

1 **Physical education and school bullying: a systematic review**

2 Jiménez-Barbero, J. A.¹, Jiménez-Loaisa, A.², González-Cutre, D.², Beltrán-Carrillo, V.
3 J.², Llor-Zaragoza, L.³, Ruiz-Hernández, J. A.⁴

4
5 ¹ Department of Nursing, Faculty of Nursing, University of Murcia, Spain.

6 ² Department of Sport Sciences, Sport Research Centre, Miguel Hernández University
7 of Elche, Spain.

8 ³ Department of Education, Catholic University San Antonio, Faculty of Social Sciences
9 and Communication, Murcia, Spain.

10 ⁴ Department of Psychiatry and Social Psychology, University of Murcia, Faculty of
11 Psychology, Spain.

12
13 ¹**José Antonio Jiménez-Barbero (PhD):** Faculty of Psychology, University of Murcia,
14 Espinardo, 30100 Murcia, Spain. Tel: +34 646 35 03 66. E-mail:
15 joseantonio.jimenez1@um.es. ORCID iD: <https://orcid.org/0000-0003-4003-3491>

16 ²**Alejandro Jiménez-Loaisa* (MSc):** Department of Sport Sciences, Sport Research
17 Centre, Miguel Hernández University of Elche, Avenida de la Universidad s/n, 03202
18 Elche (Alicante), Spain. Tel: +34 648 62 20 88. E-mail: alejandro.jimenezl@umh.es.
19 ORCID iD: <http://orcid.org/0000-0003-0033-2374>.

20 ²**David González-Cutre (PhD):** Department of Sport Sciences, Sport Research Centre,
21 Miguel Hernández University of Elche, Avenida de la Universidad s/n, 03202 Elche
22 (Alicante), Spain. Tel: +34 965 22 21 62. E-mail: dgonzalez-cutre@umh.es. ORCID iD:
23 <https://orcid.org/0000-0002-8584-3992>.

24 ²**Vicente J. Beltrán-Carrillo (PhD):** Department of Sport Sciences, Sport Research
25 Centre, Miguel Hernández University of Elche, Avenida de la Universidad s/n, 03202

1 Elche (Alicante), Spain. Tel: +34 965 22 24 84. E-mail: vbeltran@umh.es. ORCID iD:
2 <https://orcid.org/0000-0001-8794-5901>.

3 ³**Laura Llor-Zaragoza (PhD)**: Department of Education, Catholic University San
4 Antonio, Faculty of Social Sciences and Communication, Guadalupe, Murcia, Spain. E-
5 mail: llorzaragoza@ucam.edu

6 ⁴**José Antonio Ruiz-Hernández (PhD)**: Department of Psychiatry and Social
7 Psychology, University of Murcia, Faculty of Psychology, 30100 Espinardo, Murcia,
8 Spain. E-mail: jaruiz@um.es.

9

10 * Correspondence regarding this article should be addressed to Alejandro Jiménez-
11 Loaisa, Department of Sport Sciences, Sport Research Centre, Miguel Hernández
12 University of Elche. E-mail: alejandro.jimenezl@umh.es.

13

14 Published version at:

15 <https://www.tandfonline.com/doi/full/10.1080/17408989.2019.1688775>

16 Please, cite as follows: Jiménez-Barbero, J. A., Jiménez-Loaisa, A., González-Cutre, D.,
17 Beltrán-Carrillo, V. J., Llor-Zaragoza, L., & Ruiz-Hernández, J. A. (2020). Physical
18 education and school bullying: a systematic review. *Physical Education & Sport*
19 *Pedagogy*. DOI: 10.1080/17408989.2019.1688775.

20

21 **Declaration of Conflict of Interest**

22 The authors declare they have no potential conflict of interest regarding the
23 investigation, authorship, and/or publication of this article.

24

25 **Funding**

26 This research did not receive any specific grant from funding agencies in the
27 public, commercial, or not-for-profit sectors. Alejandro Jiménez-Loaisa was supported

1 by the Valencian Council of Education, Research, Culture and Sports with reference
2 ACIF/2017/155.

3

4 **Abstract**

5 *Objectives:* To evaluate the associations of physical education (PE) with school
6 violence and bullying. *Design:* Systematic review. *Method:* Using a systematic search in
7 Medline, PsycINFO, SPORTDiscus, Web of Science, and Scopus, relevant studies with
8 a quantitative and qualitative design were identified that met previously established
9 eligibility criteria. Quality was assessed (bias risk analysis) and data were extracted
10 from a previously elaborated template. *Results:* The systematic review finally included
11 16 studies, of which 10 had a quantitative design ($n = 12795$), 5 a qualitative design ($n =$
12 79) and 1 a mixed design ($n = 86$). The high heterogeneity presented by the measures
13 used in the included studies hindered the comparison of the outcomes and prevented
14 meta-analysis of the data. Although there is insufficient evidence about the positive
15 impact of PE on bullying prevention, the results of this review indicate that some
16 aspects of PE programs could improve students' skills to cope with these situations.
17 *Conclusions:* The results of this review suggest the importance of PE in the prevention
18 of bullying. Secondly, it is emphasized that bullying situations have a negative impact
19 on students' enjoyment of PE, leading to detrimental consequences for their physical
20 and psychological health. Thirdly, the figure of the PE teacher as a key element to
21 prevent and/or encourage bullying was obvious.

22 *Keywords:* physical education; bullying; school violence; student profile; teacher
23 status.

24

25

Physical Education and School Bullying: A Systematic Review

1. Introduction

The phenomenon of bullying can be defined as a prolonged behavior of verbal insults, social rejection, psychological intimidation and/or physical aggression by some students towards others, where the victim is repeatedly exposed to negative actions carried out by one or more aggressor students in a situation of defenselessness (Jiménez-Barbero et al., 2016a; Olweus, 1994, 1996; Ruiz-Hernández et al., 2018).

