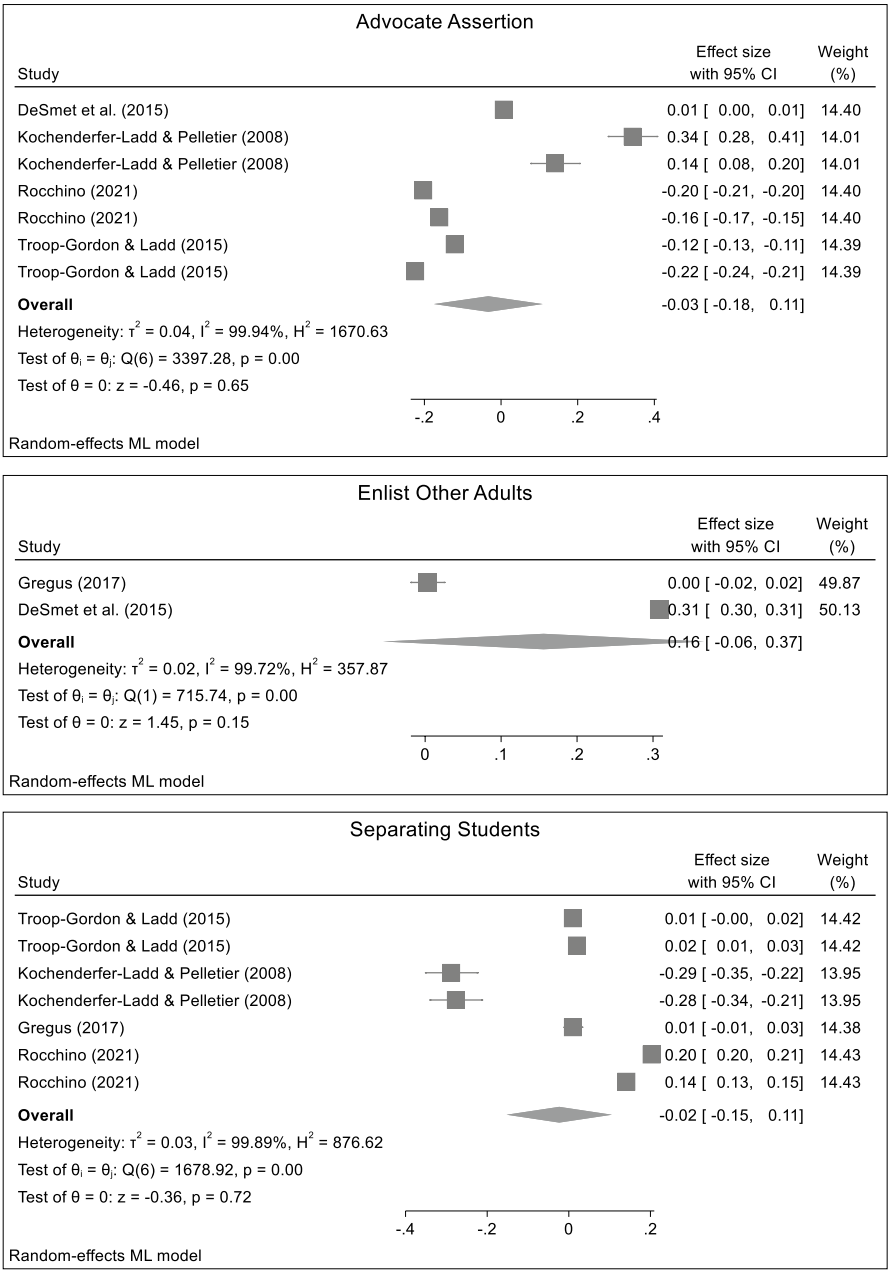

Fig. 5 Forest plots for intervention responses not associated with antibullying attitudes

