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ORIGINAL ARTICLE

Association between attitudes toward violence and violent behavior in the school context: A systematic review and correlational meta-analysis

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Abstract
Background/Objective: Both theoretical proposals and empirical work point to a common concurrence between attitudes toward school violence and violent behavior. Studies often address this issue superficially or within intervention programs. Our objective is to describe the results of a systematic review and to conduct a meta-analysis exploring these associations. *Method:* A systematic review was conducted in the main databases. Effect sizes were calculated and synthesized using random-effects meta-analysis to estimate the relationship between attitudes toward violence and school violence. A meta-regression was performed for the moderator analysis of sex and age. *Results:* The literature search strategy produced 12,293 articles. The review process produced a final result of 23 studies. Our results estimate a significant positive relationship (r =.368 $p < .001$; 95% *CI* [.323, .412]) between attitudes toward violence and school violence in children and adolescents. *Conclusions:* This study allows us to quantify with an adequate degree of specificity the attitude-behavior relationship in the school context. These results may facilitate future researchers to design programs that address this specificity in order to improve school climate. More research is needed using validated instruments to further specify the type of attitudes that have the greatest influence on the manifestation of school violence.

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PALABRAS CLAVE
Actitudes;
Conducta;
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Metaanálisis

Asociación entre actitudes hacia la violencia y conducta violenta en el contexto escolar: Revisión sistemática y meta análisis correlacional

Resumen
Antecedentes/Objetivo: Las propuestas teóricas y trabajos empíricos apuntan una concurrencia entre las actitudes y la conducta violenta en el contexto escolar. Los estudios suelen abordar esta cuestión superficialmente o dentro de programas de intervención donde se trabajan múltiples variables, existiendo diferencias en la magnitud de esta relación. El objetivo del estudio es describir los resultados de una revisión sistemática y realizar un meta análisis que explore estas asociaciones. *Método:* Se realizó una revisión sistemática en las principales bases de datos. Se calcularon los tamaños del efecto y fueron sintetizados mediante un meta análisis de efecto aleatorio para la relación entre actitudes hacia la violencia y violencia escolar. Se realizó una meta regresión para el análisis moderador del sexo y edad. *Resultados:* La estrategia de búsqueda produjo 12.293 artículos. El proceso de revisión estructurado produjo un resultado final de 23 estudios. Nuestros resultados estiman una relación positiva y significativa ($r = 0{,}368$ $p < 0{,}001$; 95% *CI* = [0,323, 0,412]) entre actitudes y violencia escolar en menores. *Conclusiones:* Este estudio permite cuantificar con un adecuado grado de especificidad la relación actitud conducta en el contexto escolar. Estos resultados facilitarían a futuros investigadores plantear programas que aborden esta especificidad para mejorar el clima escolar.

School violence is a social problem that has been studied worldwide both because of its high prevalence—up to three out of ten children suffer it—and because of the associated consequences for both victims and perpetrators (Bauman et al., 2013; Kowalski & Limber, 2013; Lereya et al., 2015; UNESCO, 2019). Although some authors state that these behaviors are more common between 13-15 years and in boys (Jain et al., 2018; Zych et al., 2019) evidence regarding prevalence by sex and age is inconsistent. These behaviors can occur both in person and online and can be repeated over time, with an imbalance of power between those involved and with the intention of dominating or harming the other person, being these the common characteristics of both bullying and cyberbullying (Menin et al., 2021).

Multiple studies have addressed the relationship between school violence and other variables. Some of them are impulsivity, attitudes, empathy, depression, anxiety, substance abuse or parenting and family coexistence, among others (Álvarez-García et al., 2018; Ruiz-Hernández et al., 2019; Varela et al., 2018). Although all have shown to be associated with the occurrence of school violence, attitudes toward violence have been widely reported as a particularly important variable, both from the perspective of prevention and reduction of conflict in schools (Fraguas et al., 2020; Jiménez-Barbero et al., 2016; Merrel et al., 2008). Just as with violent behavior, there is no consensus in the literature regarding the greater prevalence of attitudes toward school violence with respect to gender or age. Recent studies conclude that these attitudes (although present in all people) are more prevalent in boys and adolescents (Ruiz-Hernández et al., 2020) whereas other studies do not show these differences (Farrell et al., 2019; Werner & Nixon, 2005), being still the relationship between the variables attitude-violent behavior at school, sex and age a field of study that needs more evidence.