As some authors have pointed out, much of the research on bullying continues to be based on a theoretical approach that considers bullying as a unidimensional form of aggression (Volk, Veenstra, and Espelage 2017). However, other theorists have considered aggression as a multidimensional construct which includes a double distinction, differing between the form of aggression (e.g., physical, verbal, or social aggression) and its functions (e.g., offensive, defensive, or instrumental aggression) (Little et al., 2003). Based on this multidimensional view, two forms of aggression have traditionally been considered in the school context: physical aggression (e.g., hitting, pushing, or causing damage to the victim's belongings) and relational/social aggression, which refers to behaviors based on social exclusion or the spread of rumors (Menesini and Salmivalli 2017; Smith, 2016).

Bullying is currently one of the most serious problems facing the school community, with figures ranging from 10 to 35% depending on studies conducted in different contexts (Modecki et al., 2014; Sánchez-Queija, García-Moya, and Moreno 2017; Thomas et al., 2017; Zych et al., 2017). Some authors have related the physical education (PE) environment to bullying episodes (Fuller, Gulbrandson, and Herman-Ukasick 2013; Weimer and Moreira 2014). In this sense, it has been suggested that victims of bullying tend to avoid school contexts that make them feel vulnerable, among

1 which authors underline those related to physical activities (Parrish et al., 2012; Stanley,
2 Boshoff, and Dollman 2012). As a result, these students tend to react by distancing
3 themselves from PE, which promotes school absenteeism (Tischler and McCaughtry
4 2011), and which would prevent bully victims from gaining access to the physical,
5 psychological, and social benefits that physical activity in general, and the subject of PE
6 in particular, can provide (Corral-Pernía et al., 2018; Hills, Dengel, and Lubans 2015;
7 Jaarsma and Smith 2018).

8 However, some prevention programs have considered the role of PE in the
9 intervention against school violence because of its beneficial effects in encouraging the
10 externalization of emotions and improving social skills (Sklad et al., 2012; Twemlow et
11 al., 2001; Wolfe et al., 2009). Thus, the importance for PE teachers to foster a positive
12 climate during classes has been underlined, thereby favoring students' empowerment
13 and the development of social empathy (Gano-Overway 2014). According to some
14 authors, PE teachers and sports coaches should not only help students to improve their
15 physical status but also to develop their social skills, enhance their personal growth and
16 empowerment and to learn to live constructively in society (Fraser-Thomas, Côté, and
17 Deakin 2005; Gould, Flett, and Lauer 2012).

18 On another hand, different studies advocate the importance of the proactive role
19 (and hence, non-reactive) of PE teachers in their actions in the face of bullying episodes
20 (Allen 2010; Barbetta, Norona, and Bicard 2005; Gibbone and Manson 2010), thereby
21 emphasizing the importance of PE teachers' evaluating the environment where the
22 classes are carried out in order to promote friendly environments that do not foster
23 violence. In this line, Hand (2016) proposes several steps to create a bullying-free
24 environment in the subject of PE: 1) the initial measurement of the types of bullying and
25 their frequency in PE classes (e.g., collecting the perceptions of students and teachers

1 through surveys); 2) the design and implementation of a curriculum that supports
2 proactive actions (e.g., integrating activities that require more cooperation and
3 collaboration, rather than competition); 3) their evaluation (e.g., asking students,
4 teachers, and parents about the changes perceived in bullying experiences).

5 *1.1. The present study*

6 There is evidence of the effectiveness of globally focused school violence
7 prevention programs based on changing attitudes toward violence, involving parents
8 and teachers, and influencing the school climate (Cutrín et al., 2017; Jiménez-Barbero et
9 al., 2016b; Ttofi and Farrington 2011). In this sense, Vreeman and Carroll (2007) note
10 that multidisciplinary interventions obtain the best results. On another hand, Merrell et
11 al. (2008) conclude in their meta-analysis that there is evidence supporting the
12 effectiveness of school interventions to improve social competence, self-esteem, and
13 peer acceptance. However, although there is a large amount of specific scientific
14 literature on the role of PE in actions against bullying, the synthesis of the findings of
15 individual studies to draw general conclusions is still lacking. In fact, although there is
16 another recent review study that has addressed the relationship between bullying and PE
17 (Martínez Baena and Faus-Boscá 2018), the present study represents, as far as we know,
18 the first systematic review carried out on the subject according to the recommendations
19 of The Preferred Reporting Items for Systematic Reviews and Meta Analyses guidelines
20 (PRISMA) (Moher et al., 2015).

21 The main objective of our study was to evaluate the associations between the
22 subject of PE in schools and school violence and bullying. In addition, as secondary
23 objectives, we propose: (a) to analyze the individual physical and psychological
24 characteristics of the students involved in situations of bullying or violence in PE

1 classes, and (b) to examine the role of teachers in the prevention of bullying and
2 violence in PE classes.

3 **2. Method**

4 The protocol used by this systematic review follows the PRISMA statement
5 recommendations (Moher et al., 2015). Similarly, the methods used in the review were
6 specified in advance and documented in a protocol, which is available online
7 (https://www.crd.york.ac.uk/PROSPEROFILES/104001_PROTOCOL_20181114.pdf)

8 *2.1. Search strategy*

9 A systematic search in the following electronic databases was conducted:
10 Medline, PsycINFO, SPORTDiscus, Web of Science, and Scopus. The descriptors used
11 were: *School OR physical educat* OR teacher status AND bully* OR violen* OR*
12 *harrasm**. Given the shortage of similar studies, no temporal restrictions were
13 established in the search strategy, with the last access to the sources of information
14 made on 11/07/2018. The complete strategy used can be found in Appendix A.