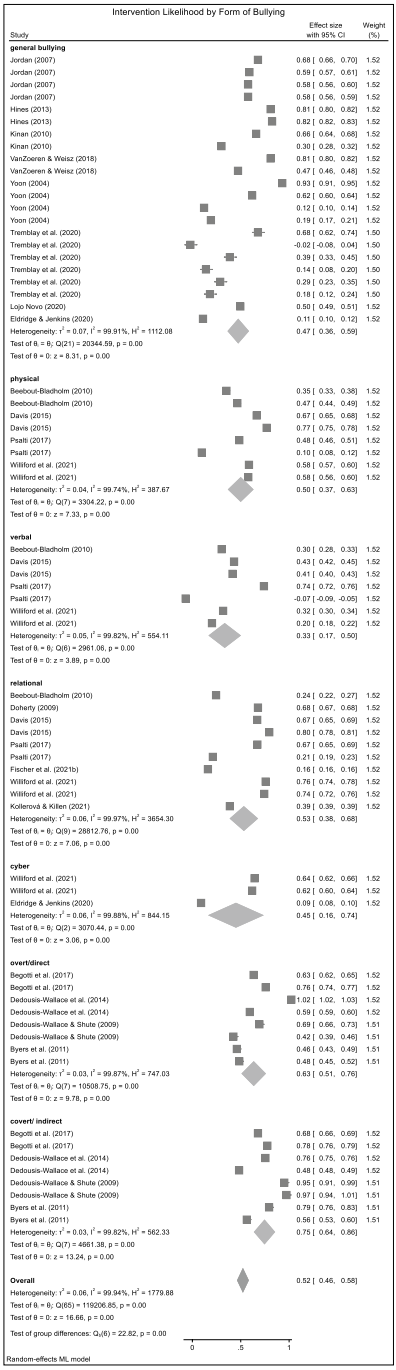

Fig. 6 Forest plots for association between antibullying attitudes and intervention likelihood in hypothetical bullying scenarios

Sensitivity Analyses

We assessed the robustness of our results with a sensitivity analysis. We re-ran models excluding calculated effect sizes. The pattern of the results did not change for the overall model examining the association between attitudes and hypothetical intervention responses ($r = 0.48$ including calculated effect sizes, $r = 0.49$ excluding calculated effect sizes) nor for the analysis examining the form of bullying as a moderator.

Risk for Bias

The selection and information bias of the included studies are represented in Fig. 2. Concerningly, 100% of included studies were coded as high risk for selection bias, meaning that the representativeness of the included studies' samples to the population is in question. Most often, studies consisted of convenience samples or samples with low response rates. As for information bias, almost half (48.1%) of studies had a high risk for information bias with an additional 18.5% categorized as moderate risk for information bias.

Discussion

This systematic and meta-analysis review was guided by the TPB (Ajzen, 2) and built from other work investigating factors related to teachers' intervention responses (e.g., Fischer et al., 54; van Aalst et al., 137). We examined the association between bullying attitudes—a potentially malleable factor that can be targeted through intervention efforts—and teachers' intervention responses. The strength of the association between teachers' antibullying attitudes and their intervention responses differed depending on whether the response measure was retrospective (e.g., what have they done, how often they use that response) or hypothetical in nature (i.e., intervention likelihood). In general, attitudes were more strongly linked to intervention likelihood in hypothetical situations. Teachers' antibullying attitudes were associated with (some) types of intervention responses.

Antibullying Attitudes and Intervention Responses

Responses from teachers to perpetrators and victims—which are inherently reactive—can range along a spectrum from passive/indirect to active/direct (e.g., Garandeau et al., 59; Troop-Gordon & Quenette, 134; van Gils et al., 139). Passive strategies focused on victims include suggesting the victim ignore or avoid the situation, assert themselves, or figure out a way to independently cope (Burger et al., 15; Rigby, 112; Troop-Gordon & Ladd, 133). Active responses include behaviors meant to curb further bullying and victimization such as reprimanding perpetrators (Bauman et al., 5; Burger et al., 15; Rigby, 112; Troop-Gordon & Quenette, 134). This active (i.e., direct) response reflects a confronting approach

in which the perpetrator is made to understand that their bullying behavior was wrong, violated school rules, and will not be tolerated (e.g., Garandeau et al., 59; Olweus, 108; see also authoritarian-punitive strategies discussed by Seidel & Oertel, 122). In contrast, a non-confronting approach aims to increase the perpetrator's empathy for the victim by discussing the painfulness of the situation without blaming the perpetrator which should, theoretically, reduce the likelihood that perpetrators will react defensively (e.g., Method of Shared Concern, Pikas, 110; Support Group Model, Robinson & Maines, 115; see Rigby, 112 for review). Recent work suggests that a combination of both approaches—condemning the behavior and raising perpetrators' empathy—may increase perpetrators' intent to stop bullying (Johander et al., 83).