The attitude-behavior relationship is one of the traditional fields of study in some disciplines of psychology. Generally, attitudes have been considered as a predictor of behavior, especially when there are no deliberative processes or social norms, or when the benefits of acting congruently with attitudes act as facilitators of this relationship (Anderson & Heusmann, 2003; Fazio, 1990). In addition, according to these theoretical proposals, the higher the degree of specificity of the attitudes/behaviors to be assessed, the greater the predictive power (Fazio, 1990). As mentioned above, attitudes toward violence are a very relevant variable for the design of school coexistence programs with a preventive character in school violence (Fraguas et al., 2020; Jiménez-Barbero et al., 2016; Merrel et al., 2008). For this reason, quantifying the attitude-behavior relationship in this context is especially relevant for the design or improvement of these programs and, consequently, the improvement of children's well-being. Despite the accumulated evidence, we are not aware of any other meta-analysis that quantifies the attitude-behavior relationship in the specific context of school violence. Given the large number of articles that address the relationship between attitudes toward violence and violent behavior, we performed a meta-analysis of the available studies to provide further evidence in this regard. For this purpose, we assumed the classical definition of attitudes by Eagly and Chaiken (1998, p. 269), who refer to attitudes as "a psychological tendency expressed by evaluating a given entity with a certain degree of favorability or unfavorability". Based on previous studies, this definition, in the context of positive attitudes toward school violence, should be understood as a psychological tendency with a certain degree of favorability in children to show violent behavior in certain situations (Pina et al., 2021). Our research questions were: (a) Is there a significant correlation between attitudes toward violence and school violence in school children? (b) Is this relationship moderated by the children's age or sex? Based on the bibliography, we hypothesized that a moderate-high positive relationship would be obtained as a result of the synthesis of

information. Furthermore, although there is no consensus on the direction of the relationship suggested in the literature, it is hypothesized that age and sex will play a moderating role in the attitude-violent behavior relationship in the school context.

Method

For the present study, a systematic review of the literature was conducted to identify all primary studies of interest. Subsequently, a correlational meta-analysis was performed to synthesize the data following the recommendations of the PRISMA guidelines (Page et al., 2021). This study was approved by the Research Ethics Committee of the authors' University (ID: 2317/2019).

Eligibility criteria. We included studies that: (a) quantitatively measured the correlation between attitudes toward school violence and violent behavior in the school context at least once; (b) included a sample of schoolchildren between 6 and 17 years old of any nationality. We excluded studies written in a language other than Spanish or English and/or those that included participants with developmental disorders. For intervention, longitudinal or other repeated measures studies, only pretest measures were taken into account. For measures of attitudes, we included studies using questionnaires that assessed this construct with at least one self-report measure. Due to the variety of terminology used to refer to the concept of attitudes considered in this study, we also evaluated studies using terms such as "beliefs", "thoughts", "opinions" or "perceptions". All studies were evaluated qualitatively to include only those that assessed children's psychological tendency, with some degree of favorability, to exhibit violent behaviors in certain situations within the school context. For the evaluation of violent behavior, measures of violence, physical, verbal, and relational aggression, bullying, or cyberbullying were taken into account.

Search strategy. An electronic search was conducted in the following databases: Academic Search Premier, Psychology and Behavioral Sciences Collection, APA PsycArticles, APA PsycInfo, AgeLine, MEDLINE, Education Source, ERIC, Gender Studies Database, Violence & Abuse Abstracts, PSICODOC, Web of Science Core Collection, Current Contents Connect, KCI-Korean Journal Database, Russian Science Citation Index, SciELO Citation Index, Ebook Central, ProQuest Central, Biological Science Database, Canadian Business & Current Affairs Database, Career & Technical Education Database, Criminal Justice Database, Science Database, Nursing & Allied Health Database, Psychology Database, Public Health Database, Science Database, Social Science Database and Sociology Database. No time limits were specified. The search was conducted on September 20, 2020. The search strategy included the following terms: (attitud* OR perception OR opinion OR view OR thoughts OR beliefs OR feeling OR aggressive cognitions) AND (Child* OR young OR adolescent OR teen* OR youth OR young people OR scholarships OR school* OR student* OR elementary school OR high school OR student* OR middle school) AND (external behavior* OR violen* OR aggress* OR hostil* OR anger OR aggress* OR problem behavior OR bull* OR maladaptive behavior OR conduct disorder OR conflict* OR physical abuse OR physical violence OR emotion violence OR psychological violence OR psychological abuse OR harassment OR intimidation OR bullying OR antisocial OR antisocial behavior). The full search strategies followed in each of the databases are available in Supplementary file 1: https://osf.io/wqjgu/