15 The search was conducted by two independent researchers who made lists of
16 potentially eligible articles. These lists were subsequently agreed upon, and any
17 disagreements were resolved through the intervention of a third reviewer. In order to
18 reduce unplanned duplication of comments and to provide transparency to the review
19 process, as well as to minimize reporting bias (Booth et al., 2013), this study was
20 recorded in PROSPERO (International Prospective Register of Ongoing Systematic
21 Reviews, <http://www.crd.york.ac.uk/prospero>) since its initiation (Registry No:
22 CRD42018104001).

23 *2.2. Inclusion and exclusion criteria*

24 Studies were included in the review if they fulfilled the following criteria: (a) the
25 objective of the studies was to examine the associations of PE with bullying or violence

1 in schools; (b) PE activities and programs should be aimed at students from
2 Kindergarten, Primary, or Secondary Schools; (c) PE activities and programs should be
3 part of the schools' curricula; (d) the articles should be published in peer-reviewed
4 journals in any language; (e) the studies could present a quantitative (observational,
5 experimental or quasi-experimental), qualitative, or mixed design.

6 Exclusion criteria were: (a) studies aimed at investigating the effect of
7 extracurricular physical activities on school violence or bullying; (b) secondary studies
8 (narrative or systematic reviews); (c) studies conducted outside the area of PE.

9 *2.3. Selection of the studies*

10 The selection of studies was carried out in two phases, following the indications
11 of the PRISMA declaration (Moher et al., 2015):

12 - In the first phase, two reviewers independently examined potentially eligible
13 studies by reading titles and abstracts, following a pre-prepared checklist, which
14 included the selection criteria described in the protocol; which were based on the
15 research question. Listings of preselected articles were subsequently agreed upon,
16 solving discrepancies by discussion.

17 - In a second phase, two reviewers independently read the full text of the studies
18 preselected in the previous phase, creating again two lists of potentially eligible articles.
19 Disagreements were resolved through discussion, and a third reviewer was required to
20 intervene when consensus was not reached. The complete texts of the accepted articles
21 were carefully read, and their lists of bibliographic references were examined in order to
22 identify possible relevant articles that had not been located in the initial search.

23 *2.4. Analysis of risk bias*

24 The selected studies were subsequently submitted to risk-of-bias analysis, which
25 was performed by two independent reviewers. The instruments used by these reviewers

1 were the assessment tools and critical reading proposed by Critical Appraisal Skills
2 Programme for qualitative studies (CASPe 2018), as well as the statement of the
3 STROBE initiative for observational studies (Von Elm et al., 2007) and the CONSORT
4 declaration for experimental and quasi-experimental studies (Grant 2018). The cut-off
5 point for the eligibility of the studies was established at the mean value of each scale,
6 that is, the article had to exceed 50% of items on the evaluation scale to be included in
7 the systematic review. In cases where no consensus was reached on the acceptability of
8 an article, a third reviewer was consulted. Finally, interjudge reliability was calculated
9 using intraclass correlation analysis.

10 *2.5. Tabulation and data analysis*

11 The studies finally included in the systematic review were coded on an Excel
12 database by the first author. The coding was reviewed by the second and third authors,
13 and doubts were resolved through discussion among all the authors. Subsequently,
14 summary tables were created in which the data of each selected study was recorded
15 according to the following categories:

16 - For quantitative studies: date and country of study, objective of research, size
17 and age of sample used, study design, duration, main outcome measures, significant
18 results, and conclusions.

19 - For qualitative studies: date and country of study, objective of the research,
20 size and age of the sample, sources of information, method of analysis, categories, and
21 conclusions.

22 *2.6. Data Synthesis*

23 Due to the high heterogeneity found in the outcome measures provided by the
24 quantitative studies, a meta-analysis was ruled out in this case. For this reason, a
25 narrative synthesis of the results was carried out in order to summarize the

1 characteristics of the study populations, measures, and interventions, using descriptive
2 statistics (Ioannidis, Patsopoulos, and Rothstein 2008).

3 In the case of qualitative studies, the indications of Williams, Smith, and
4 Papathomas (2014) were considered. The categories obtained in the different studies
5 were grouped into common themes from which the narrative synthesis of the outcomes
6 was developed.

7 **3. Results**

8 As shown in Figure 1, the electronic search initially located 8493 publications,
9 of which 992 were excluded because they were duplicate documents. After the title and
10 abstract reading, 7397 articles were excluded, and 19 papers were incorporated, located
11 in a secondary search after reviewing the reference lists of the potentially eligible
12 studies. In the second phase of selection, after full-text reading, 94 articles were
13 excluded for not meeting the inclusion criteria established in the checklists.
14 Subsequently, the risk-of-bias analysis excluded 13 studies for failing to meet the
15 established methodological quality criteria. The scores given by each reviewer to each
16 of the accepted studies, as well as the final score obtained by consensus, are available
17 online, in a document annexed to the protocol.

18 The systematic review finally included 16 studies, of which 10 presented a
19 quantitative design ($n = 12795$), 5 a qualitative design ($n = 79$), and 1 a mixed design (n
20 $= 86$). The intraclass correlation coefficient (ICC) showed high interjudge reliability for
21 peer analysis of the risk of bias (ICC = .946 [.852-.981], $p < .001$).

22

23

[INSERT FIGURE 1 ABOUT HERE]

24

1 This systematic review contains studies of quantitative, qualitative, and mixed
2 designs. Methodological differences, as well as the diversity of objectives that these
3 designs present, recommended performing their analysis separately (McCusker and
4 Gunaydin 2015).