Both active and passive responses were included in this review. Results from the meta-analysis suggest that antibullying attitudes are positively associated with select active responses and negatively associated with select passive responses. For instance, teachers' antibullying attitudes were significantly and positively related to disciplining/punishing bullies, supporting victims, parental involvement, and involving peer bystanders. Thus, as teachers' antibullying attitudes increased, they were more likely to punish bullies, support victims, and involve parents and peer bystanders. With acknowledgement of the small to medium effect size of these results, it is still promising to see that antibullying attitudes related to intervention actions with robust support in the literature.

Teachers most often endorse punishing bullies via verbal reprimands, loss of privileges, detentions, or suspensions which are meant to deter future bullying (Bauman et al., 5; Burger et al., 15; Rigby & Bauman, 113; Sairanen & Pfeffer, 119). Indeed, Ttofi and Farrington's (135) meta-analysis found that firm discipline methods were an effective antibullying program component related to reductions in victimization and bullying at school. Firm discipline against the bully may also impact students not directly involved in the bullying episode. For instance, Demol and colleagues (37) found that when teachers disciplined the perpetrator in hypothetical scenarios (i.e., called out the student bullying and made it clear such behavior was not allowed), youth indicated greater willingness to report bullying to a teacher. Thus, teacher responses have the capacity to not only address the immediate bullying episode but also contribute to the classroom ethos around student reporting of bullying experiences. That said, it is worth noting other evidence which suggests that non-confrontational (e.g., arousing empathy for the victim without blaming the bully; Garandeau et al., 60) and confrontational approaches (e.g., condemning the bullying behavior and explicitly blaming the perpetrator) were associated with bullies' intentions to stop bullying. Indeed, research suggests the combination of the two—confrontational and non-confrontational—may be the most successful (Johander et al., 83). Nonetheless, if punishing bullies is an important action, results suggest that increasing teachers' antibullying attitudes may increase their use of this response.

Encouragingly, teachers' attitudes were positively related to providing victim support. This type of response is considered an essential component of antibullying efforts (see Demaray & Malecki, 36 for review) given its importance for students'

adjustment (Flashpohler et al., 56; Yoon & Kerber, 152). It is promising to see that supporting victims increased as teachers' antibullying attitudes increased.

Parental involvement in bullying is another key intervention response (van Niejenhuis et al., 142). Indeed, school programs which involved parental involvement, through parent-teacher meetings and training, significantly decreased both bullying behavior and reports of victimization in school settings (Ttofi & Farrington, 135). Creating cooperation between teachers and parents decreases the chances of bullying scenarios being missed (Fekkes et al., 53; van Niejenhuis et al., 142) and is often seen as an active effort made by the teachers to help end the victimization occurring (Troop-Gordan & Ladd, 133). Thus, it is promising to find that overall, parental involvement tends to increase as teachers' antibullying attitudes increase.

Given group processes inherent in bullying (Salmivalli, 120), involving peer bystanders can help change the dynamics within the classroom that may contribute to bullying (e.g., Estell et al., 48; Farmer & Xie, 50; Farmer et al., 52; Saarento & Salmivalli, 117). Reframing perceived bullying norms inside the classroom through peer support methods such as "buddy approaches" (Tzani-Pepelasi et al., 136) allows students to forge greater connections within the classroom, positively impacting the school climate and academic outcomes while also decreasing the occurrence of antisocial behaviors. These peer-support strategies and reframing of bullying norms may decrease bullying by removing the social gains for the behavior (Saarento & Salmivalli, 117). Accordingly, teachers' usage of supportive-cooperative intervention strategies ("including all pupils in the class, cooperating with others, establishing actions at class and/or school level," Wachs et al., 146; p. 652) may be a better deterrence to bullying in the short- and long-term as compared to more authoritarian-punitive or supportive-individual strategies. Results of the meta-analysis suggest that increasing teachers' antibullying attitudes may be a viable way to increase their use of peer bystanders to address bullying.