Screening and coding. First, titles and abstracts were peer-reviewed (first and third authors), removing those that were clearly not eligible, and passing to the second phase only those that showed potential for selection. In the second phase, a full-text peer-review was conducted (first and third authors). Duplicates were manually removed both in this phase and in the previous one. The authors in charge of this review have extensive experience in the field of school violence. Each excluded study was reviewed by another subgroup of authors with experience in the field in order to ensure that eligible studies were not left out (fourth and fifth authors). Inconsistencies in the exclusion process were resolved through discussion.

The following characteristics were extracted from the included studies by the third and fourth authors: sample size, percentage of males, age (mean and standard deviation), outcome measures of attitudes toward violence and violent behavior (Pearson correlations); and other characteristics (year of publication and type of study). The outcome measures of attitudes and/or behavior were coded separately if any of the included studies reported several measures. For the risk of bias assessment of the included studies, we used an adaptation of the STROBE checklist for cross-sectional studies available in Supplementary file 2: https://osf.io/wqjgu/. Two authors double-coded all included studies. Discrepancies between coders were resolved by consensus. The reliability of the coding process was assessed by the Cohen's Kappa coefficient. The inter-rater reliability of the coding process was satisfactory: κs ranged from .63 to 1 (mean =.83).

Summary measures. Only zero-order correlations between attitude and behavior measures provided by each of the included studies were extracted. In case relationships between different factors of the attitude and/or behavior measures were reported, all relationship measures were collected. When reporting relationship measures between the same variables at different time points, only the relationships from the first time point (e.g., pretest) were selected. Correlations were transformed to Fisher's *Z* before synthesis to normalize their distribution (Botella-Ausina & Sánchez-Meca, 2015). The results were back-transformed to the original metric to facilitate their interpretation.

Analytic strategies

Aggregating effect sizes across studies. Since many of the included studies reported different measures of attitude and/or behavior (12, 48%) calculated on the same sample, the assumption of independence between observations was not met. Therefore, a three-level approach (Van den Noortgate et al., 2013) was adopted to consider the dependence structure of these nested effects on the same samples. This approach deals with the dependence by establishing a hierarchical structure of the data in different variance components. For this work, a three-level model of sample variance (Level 1), variance between same-sample effects (Level 2), and between-study variance (Level 3) was fitted. Since it

was considered that the effects could vary according to different moderating variables, a random effects model was assumed to estimate the summary effect. The effects were weighted by the inverse of their variances, and the parameters were estimated with the REML method. The 95% confidence limits were calculated according to the improved method proposed by Hartung and Knapp (2001; see also Sánchez-Meca & Marín-Martínez, 2008). To assess the heterogeneity of levels 2 and 3 and their statistical significance, two log-likelihood-ratio tests were performed between the full model and two reduced models without these variance components. Additionally, the percentages of variance corresponding to each level were calculated with the I^2 index, and the calculation of 95% credibility/prediction interval (Riley et al., 2011).

Moderator variables. If relevant heterogeneity was found at any of the levels, moderator analysis was conducted using mixed-effect meta-regression models to explore the possible variables that could explain the systematic heterogeneity.

Sensitivity and publication bias. To explore the possible impact of publication bias, corrected estimates were obtained applying the precision-effect test and precision-effect estimate with standard errors (PET-PEESE) adjustment (Stanley & Doucouliagos, 2014), and the regression test (Sterne & Egger, 2005). Additionally, sensitivity analyses were performed, excluding possible outliers based on Cook's distances.

All analyses were performed in R software (4.0.3 version) (R Core Team, 2018) using the *Metafor* package (2.4.0 version) (Viechtbauer, 2010 package) and following the instructions of Assink and Wibbelink (2016). To construct the forest plot, the proposal and function of Fernandez-Castilla et al. (2021) were used for the construction of graphs in three-level meta-analytic models. The data and the script analysis codes are openly available at: https://osf.io/wqjgu/.