5 *3.1. Quantitative Studies*

6 The 10 quantitative studies included were published between 2001 and 2015.
7 The study sample presents the following characteristics: the age range of the sample is
8 between 10 and 18 years for studies carried out with schoolchildren, and between 18
9 and 75 years for studies carried out with adults (teachers or ex-alumni in retrospective
10 studies). The mean age of the sample could not be determined because many studies
11 omitted that datum. Similarly, the sex ratio of the sample could not be accurately
12 determined because some articles did not provide that information. In those cases in
13 which it was reported, it was included in the results table (Table 1). The minimum and
14 maximum sample sizes were 60 and 7786, respectively. The most commonly used study
15 design was cross-sectional ($n = 5$), followed by experimental or quasi-experimental
16 studies ($n = 3$), and control cases ($n = 2$). The duration of the interventions varied
17 between 3 months and 4 years.

18 Given the high heterogeneity of the outcome measures used in the included
19 studies, it was decided to group them into categories for analysis. For the quantitative
20 studies, the following categories were established: (1) participation in PE and its
21 relation to school violence or bullying; (2) students' physical and psychological factors
22 associated with bullying or school violence in PE classes; (3) attitudes and behaviors
23 related to bullying or school violence in PE classes.

24 *3.1.1. Participation in PE and its relationship to school violence or bullying*

1 Three cross-sectional studies explored the relationship between PE participation
2 and school bullying behaviors. Gano-Overway (2013) obtained a lower level of bullying
3 and victimization during PE classes than in the general context of the school. Roman
4 and Taylor (2013) found that bully victimization was related to less participation in PE
5 and lower levels of daily physical activity. For their part, Scarpa et al. (2012) noted that
6 peer-victimization during PE classes had a negative influence on students' perception of
7 enjoyment of physical activity.

8 *3.1.2. Students' physical and psychological factors associated with bullying or school* 9 *violence in PE classes*

10 Eight of the reviewed studies analyzed the importance of students' physical and
11 psychological factors in the emergence of bullying behaviors in PE classes, of which 2
12 presented an experimental design, 2 presented a control case design, and 4 were cross-
13 sectional studies.

14 The main *physical* risk factor detected in this review to be victimized by
15 bullying was overweight and obesity (Bejerot et al., 2013; Peterson, Puhl, and Luedicke
16 2012; Puhl, Peterson, and Luedicke 2013; Roman and Taylor 2013). Other authors
17 reported psychological factors that could act as risk or protection factors against
18 bullying. Thus, students' positive self-image was related to greater participation in PE
19 and to a lower risk of being a victim of bullying (Roman and Taylor 2013; Zivin et al.,
20 2001), whereas one study found that the self-perception of students who were suffering
21 bullying in PE was threatened (Bejerot, Edgar, and Humble 2011). Similarly, cognitive
22 empathy, promoted by teachers through the creation of a climate that supports prosocial
23 attitudes in PE classes, was another variable to be considered to reduce bullying
24 behaviors (Gano-Overway 2013). Moreover, Hein, Koka, and Hagger (2015) concluded
25 in their study that students' perception of negative conditional regard and intimidating

1 behavior by PE teachers had a significant and indirect relationship with students'
2 feelings of anger and with the emergence of bullying behaviors, through the frustration
3 of their basic psychological needs for autonomy, competence, and relatedness.

4 In addition to the above, deficits in the performance of motor skills (Bejerot et
5 al., 2011, 2013), social skills deficits (Roman and Taylor 2013), and low academic
6 achievement were considered as risk factors to be bullied in PE, and students who
7 showed lower levels of academic talent presented higher rates of bully victimization
8 than those with higher academic talent (Bejerot et al., 2011; Roman and Taylor 2013).

9 *3.1.3. Attitudes and behaviors related to bullying or school violence in PE classes*

10 Only two studies analyzed the attitudes of students or teachers towards bullying
11 in PE and their relationship with the prevention of bullying or violence. On the one
12 hand, Tejero-González, Balsalobre-Fernández, and Ibáñez-Cano (2011) managed to
13 reduce unprovoked violence (that performed without apparent reason or cause) by 5% in
14 102 students of a school through a PE program based on martial arts and focused on the
15 modification of students' violent attitudes. On the other hand, the study of Peterson et al.
16 (2012) analyzed the attitudes and reactions of PE teachers towards overweight students
17 in bullying situations, concluding that teachers are more likely to intervene when the
18 victims are girls. Likewise, they suggest that female PE teachers have a greater
19 tendency to act in weight-based victimization situations compared to their male
20 colleagues.

21

22 [INSERT TABLE 1 ABOUT HERE]

23

24 *3.2. Qualitative Studies*

1 This section includes 5 qualitative studies and one mix-method study, published
2 between 2010 and 2018. For the narrative synthesis of the qualitative studies, the
3 indications of Williams et al. (2014) were taken into account. The study sample presents
4 the following characteristics: the age range of the sample is between 4 and 14 years for
5 studies carried out with schoolchildren, and between 18 and 52 years for studies with
6 adults. The mean age of the sample could not be determined because many studies
7 omitted that datum. Similarly, the sex ratio of the sample could not be accurately
8 determined because some articles did not provide that information. In those cases in
9 which it was reported, it was included in the results table (Table 2). The minimum and
10 maximum sample sizes were 3 and 83, respectively. The methods of analysis used were
11 thematic analysis, content analysis, ethnographic analysis, phenomenological analysis,
12 critical approach (constant comparison of inductive data), and a social-ecological
13 approach.

14 Given the high heterogeneity of the categories established by the studies
15 included in the review, it was decided to group them into conceptual themes, as
16 recommended by Percy, Kostere, and Kostere (2015). The following themes were
17 established: (a) the psychological and emotional impact of PE in relation to school
18 bullying; (b) individual differences as a cause of bullying in PE; (c) the role of others in
19 school bullying in the area of PE.