We also found that teachers' antibullying attitudes were negatively associated with advocating avoidance to victims and encouraging independent coping. These are considered passive responses as they put the onerous on the victim to handle and cope with the situation by themselves (Troop-Gordon & Ladd, 133). Teachers may advocate avoidance thinking that ignoring the situation will help it go away, yet this strategy can have the opposite effect by reinforcing the bullying and increasing the likelihood of negative social repercussions for the victim (Hektner & Swenson, 69). Additionally, while encouraging independent coping strategies comes across as productive, it often yields negative student perceptions of teachers and increases the chances of the bullying continuing unresolved (Kochenderfer-Ladd & Pelletier, 88). Thus, it seems promising that the more teachers viewed bullying as wrong, the less likely they were to use these specific passive responses.

Interestingly, the results of the meta-analysis indicate no significant associations between teachers' antibullying attitudes and the following responses: advocating assertion, enlisting other adults, or separating students. Assertiveness is considered a problem-solving strategy favored by youth themselves (Camodeca & Goossens, 18; Craig et al., 27) that is a key component of social skills training interventions shown to reduce victimization (e.g., DeRosier, 39; Fox & Boulton, 57; Sharp & Cowie, 125). Teachers may recognize the benefits of assertiveness for reducing victimization

but may be wary of encouraging assertiveness if they think students may misinterpret that encouragement as permission to retaliate, which could escalate the situation (Kochenderfer & Ladd, 87; Troop-Gordon & Ladd, 133). Our analysis indicates that teachers' antibullying attitudes are not linked with how often they encourage students to assert themselves when picked on. Although we focused on intervention responses, enhancing assertiveness and other social-emotional competencies more generally (e.g., via social-emotional learning programs; Smith & Low, 126) may still help to prevent bullying or better equip bystanders to intervene in future bullying, without the risk of escalating an already existing bullying incident.

Antibullying attitudes were unrelated to enlisting other adults such as referring victims to further evaluation or to the school counselor (DeSmet et al., 40; Gregus, 64). There are two possible explanations for this finding. First, as there were only two effect sizes from two separate studies included in this meta-analysis, this warrants caution in the interpretation of the result. Second, enlisting appropriate personnel (e.g., school counselors) may not be required for every bullying situation. Referral to school personnel may be utilized when the original intervention method fails (Johander et al., 84) or when teachers do not know how else to handle the situation and want someone else to deal with it (Burger et al., 15). It is possible that antibullying attitudes may be related to teachers' willingness to involve other adults when it is warranted but the current analysis suggests attitudes are not related to how often teachers use this strategy.

Additionally, teachers' attitudes were not significantly related to whether they separated students. Separating victims and perpetrators is a recommended strategy for reducing bullying in the classroom (Kochender-Ladd & Pelletier, 88; Troop-Gordon & Ladd, 133). Yet, separating students may not always be possible, which may explain why attitudes were not linked to the frequency with which teachers used this strategy (e.g., *almost never/not at all* to *almost always/always*; Gregus, 64; Troop-Gordon & Ladd, 133). Similar to the results for enlisting other adults, teachers may not view separating students as necessary for every bullying situation; hence, their attitudes toward bullying may be unrelated to how *frequently* they use this approach.

Antibullying Attitudes and Intervention Intentions: (No) Moderation by Form of Bullying

The overall association between attitudes and intervention intentions was positive and considered a large effect. This result is in line with the TPB and other research evidence of links between attitudes and intervention intentions (Ajzen, 2; McDermott, 97; Steinmetz et al., 127). Counter to expectations, the strength of this association did not differ by form of bullying. This was the case for analyses comparing physical bullying (reference group) to verbal, relational, and cyberbullying forms and for analyses comparing covert/indirect forms to overt/direct forms. Prior research suggests physical forms are often viewed as more problematic (Dawes et al., 31; Maunder et al., 96; Mishna et al., 101) but the results of our analysis suggest form does not moderate the strength of the association between attitudes and intervention intentions.