Results

Study selection

Figure 1 describes the study selection process. The electronic search yielded 12,293 studies. A total of 3,128 studies were excluded because they were duplicates. In the title and abstract reading phase, 8,930 studies were excluded. Full-text review of the remaining 183 resulted in the inclusion of 23 studies for which correlations were calculated in 26 independent samples.

Characteristics of the studies

Table 1 summarizes the descriptive characteristics of the samples included. All included studies used at least one measure of attitudes toward violence and violent behavior. In seven of the included samples, no information could be collected on the mean age of the sample. All participants were schoolchildren between ages 6 and 17. The mean age of the included samples ranged from 10.87 to 14.79. The mean sample size was 780.2 with a median of 282 (range 99 to 7299) including a total of 20,284 participants. More detailed information on the primary studies included and the variables taken into account is available in the Supplementary file: Table 1 extended: https://osf.io/jb9xv/.

Analysis of concurrent effect sizes

Figure 2 presents a forest plot with the distribution of effects within each independent sample (Fernández-Castilla et al., 2021). The dashed line represents the overall mean effect size. The overall mean relationship between attitudes toward violence and violent behavior in the school context was r =.368 (95% *CI* [.323, .412], $p < .0001$) and positive. A total of 75 effects (range .05 − .70) were taken into account, all of positive sign, nested in 26 independent samples, extracted from 23 different studies, representing 20,284 different subjects.

Both log-likelihood ratio tests showed that the variance components of levels 2 and 3 were statistically relevant ($\chi^2_2 = 127.56$; $p < .0001$; $\chi^2_3 = 18.04$, $p < .0001$). The total variance was distributed as I^2_1 = 9.39% at level 1, I^2_2 = 45.64% at level 2, and I^2_3 = 44.98% at Level 3. A 95% credibility interval [.104 − .584] was calculated, showing a wide range of possible values in future studies, all with positive sign. Therefore, moderator analyses were performed.

Moderator analyses

Two simple meta-regression models were fitted to assess the explanatory power of the mean age and sex distribution of the sample on the values of the correlation coefficients. None of the moderators were statistically related to the correlation coefficients ($b_{age} = 0.049$; $F_{age} = 3.09$, $p_{age} = .085$; $b_{sex} = 0$; $F_{sex} = 0.05$, $p_{sex} = .819$).

Sensitivity analyses and publication bias

The possible presence of outliers was assessed through an analysis of Cook's distances, respecting the nested structure. A possible influential sample was detected. Once this sample was excluded (8 effects), a slightly lower overall outcome was obtained, r =.351 (95% *CI* = [.310, .391], $p < .0001$) but equivalent in practice. The regression test was not statistically significant (b = -0.109, p = .903) showing little evidence of publication bias. We also found a slightly higher mean correlation, adjusted through PET-PEESE, r =.373 (95% *CI* = [.304, .439], $p < .0001$), but equivalent in practice.

Discussion

The present study examines the association between attitudes toward violence and violent school behavior in children and adolescents. The literature review provided 23 articles eligible for a correlational meta-analysis using random effects to estimate the overall mean correlation between measures of these variables. Our results revealed a moderate and positively significant effect size for the relationship studied. The moderating effect of age and sex on this relationship is also explored. These results are in partial agreement with the findings of existing primary studies. Any new study that meets the criteria used in our research will most likely find a correlation similar to the one found between attitudes toward school violence and violent school