20 *3.2.1. Psychological and emotional impact of PE in relation to school violence or* 21 *bullying*

22 Four studies analyzed the impact of PE to reduce or mitigate school violence
23 through its psychological or emotional effects on the students (Coates and Vickerman
24 2010; Ko 2017; Martins da Silva et al., 2014; O'Connor and Graber 2014).

1 Coates and Vickerman (2010) examined the perspectives of children with
2 special educational needs in relation to their experiences in PE. Their results showed the
3 importance of PE for them, because they enjoyed participating in competitive activities,
4 and the teachers perceived that it was a good tool for the release of negative emotions.
5 In this same line, Ko (2017) reported that PE programs focused on changing attitudes
6 toward violence favor emotion regulation and the establishment of positive peer
7 relationships.

8 For their part, Martins da Silva et al. (2014) used martial arts as pedagogical
9 content in PE to work on body awareness, observing that this content was ideal for
10 students to develop positive attitudes of respect for the rules and against violence and
11 confrontation, and disloyal attitudes. Nevertheless, in the study of O'Connor and Graber
12 (2014), it was noted that bullying is a prevalent phenomenon in PE, which affects the
13 physical and mental well-being of the victimized students. In this sense, they underlined
14 the negative impact of PE for intrinsically including physical environments conducive
15 to bullying (such as the gymnasium or outdoor areas), while noting that the students
16 considered the changing rooms as the places where more bullying episodes are
17 produced, probably because it is an environment where the teacher is not present.

18 *3.2.2. Individual differences as a cause of bullying in PE*

19 On one hand, four studies highlighted the role of individual differences
20 perceived by students as catalysts for being a victim of bullying events in PE (Coates
21 and Vickerman 2010; Haegele and Kirk 2018; Jachyra 2016; O'Connor and Graber
22 2014). Factors such as body size or physical shape (e.g., being too heavy, thin, tall or
23 short), physical skills (e.g., being the "weakest"), general appearance and hygiene,
24 gender expression, and perceived sexual orientation (e.g., perceiving that a male or
25 female student may be homosexual) were related to the bullying experiences narrated by

1 the students during PE classes (Jachyra 2016; O'Connor and Graber 2014). On another
2 hand, two studies (Coates and Vickerman 2010; Haegele and Kirk 2018) explored the
3 bullying situations suffered by children with special educational needs (Coates and
4 Vickerman 2010) or with visual disabilities such as blindness (Haegele and Kirk 2018).
5 Despite the positive results mentioned in the former section, Coates and Vickerman
6 (2010) found episodes where some children with special education needs complained
7 that sometimes their competence and ability to participate in PE were questioned. In a
8 similar way, the participants of Haegele and Kirk (2018) generally reported being
9 excluded or having limited participation in PE, attributing these negative experiences to
10 their condition of visual impairment and the culture of hypermasculinity and
11 competitiveness that sometimes exists in PE.

12 *3.2.3. Role of others in school bullying in the area of PE*

13 Three studies obtained categories related to the role of others in PE, highlighting
14 the role of the adults as crucial social actors in the emergence or avoidance of bullying
15 (Coates and Vickerman 2010; Jachyra 2016; O'Connor and Graber 2014). Coates and
16 Vickerman (2010) emphasized the importance of PE teachers when adapting activities
17 that promote all the children's (with or without special educational needs) participation
18 and success instead of favoring exclusion, as well as their importance in handling
19 situations of bullying by peers without special educational needs. Similarly, the authors
20 also found that children with these special needs felt "angry" at their PE teachers'
21 concern about their ability to participate in activities of a competitive nature, as they
22 enjoyed these kinds of tasks (Coates and Vickerman 2010). Second, the study
23 conducted by Jachyra (2016) showed, through the experiences of the students, that PE
24 teachers can reproduce social discourses (e.g., hegemonic masculinity) in their classes
25 that promote bullying, and that lead not only to disinterest or hatred of the PE classes,

1 but also to negative consequences for the victims' well-being, such as body
2 dissatisfaction (Jachyra 2016). Finally, a last study (O'Connor and Graber 2014)
3 narrated PE's teachers' desire to combat bullying, but found that many of them did not
4 know how to behave in the face of bullying, for example, in situations of verbal
5 bullying. In addition, some teachers encouraged this phenomenon unconsciously
6 through the school curriculum, with activities such as dodgeball (O'Connor and Graber
7 2014). This study also included children's beliefs about their parents' actions in the face
8 of bullying in PE if they were victims or bullies. In the former case, parents promoted
9 violent attitudes in their children. In the latter case, they punished them by withdrawing
10 privileges and even physically.

11

12 [INSERT TABLE 2 ABOUT HERE]

13

14 **4. Discussion**

15 This systematic review aimed to study PE's relationship with school violence
16 and bullying. Moreover, as secondary objectives, we proposed to study the individual
17 aspects of students involved in bullying and school violence, and to examine the role of
18 PE teachers in the prevention of this phenomenon. For this purpose, 16 studies of
19 quantitative, qualitative, and mixed methodology were evaluated, discriminating the
20 different methodologies, as recommended by McCusker and Gunaydin (2015), in the
21 following discussion of results.