Implications for Research and Practice

Target Antibullying Attitudes in Interventions

The results of our meta-analysis generally suggest that the more teachers believe bullying is wrong and a serious problem, the more willing they are to intervene (i.e., intentions to respond). In addition, attitudes toward bullying were related to (some) intervention responses as reported retrospectively by teachers. Combined, this evidence suggests teachers' attitudes may be a viable intervention target. These findings have clear practical implications. Efforts should be made to ensure that teachers are adequately informed about the (potentially long-lasting) consequences of victimization. For example, preservice teachers who learned about bullying in their courses were more likely to view bullying as a serious problem and to have empathy for victimized students (Dawes et al., 31). Although improving teachers' attitudes toward bullying could shift their actions (e.g., intervention efforts), according to the TPB (Ajzen, 2), behavior is a function of both one's intention to execute the behavior (i.e., intervene in bullying), subjective norms for intervention, and teachers' perceived behavior control (i.e., self-efficacy) to perform the behavior. That is, even if teachers feel strongly that bullying is a serious problem, their level of intervention will also depend on the extent to which they feel they are equipped to stop bullying. Likewise, teachers' self-efficacy to intervene in bullying may not be completely independent from their attitudes toward bullying—teachers who feel like bullying is a normative experience may also feel less capable of stopping bullying (e.g., bullying will occur no matter what they do).

Efforts should be made to support teachers—both in-service and preservice—in their skill development to handle bullying and victimization (Boulton et al., 13; Dawes et al., 30; Yoon & Bauman, 151). In addition to providing information about how to intervene in bullying during initial teacher training or professional development, studies have found that interactive elements (e.g., examining/discussing case studies of bullying, group discussion of and reflection on previously used intervention strategies) can improve teacher self-efficacy (e.g., Benítez et al., 9; Dedousis-Wallace et al., 33; Greytak et al., 65; Newman-Carlson & Horne, 104). For example, preservice teachers' preparation could focus on learning about the severity of bullying and discuss possible strategies for specific case studies whereas in-service teachers could engage in group discussions of real-life bullying situations they have encountered and intervention strategies they have personally used that were successful.

While bolstering teachers' skills in bullying intervention responses is clearly needed, a myopic focus on intervention alone is insufficient to deal with bullying at school. Given that bullying can continue even under ideal situations (i.e., effective bullying interventions implemented with fidelity; Johander et al., 84) which subsequently can exacerbate problems for remaining victims (i.e., healthy context paradox; Garandeau & Salmivalli, 58; Huitsing et al., 78; Laninga-Wijen et al., 90), an equal emphasis on prevention is also warranted. One worthwhile direction is to integrate social and emotional learning (SEL) practices into everyday classroom life (Divecha & Brackett, 41; Mahoney et al., 95) given robust evidence of

SEL programs' effectiveness at improving social and emotional skills and reducing problematic behavior (Domitrovich et al., 43; Durlak et al., 45). Equipping youth with the skills they need to effectively navigate peer interactions may reduce bullying and victimization, thereby reducing the need for teachers to intervene. In seeking to prepare preservice and in-service teachers to handle bullying at school, training in both intervention responses and prevention efforts is likely to yield the most promising results for youth and the school community.

Measuring Intervention Responses

One implication of this review for future research is that how we measure teachers' bullying intervention efforts matters. A key concern with the studies included in this review was the high degree of information bias present in the measures. The field is currently grappling with the best way to assess teachers' responses (e.g., Bauman et al., 6; van Gils et al., 139). Measures have used either hypothetical scenarios, teachers' self-reports (Bauman et al., 5; Kollerová & Killen, 89; ten Bokkel et al., 129), or student-reports of teachers' responses (Demol et al., 38). From the lens of ascertaining the cognitive consistency in thoughts and behavioral intentions as outlined by the TPB, using teacher reports and assessing teachers' responses to hypothetical scenarios is appropriate and serves as a useful test of the theory's tenets (Ajzen, 2). However, if the question is about the extent to which intervention responses translate into effective antibullying practices, then assessing students' perceptions of their teacher holds value. Afterall, classrooms where students see their teachers as having strong antibullying attitudes tend to have lower rates of bullying (Veenstra et al., 143). Clarifying how these constructs impact students' adjustment in the classroom is fundamental to work in this area.

A future direction for the field is focusing on the disconnect between teachers' *willingness* to respond versus their *actual* responses which may reflect social desirability bias (Campaert et al., 19). Teachers may *want to* or *think they will* respond but may struggle to do so consistently and effectively. Aspects such as differences in the frequency and effectiveness of interventions along with the uniqueness of each bullying event—necessitating individualized responses—further complicate the measurement of intervention responses.