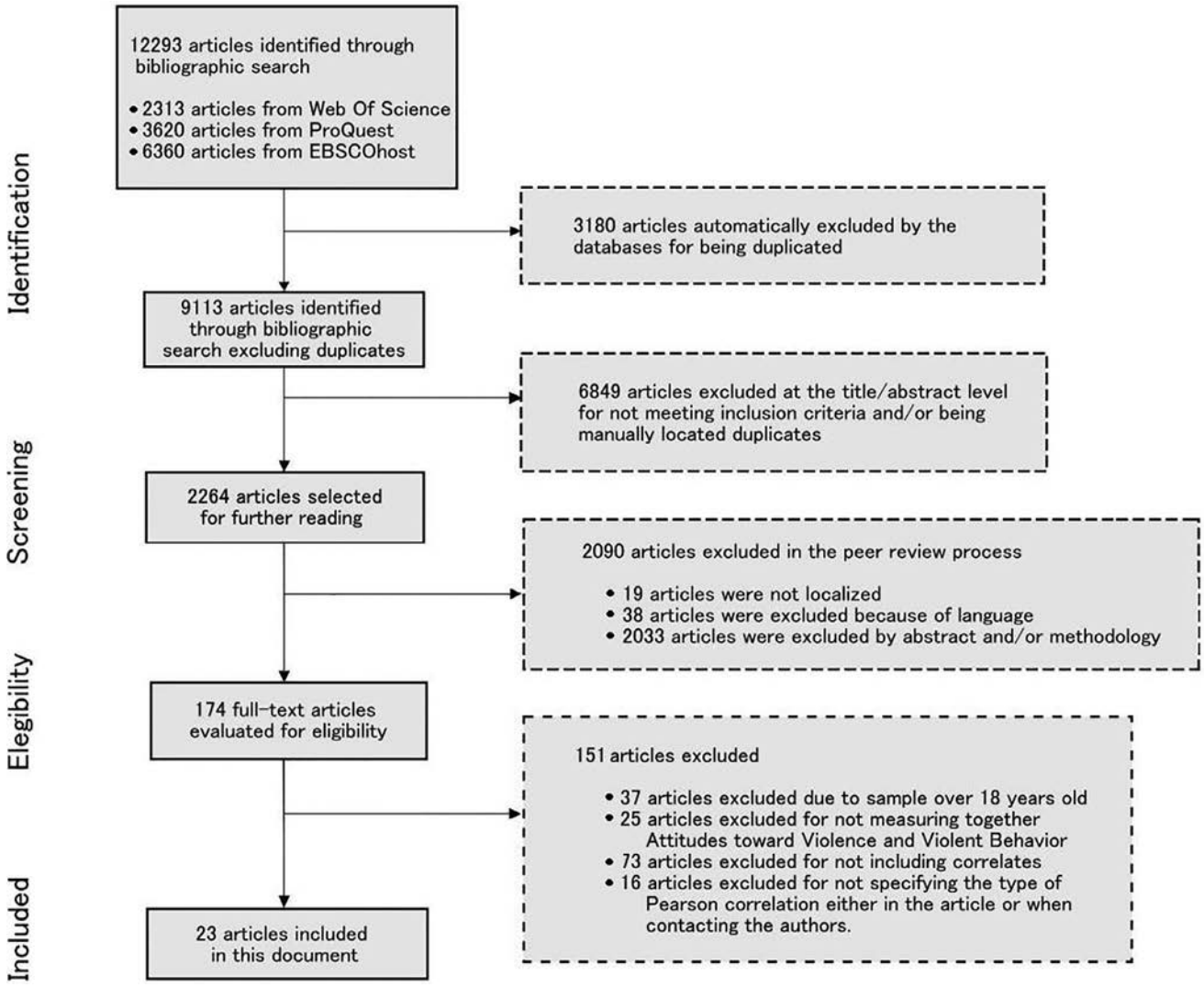

Figure 1 Flowchart of the study identification process.

behavior. However, with regard to the influence of the variables sex and age, it is not possible to make this statement.

This is the first correlational meta-analysis to explore the relationship between attitudes toward school violence and school violence in children and adolescents. The attitude-behavior relationship is a field of research that has been widely studied in other contexts. Kraus (1995) conducted a meta-analysis, concluding that it was possible to predict behavior if attitudes were previously known. However, this study was based on general behavior. One of the moderators that modified this relationship was the specificity of these attitudes, along the lines originally proposed by Fazio (1990). This means that to maximize the prediction of a particular behavior (e.g., insulting a classmate to make others laugh), it is necessary to assess attitudes with the same level of specificity. This suggests that there could be different magnitudes between the attitude-behavior relationship depending on the behaviors to be predicted.

In the context of school violence, we found three meta-analytic studies on the effectiveness of intervention programs in which the influence of attitudes is somehow taken into account. Merrel et al. (2008) considered that interventions to reduce school violence might influence knowledge, attitudes, and self-perception rather than actual bullying behaviors. Jimenez-Barbero et al. (2016) delved into interventions that included the variable attitudes, concluding that interventions that addressed these aspects provided a moderate effect size. Recently, Fraguas et al. (2020) stated that interventions that include attitudes toward violence are effective in improving school climate, although they are more effective in Europe and North America.