22 *4.1. Quantitative Studies*

23 Some studies related behaviors associated with school bullying with low
24 participation in and enjoyment of PE and with lower levels of physical activity. This is
25 consistent with studies suggesting a positive association between peer victimization and

1 social avoidance (Ranta et al., 2013; Storch et al., 2007; Tillfors et al., 2012). In this
2 way, bully victims could be developing non-self-determined forms of motivation
3 towards physical activity through their participation in PE, which would lead to
4 negative consequences related to lower levels of physical activity in their free time,
5 something that scientific literature has already revealed (Standage, Duda, and
6 Ntoumanis 2003). Thus, the importance of curricular content in promoting or decreasing
7 school violence has been highlighted, because the performance of socially masculinized
8 sports, such as American football or wrestling, seems to be associated with higher rates
9 of school violence (Kreager 2007). In this sense, activities that promote high values of
10 competitiveness, social comparison, and focus on the outcome instead of the process
11 have been related to non-self-determined forms of motivation that lead to low levels of
12 enjoyment of PE classes and poor scores of self-efficacy, which could lead to higher
13 levels of conflict among students (Almagro et al., 2011).

14 This review has also highlighted some individual (physical and psychological)
15 students' factors that act as risk or protection factors against bullying during PE
16 sessions. Thus, being overweight or obese, social and motor skills deficits, which may
17 also be linked to low levels of physical activity, and the lack of academic achievement,
18 can favor victimization in PE, which coincides with most of the previous studies in this
19 respect (Côté-Lussier et al., 2015; Martínez-Baena and Faus-Boscá 2018). In this sense,
20 the importance of students' participation in PE activities for the development of their
21 self-esteem, as well as the promotion of a class climate that favors empathy and reduces
22 bullying behaviors, has been emphasized. Empathy and self-esteem thus become a
23 crucial axis to prevent bullying and reduce victimization (Mitsopoulou and Giovazolias
24 2015; O'Moore and Kirkham 2001; Tsaousis 2016; Van Noorden et al., 2015).

1 The relevance of the PE teacher's figure and his or her actions in the face of
2 bullying situations is therefore obvious. As described in the previous section, the
3 teaching style and methodology adopted by teachers influences the emergence or
4 prevention of bullying behaviors in students, as it affects the satisfaction or frustration
5 of their basic psychological needs for autonomy, competence, and relatedness (Hein et
6 al., 2015). Research has shown that satisfying these needs is related to positive
7 outcomes that affect students' personal growth and psychological well-being (Van den
8 Berghe et al., 2014), so PE teachers should ensure that they create a respectful and
9 warm climate that favors need satisfaction.

10 Finally, few of the reviewed studies have experimentally evaluated the
11 importance of changing attitudes toward violence or towards the bully victim in PE in
12 order to reduce school bullying (Peterson et al., 2012; Tejero-González et al., 2011), so
13 it is not possible to establish solid conclusions in this regard. However, there is an
14 important body of evidence in school settings outside of PE, which advocates working
15 on attitudes in programs for the prevention of school violence (Brown et al., 2011;
16 Jiménez-Barbero et al., 2016a).

17 *4.2. Qualitative Studies*

18 Some of the reviewed authors consider that adequately oriented PE provides
19 psychological benefits and promotes the release of emotions that accompany bullying
20 situations. In this sense, PE would have the potential to promote students' personal
21 responsibility, empathy, and positive social behaviors, being a useful resource to
22 prevent bullying (Bailey 2006; Bailey et al., 2009; Morgan and Hansen 2008).

23 Individual peer differences as catalysts for violent experiences in PE are also
24 underlined in qualitative studies. Thus, being overweight or obese, poor motor skills,
25 disability, or gender expression, among others, have been considered as risk factors for

1 bullying victimization during PE sessions. However, in the case of children with special
2 educational needs, PE may be beneficial in promoting the release of their emotions.
3 Teachers must allow students to acquire a sense of belonging to the group of peers
4 through active participation in the activities (Coates and Vickerman 2008; Goodwin and
5 Watkinson 2000; Hutzler et al., 2002). This not only empowers the children with
6 disabilities, but also gives them skills to deal with bullying situations (Healy 2014).

7 Finally, the present study has highlighted the influence of other people,
8 understood as people not directly involved in the phenomenon of bullying but who play
9 an important role in it. In particular, parents and PE teachers could be acting as
10 supporters of school bullying. In the case of parents, they may be intervening as
11 messengers of intimidation, transmitting favorable attitudes towards violence to their
12 children, as has already been mentioned in other studies (Baldry 2003; Gómez-Ortiz,
13 Romera, and Ortega-Ruiz 2016). For their part, PE teachers may also be favoring these
14 behaviors by ignoring school violence, using curricular options that may favor bullying,
15 or by reproducing social discourses that can promote negative experiences in PE
16 classes. In this sense, Beltrán-Carrillo et al. (2012) have already warned of the existence
17 of these social discourses in PE, related to performance, competitiveness and hegemonic
18 masculinity. The influence of these social discourses can lead to a scenario of
19 marginalization, exclusion, or devaluation of the children and adolescents considered as
20 the weakest in class (e.g., students with worse physical condition or who are less agile),
21 promoting their physical inactivity.

22 *4.3. Conclusions*

23 The studies included in this review allow us to establish the following
24 conclusions:

1 Firstly, although some studies seem to indicate the potential of the subject of PE
2 to promote attitudes and behaviors contrary to school violence and bullying, there is still
3 insufficient scientific evidence to deduce a positive impact on the reduction or
4 prevention of this phenomenon. In fact, some of the studies indicate that PE is a subject
5 where the phenomenon of bullying is highly prevalent.

6 Secondly, the status or role that the PE teacher adopts when programming and
7 developing the classes is presented as a key element to prevent and/or encourage
8 bullying, either because of their active or passive actions in the face of bullying, the
9 curricular content they propose, or the social discourses promoted during PE classes.

10 Thirdly, the individual aspects of the students involved in school violence that
11 have to do with differences related to physical appearance, motor skills, disabilities, or
12 gender expression continue to act as predisposing variables of bullying situations and,
13 therefore, should be taken into account when planning the environment, programs, and
14 activities of PE.