An additional measurement concern is the response options for intervention measures. On the one hand, if a teacher indicates they are frequently or always responding to bullying, that suggests a high rate of bullying in the classroom. This could be because of the configuration of students in that class, or it could indicate the teacher's ineptitude at handling bullying effectively. On the other hand, a teacher who does handle bullying well may only need to respond a few times (i.e., infrequently) in order to help the situation and reestablish control. And yet, in a measure of how frequently teachers use these behaviors, the first teacher—depending on how the measure is worded—could look like the "better" teacher.

Given how painful it can be for victims when teachers ignore their plight (e.g., Bjereld et al., 11), it is important that teachers respond in some way. There remains, however, an important question—specifically, *how* should teachers respond? As Bauman and colleagues (6) pointed out, more research is needed on "which

responses are most effective for which students under what conditions" (p. 8). Relatedly, additional research is needed on cases where bullying continues despite targeted interventions (i.e., "challenging" cases; Salmivalli, 121). Not all intervention responses are created equal: strategies differ in their rationales and their effectiveness (Rigby, 112), and continued work is needed to address these questions. How the field measures this construct—intervention responses—is fundamental to the conclusions drawn about teachers' readiness to address this all-to-common peer experience.

Reducing Risk of Bias

A second research implication of this review is the need to reduce the risk of bias among studies in this field given the relatively high risk of bias found among the studies included in our review. Other reviews on bullying intervention likelihood and responses from teachers have reported similarly low quality of studies. For instance, the majority of studies (24 out of 34) evaluated for quality in Fischer and colleagues' (54) systematic review had low or very low quality. Similarly, of the 75 studies identified by van Aalst and colleagues (137) for their review, only 25 scored high enough on the quality assessment to merit further discussion. Relatedly, in the meta-analysis by van Verseveld and colleagues (141), the methodological quality of 6 of the 13 included studies was rated as weak. Notably, other reviews focused on bullying with student samples report a similar high risk of bias (e.g., Ng et al., 105). Thus, while the degree of risk of bias in our review is in line with other reviews' quality assessments, it is nonetheless concerning for the field.

We offer a few reasons for—and subsequent solutions to address—the high levels of information bias and selection bias from studies in our review. First, as aforementioned above in our discussion of measures, information bias was a considerable concern for some studies included in this review. Studies with high risk either used new measures not previously validated or existing measures with questionable psychometric properties. The use of new measures has merit when existing measures insufficiently capture the construct in question. That said, it is important for researchers to follow measurement development guidelines (Holmbeck & Devine, 74). As evidenced by the wide array of measures included in this study, measurement development efforts may be needed to create assessments of bullying attitudes (perhaps that reflect both evaluative and affective judgments) and specific bullying intervention responses that are comprehensive, valid, and reliable while also balancing feasibility and utility value in studies with teachers. For instance, no single retrospective report measure assessed all types of teacher intervention responses included in our meta-analysis (See Supplemental Figure S3 in Online Resources). This review highlights a critical need for improving measures of bullying attitudes and intervention responses to enhance the quality of future research on this important topic. We hope our review inspires subsequent measure development efforts that can result in high-quality measures for use in future investigations.

The second concerning issue was selection bias. Studies with low responses were categorized as high risk for selection bias given that low response rates cast doubt on the representativeness of the sample. One possible reason for low response rates

may be due to the population of interest: teachers. As noted by Jerrim (82), "teachers are a busy professional group who already have a lot of paperwork to complete and are increasingly being asked to participate in research. Thus, in turn, it makes it challenging to get teachers to complete surveys, particularly those that contain many questions" (p. 3). How can we best tackle this challenge? A first step should be shifting sampling methods away from convenience samples to random sampling approaches (e.g., cluster sampling approach). Second, given that low response rates are still problematic even under ideal sampling approaches (i.e., random sampling), strong recruitment efforts are needed to encourage participation (e.g., incentives, Robbins et al., 114). Third, it is incumbent upon researchers to design teacher surveys using psychometrically robust measures that are comprehensive enough to reflect the phenomenon in question without overburdening teachers as they deal with their job demands (Jerrim, 82). Given that our conclusions depend on the quality of our data, it is essential that we optimize our measures to reduce the burden on teachers and provide incentives to recruit representative teacher samples.