Several studies claim that attitudes toward violence are influenced by age and sex. In this regard, it has been claimed that boys and adolescents enrolled in secondary education (over 12 years old) have stronger attitudes toward violence and present more violent behaviors (Ruiz-Hernández et al., 2020; UNESCO, 2019). In our opinion, the influence of age or sex was not relevant in our study due to the absence of independent effect sizes for these two variables in the primary studies. This points to a line of assessment necessary for future research in order to reach such conclusions more accurately. It is important to delve into sex differences in attitudes and violent behavior in the school context. From

Table 1 Descriptive characteristics of the studies.

Study	*n*	Mean age	% males	Participants	Attitudes towards school violence measure(s)	School violence measure (s)	STROBE (Risk of bias)
Avci and Gucray (2013)	2,120	13.67	54.6	7th and 8th graders (12-17 years)	Attitudes towards Violence Scale	Perceived Multidimensional Violence Sources Inventory + Aggression Questionnaire	18
Barnes et al. (2016)	167	-	53.89	Third, fourth, and fifth grade	Attitudes toward Conflict Scale	Revised Class Play procedure	16
Boulton et al. (1999)	210	-	49.04	Seventh, 9th grade	21 items to attitudes towards bullying	4 bullying items	16
Boulton et al. (2002)	170	12.96	51.76	11-16 years	12 items to attitudes towards bullying	8 bullying items	16
Chen et al. (2020)	174	-	100	Public elementary schools	Four items by Huesmann and Guerra	Four items by Cheng	18
Chen et al. (2020)	166	-	0	Public elementary schools	Four items by Huesmann and Guerra	Four items by Cheng	18
Cui and To (2020)	1,666	11.72	55.70	8-17 years.	Four items by Salmivalli and Voeten	Personal Experiences Checklist	22
Eliot and Cornell (2009)	121	11	48.76	Sixth grade (11-13 years)	Aggressive Attitudes scale	Self-reported bullying behaviour	14
Espelage et al. (2017)	310	12.59	49.7	Sixth, seventh graders	four-item by Espelage and Asidao	University of Illinois Bully Scale	19
Farrell et al. (2012)	477	11.8	48	Sixth grade students	Beliefs About Fighting Scale	Problem Behavior Frequency Scale—Youth Form	19
Farrell et al. (2018)	2,118	12.73	48	Sixth, seventh, and eighth graders	Beliefs About Fighting Scale	Problem Behavior Frequency Scale—Adolescent Report	23
Gendron et al. (2011)	3,798	-	49	Grades 5, 8, and 11	Normative Beliefs about Aggression Scale	Eight-item scale adapted from Espelage, Holt, and Henkel	18
Huessmann et al. (2017)	1,501	11	49.3	8-14 years	Normative Beliefs about Aggression Scale	Severe Physical Aggression Scale + 4 items adapted to Peer Nomination of Aggression Inventory + Child Behavior Checklist	21
Jiménez-Barbero et al. (2015)	268	14.61	69.5	12-15 years	Attitudes towards School Violence Questionnaire-25	Youth Self-Report	21
Jiménez-Barbero et al. (2015)	59	14.77	51.5	12-15 years	Attitudes towards School Violence Questionnaire-25	Youth Self-Report	21
Lindstrom-Johnson et al. (2016)	144	12.99	41.3	6th grade classes	Attitudes about Retaliation Scale	Aggression subscale of the Child Behavior Checklist	21
McConville and Cornell (2003)	403	12	48.38	Sixth, seventh and eighth graders (10-14 years)	Attitudes Toward Peer Aggression scale	School Climate Survey	22

Table 1 (*Continued*)

Study	*n*	Mean age	% males	Participants	Attitudes towards school violence measure(s)	School violence measure (s)	STROBE (Risk of bias)
Orozco-Vargas and Monjardin (2019)	195	-	47.18	Adolescents in the first, third, and fifth semester	Attitudes towards School Violence Questionnaire-25	Multimodal School Interaction Questionnaire	17
Robinson et al. (2011)	99	14.79	100	9th-grade	Normative Beliefs about Aggression Scale	General Interpersonal Aggression Scale	19
Ruiz-Hernández et al. (2020)	296	14.34	100	10-17	Attitudes towards School Violence Questionnaire	Sixteen items by Ruiz-Hernández et al.	21
Ruiz-Hernández et al. (2020)	304	14.33	0	10-17	Attitudes towards School Violence Questionnaire-28	Sixteen items by Ruiz-Hernández et al.	21
Small et al. (2015)	136	-	45.2	6-12 years	Anti-Social Attitudes	Aggression Scale	18
Vu et al. (2019)	632	13	51.40	Sixth to ninth grades	Attitudes and Beliefs Regarding Aggression	Aggression Scale (AS)	23
Wang et al. (2015)	435	12.77	43.21	11-15 years	The Bullying Attitudes Scale	The Verbal and Physical Bullying Scale-Perpetration	19
Werner et al. (2005)	122	-	-	eighth-grade	Normative Beliefs about Aggression Scale	10 items by McDonald et al.	20
Zhu et al. (2018)	703	13.38	59.00	12-15 years	Normative Beliefs about Aggression Scale	E-Bullying Scale	22