15 *4.4. Strengths and Limitations*

16 As far as we know, this is the first systematic review which examines the
17 relationship of PE with school violence and bullying in accordance with the
18 recommendations of the PRISMA statement (Moher et al., 2015). This review also
19 addressed aspects and variables related to school violence, such as the students'
20 characteristics or the teacher's role, which should be taken into account when
21 elaborating programs aimed at preventing and/or reducing school bullying in the area of
22 PE.

23 Nevertheless, the high heterogeneity found in the outcome measures of the
24 included studies prevented us from knowing if there were differences in the variables
25 analyzed according to the country or context of each study. Moreover, with respect to

1 quantitative studies, this heterogeneity of outcome measures made not possible a meta-
2 analysis, as recommended by the PRISMA statement.

3 *4.5. Recommendations*

4 The following are evidence-based recommendations and implications for
5 research and practice, which emerge from this review.

6 *4.5.1. Implications for Research*

7 The authors only found two studies evaluating the efficacy of a PE program to
8 reduce or prevent school violence by means of experimental or quasi-experimental
9 designs, both based on martial arts (Tejero-González et al., 2011; Zivin et al., 2001). In
10 both cases, however, methodological limitations were found during the risk-bias
11 analysis, so it is recommended to perform more rigorous experimental studies that
12 develop anti-bullying interventions in the context of PE. In this sense, no studies were
13 found that carry out interventions aimed at promoting anti-bullying behaviors in PE
14 teachers, or in other social agents surrounding the students (e.g., relatives), so we
15 consider it necessary to perform research in this line.

16 Secondly, it would be advisable for the authors to use a measure of outcomes
17 that could be compared. One of the main problems encountered in analyzing the
18 outcomes was the diversity of variables and outcome measures employed in the
19 reviewed studies. For this purpose, when designing the studies, it would be advisable to
20 take into account the systematic reviews that have evaluated general programs of school
21 violence prevention and to consider outcome measures such as school climate, bullying
22 and victimization frequency, or attitudes toward violence (Jiménez-Barbero et al.,
23 2016a; Jiménez-Barbero et al., 2012; Ttofi and Farrington 2011).

24 Finally, the qualitative studies included in this review have allowed us to study
25 the factors that underlie bullying thanks to the experiences reported by the students,

1 teachers, and parents. However, it would be advisable to perform more studies using
2 this research methodology to delve into the outcomes derived from interventions aimed
3 at reducing bullying. The authors of this paper propose using both methodologies
4 (quantitative and qualitative) to achieve a broad and profound view of the phenomenon
5 under study. Moreover, more critical enquiry about how the specific social dynamics
6 and behavioral norms of PE impact on bullying incidents would be desirable. For
7 instance, some research has warned that PE can reinforce binary notions of gender and
8 dominant forms of masculinity (Gerdin and Larsson 2018; Joy and Larsson 2019),
9 fostering conditions for bullying situations. In the same way, studies which explore the
10 prevalence of bullying in PE compared to non-PE school environments may be of
11 interest for the improvement of future bullying prevention strategies. Studies analyzing
12 the impact of bullying on victims also seem necessary. An in-deep understanding of this
13 issue could be useful for the design and implementation of interventions aimed at
14 fostering empathy among classmates, teachers and parents.

15 *4.5.2. Implications for Practice*

16 This review suggests the importance of integrating into PE programs activities
17 aimed at promoting social competence and social skills in students as a way to avoid
18 rejection and victimization among peers. In this regard, we believe that PE teachers play
19 a decisive role in achieving these objectives. Through their intervention, teachers should
20 ensure that they create a respectful and tolerant environment for any type of diversity
21 existing in their classes, whether corporal, functional, sexual, or motor. A good way to
22 start creating this environment would be related to the choice of curricular contents
23 proposed in the subject. Thus, contents focused on values such as solidarity, respect,
24 discipline, and empathy towards others seem to be ideal activities to encourage a
25 bullying-free environment in PE classes. In addition, we propose that PE teachers

1 should avoid reproducing some hegemonic social discourses in their classes, especially
2 those that have to do with male domination, competitiveness and intolerance towards
3 diversity. Moreover, teachers could educate their students to challenge these social
4 discourses.

5 On another hand, we propose that PE teachers adapt and individualize the tasks,
6 as far as possible, to the students' skill level. This strategy could foster students'
7 perceived competence and self-esteem, and prevent embarrassing situations of motor
8 incompetence in front of others. Regarding the spaces where the PE classes take place,
9 we recommend actively intervening in PE environments that are conducive to bullying
10 situations. The gym, the outdoor area, or, especially, the changing rooms are sensitive
11 scenarios, so PE teachers should be alerted to deal with this phenomenon.

12 Finally, the very schools and PE teacher education (PETE) programs should
13 make their teachers aware of how to prevent bullying or how to act in the face of
14 bullying. PETE programs have the capacity to shape PE teachers' identity and,
15 ultimately, to engage teachers in transformative pedagogical practices with their
16 students (Walton-Fisette and Sutherland 2018). For that reason, contents about social
17 justice, equality, equity and tolerance should occupy an important role within these
18 programs. Moreover, we recommend holding periodic meetings among the teachers to
19 know the profile of the students who attend their classes. It would also be desirable to
20 hold meetings and talks with the students' parents, in order to exchange opinions with
21 the teachers, which may be relevant to their children's well-being and to promote anti-
22 bullying behaviors in them.

23

24

[INSERT APPENDIX A ABOUT HERE]

25

1 **5. Conflict of interest**

2 The authors stated that they had no potential conflict of interest with regard to
3 the investigation, authorship, and/or publication of this article.

4

5 **6. Funding**

6 This research did not receive any specific grant from funding agencies in the
7 public, commercial, or not-for-profit sectors. AJL was supported by the Valencian
8 Council of Education, Research, Culture and Sports with reference ACIF/2017/155.