Strengths, Limitations, and Future Directions

We examined a critical question—how teachers' antibullying attitudes relate to bullying intervention—with a thorough methodology (systematic and meta-analytic review). That said, there are limitations to acknowledge. First, caution is warranted when extrapolating these results given the high levels of selection bias in these studies. Specifically, as aforementioned, every study was judged to have a high selection bias, meaning the representativeness of the population of in-service teachers is in question. Almost all studies had a majority of female teachers but this is less concerning as it reflects the gender distribution of teachers from studies included in the review (World Bank Group, 148, 149). More concerning is the fact that most studies in this meta-analysis come from W.E.I.R.D countries (Western, Educated, Industrialized, Rich, Democratic; Henrich et al., 70) which threatens the external validity (i.e., generalizability) of the results. Clearly, more representative samples are needed. The post-pandemic education landscape may make school-based research more challenging, but our ability to support teachers in their efforts to support students hinges on the quality of this research.

This review is also limited to studies published until 2022 when we performed our continuous search. As such, our results do not reflect more recent empirical evidence of the links between teachers' attitudes toward bullying and intervention likelihood or retrospective reports of intervention responses. As additional evidence emerges, it will be important to conduct updated meta-analyses to ascertain whether the patterns found in our analysis remain the same with more recent work.

Additionally, despite finding substantial between-study heterogeneity for some models (see Supplemental Table S4), we did not investigate sources of variance between studies. This decision was rooted in recommendations to adhere to prespecified characteristics identified in our registered review protocol and avoid post hoc analyses, especially when the number of studies included in the analyses is low (Deeks et al., 35). That said, it will be important for future meta-analyses testing a larger pool of studies and effect sizes to propose key study characteristics (e.g.,

sample characteristics like years of teaching experience and teacher demographics like gender or race) that may account for potential variance between studies.

Another limitation of this review is that it does not address (1) whether intervention actions were effective in addressing bullying and (2) which responses—or combination of responses—were most effective. Although it is essential to understand how teachers' attitudes toward bullying relate to their (likelihood of) intervention and actual use of intervention responses, not all responses are equal. More work is needed to understand how teachers' responses relate to students' outcomes such as their victimization experiences in the classroom (e.g., Troop-Gordon & Ladd, 133). Some work has been done in this area (e.g., Burger et al., 16; Wachs et al., 146) which provides valuable insight into the potential effectiveness of different approaches. Relatedly, including students' own perceptions of teachers' responses to bullying may also be worthwhile (e.g., Burger et al., 16; van Gils et al., 140; Wachs et al., 146).

Lastly, the current review does not address how other factors could impact teachers' attitudes. For example, the gender/sex of both the teacher (e.g., Holt & Keyes, 75; Shahrour et al., 124) and the involved students (e.g., Birkinshaw & Eslea, 10) could be related to teachers' attitudes toward bullying. In addition, teachers' attitudes in response to a specific bullying incident could be related to their relationship with the student(s) involved. For instance, previous research has found links between student–teacher conflict and aggression over time (Lee & Bierman, 91). Future research should account for these individual and relationship characteristics to better understand teachers' intervention responses.

Conclusion

Bullying is a public health crisis (Gladden et al., 63) and teachers are key agents in efforts to reduce bullying and victimization at school (Ttofi & Farrington, 135; Yoon & Bauman, 151). Given their critical role, researchers have focused on ways to better prepare and support teachers in their bullying intervention responses. Guided by the TPB (Ajzen, 2), this systematic and meta-analytic review examined the extent to which teachers' antibullying attitudes relate to their intervention responses. The answer: it depends. Antibullying attitudes were strongly related to intervention likelihood in hypothetical bullying scenarios. In contrast, the association between attitudes and teachers' retrospective reports of intervention responses varied. Together, these results suggest that teachers' attitudes toward bullying may be a useful intervention target but addressing attitudes alone is not enough. We need to shift teachers' attitudes toward bullying, their skills to address bullying situations and create school environments where teachers and students feel safe and supported.

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Data Materials and/or Code Availability Data and syntax are available on OSF (https://osf.io/428vd/).

Declarations

Ethics Approval No ethnical approval is required for this review.

Conflict of Interest The authors declare no competing interests.

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*Included in meta-analysis †Included in review but excluded from meta-analysis

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