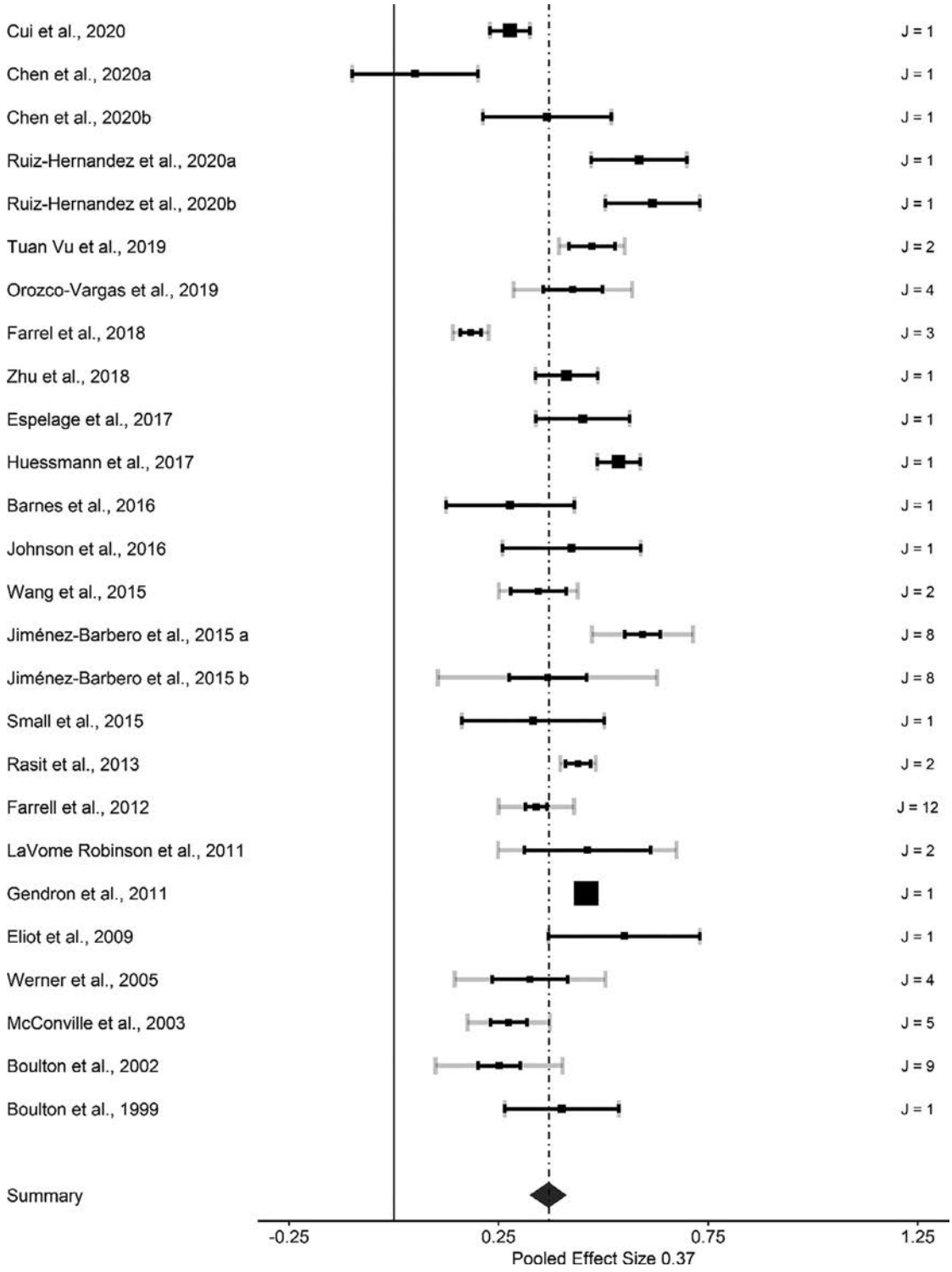

Figure 2 Forest plot of the three-level random-effects meta-analysis examining the association between attitudes toward violence and violent behavior.

theperspectiveofattitudes,thesemaybebasedongenderroles, where boys may feel more legitimized to address conflicts throughviolence(Dilletal.2004;Maud&DeMello1999;Vernberg etal., 1999). The same importance should be given to the influenceofage. Recently,astudyhasdemonstratedtheefficacyofa program to modify attitudes toward school violence in primary school students (Pina et al., 2021). The right evaluation of attitudesinyoungerschoolchildrenandtheirinfluenceonbehavior can serve as a basis for the application of intervention programs based on attitude modification and, consequently, the futuredecreaseoftheseattitudesinsecondaryschoolstudents.

The present study provides solid evidence on the relationship between attitudes toward violence and school violence in children and adolescents. On the one hand, it takes

into account the specificity of attitudes and behaviors in an attempt to determine the degree of this relationship in the context of school violence. On the other hand, it does not evaluate intervention programs in which, in addition to the modification of attitudes, intervention is performed on another accumulation of variables. Therefore, our results provide evidence that supports both the evaluation of attitudes toward violence as an indicator of risk of violence in the school context, as well as the appropriate inclusion of the modification of attitudes in intervention/prevention programs as a variable related to the improvement of school coexistence. These results may be of special interest to both researchers and professionals in direct contact with children. On the one hand, the magnitude of this relationship highlights the importance of including attitudes in future studies that are aimed at a complete evaluation of school climate. On the other hand, a greater knowledge of the influence of attitudes on behavior in this context can help to develop training plans (both at the institutional and personal levels) for these professional groups that will allow them to obtain more tools to prevent this type of behavior in their centers.

This study also has some limitations. Although an effort was made to identify all potentially eligible studies using a wide variety of similar and related terms, as well as using multiple databases, some studies may not have been collected by the proposed search strategy. In addition, we excluded studies that did not provide sufficient information on the assessment measures or showed methodological problems in this regard, even if they met other inclusion criteria. By including two very specific outcome measures, attitudes toward violence and violent school behavior, many studies using more general or relatively related measures of attitudes and behavior were not included.

This study did not take into account other variables that may influence the attitude-behavior relationship in the school context. Variables such as impulsivity, context, social status, social circle or parental styles could be included in future studies following the recommendations of the literature (Gallego et al., 2019; Hormozábal-Aguayo et al., 2019; Loinaz & Ma de Sousa, 2020; Rey et al., 2020; Romera et al., 2021). Taking into account the indicators of heterogeneity in our study, it would be highly advisable to perform this type of analysis to determine which variables influence the relationship studied here.

It is important to note that both the data used and the effect sizes refer to bivariate correlations. Therefore, and as is the case in the primary studies, we can only indicate an association between the variables and not a causal relationship. Although theoretical assumptions and some of the clinical studies reported in the literature support the predictive role of attitudes on behavior, we point out that the aim of this study is not to determine the role and direction of this relationship.

School violence is a social problem that is still present in schools worldwide (UNESCO, 2019). Despite its limitations, our study has implications for future research and/or interventions that aim to delve deeper into these and other related issues. Our results suggest that the attitude-behavior relationship in the context of school violence is significant for a large number of students of various ages, backgrounds, and nationalities. Future studies should focus on delving into the specificity of this relationship and which of these attitudes has the greatest influence. Several studies point to violence as a way to have fun, increase self-esteem, or considered legitimate as the aspects that have the greatest relationship with behavior (Pina et al., 2021; Ruiz-Hernández et al., 2020). These results were observed in the data provided by the primary studies. In this sense, we recommend designing studies that allow reaching even more specific conclusions to generate better predictive models of violent behavior.

The findings of this meta-analysis suggest a moderate and significant relationship between attitudes toward violence and violent behavior in the school context in children and adolescents. This relationship occurs in all the included primary studies, regardless of participants' age or sex. These findings add evidence to the literature by quantitatively synthesizing the magnitude of this association and, therefore, expanding its scope. Given the limitations of this study, our results support the conclusions of previous studies on the importance of assessing and working on attitudes toward violence to improve the school climate.

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