9

10 **7. References**

11 Allen, K. P. 2010. Classroom management, bullying, and teacher practices. *Professional*
12 *Educator* 34 (1): 1–15.

13 Almagro, B. J., P. Sáenz-López, D. González-Cutre, and J. A. Moreno-Murcia. 2011.
14 Clima motivacional percibido, necesidades psicológicas y motivación intrínseca
15 como predictores del compromiso deportivo en adolescentes [Perceived
16 motivational climate, psychological needs and intrinsic motivation as predictors
17 of sport commitment in adolescent athletes]. *Revista Internacional de Ciencias*
18 *Del Deporte* 7 (24): 250–265. doi:10.5232/ricyde2011.02501

19 Bailey, R. 2006. Physical education and sport in schools: A review of benefits and
20 outcomes. *Journal of School Health* 76 (8): 397–401. doi:10.1111/j.1746-
21 1561.2006.00132.x

22 Bailey, R., K. Armour, D. Kirk, M. Jess, I. Pickup, and R. Sandford. 2009. The
23 educational benefits claimed for physical education and school sport: An academic
24 review. *Research Papers in Education* 24 (1): 1–27.
25 doi:10.1080/02671520701809817

- 1 Baldry, A. C. 2003. Bullying in schools and exposure to domestic violence. *Child Abuse*
2 *and Neglect* 27 (7): 713–732. doi:10.1016/S0145-2134(03)00114-5
- 3 Barbetta, P. M., K. L. Norona, and D. F. Bicard. 2005. Classroom behavior
4 management: A dozen common mistakes and what to do instead. *Preventing*
5 *School Failure: Alternative Education for Children and Youth* 49 (3): 11–19.
6 doi:10.3200/PSFL.49.3.11-19
- 7 Bejerot, S., J. Edgar, and M. B. Humble. 2011. Poor performance in physical education
8 - A risk factor for bully victimization. A case-control study. *Acta Paediatrica,*
9 *International Journal of Paediatrics* 100 (3): 413–419. doi:10.1111/j.1651-
10 2227.2010.02016.x
- 11 Bejerot, S., S. Plenty, A. Humble, and M. B. Humble. 2013. Poor motor skills: A risk
12 marker for bully victimization. *Aggressive Behavior* 39 (6): 453–461.
13 doi:10.1002/ab.21489
- 14 Beltrán-Carrillo, V. J., J. Devís-Devís, C. Peiró-Velert, and D. H. K. Brown. 2012.
15 When physical activity participation promotes inactivity: negative experiences of
16 Spanish adolescents in physical education and sport. *Youth & Society* 44: 3-27.
17 doi:10.1177/0044118X10388262
- 18 Booth, A., M. Clarke, G. Dooley, D. Gherzi, D. Moher, M. Petticrew, and L. Stewart.
19 2013. PROSPERO at one year: an evaluation of its utility. *Systematic Review* 2 (4):
20 1–7. doi:10.1186/2046-4053-2-4
- 21 Brown, E. C., S. Low, B. H. Smith, and K. P. Haggerty. 2011. Outcomes from a school-
22 randomized controlled trial of Steps to Respect: A bullying prevention program.
23 *School Psychology Review* 40 (3): 423–433. doi:10.1037/e550932011-004
- 24 CASPe. 2018. Critical appraisal skills programme. Retrieved July 17, 2018, from
25 <http://www.redcaspe.org/herramientas>

- 1 Coates, J., and P. Vickerman. 2008. Let the children have their say: Children with
2 special educational needs and their experiences of Physical Education - A review.
3 *Support for Learning* 23 (4): 168–175. doi:10.1111/j.1467-9604.2008.00390.x
- 4 Coates, J., and P. Vickerman. 2010. Empowering children with special educational
5 needs to speak up: Experiences of inclusive physical education. *Disability and*
6 *Rehabilitation* 32 (18): 1517–1526. doi:10.3109/09638288.2010.497037
- 7 Corral-Pernía, J. A., F. Chacón-Borrogo, J. Fernández-Gavira, and R. Del Rey. 2018.
8 Bullying and cyberbullying according to moderate vigorous physical activity
9 (MVPA) in Secondary School's Students. *Revista de Psicología Del Deporte* 27
10 (3): 70–75.
- 11 Côté-Lussier, C., C. Fitzpatrick, L. Séguin, and T. A. Barnett. 2015. Poor, unsafe, and
12 overweight: The role of feeling unsafe at school in mediating the association
13 among poverty exposure, youth screen time, physical activity, and weight status.
14 *American Journal of Epidemiology* 182 (1): 67–79. doi:10.1093/aje/kwv005
- 15 Cutrín, O., J. A. Gómez-Fraguela, L. Maneiro, and J. Sobral. 2017. Effects of parenting
16 practices through deviant peers on nonviolent and violent antisocial behaviours in
17 middle- and late-adolescence. *European Journal of Psychology Applied to Legal*
18 *Context* 9 (2): 75–82. doi:10.1016/j.ejpal.2017.02.001
- 19 Fraser-Thomas, J. L., J. Côté, and J. Deakin. 2005. Youth sport programs: An avenue to
20 foster positive youth development. *Physical Education and Sport Pedagogy* 10 (1):
21 19–40. doi:10.1080=1740898042000334890
- 22 Fuller, B., K. Gulbrandson, and B. Herman-Ukasick. 2013. Bully prevention in the
23 physical education classroom. *Strategies* 26 (6): 3–8. Retrieved from
24 10.1080/08924562.2013.839425

- 1 Gano-Overway, L. A. 2013. Exploring the connections between caring and social
2 behaviors in physical education. *Research Quarterly for Exercise and Sport* 84 (1):
3 104–114. doi:10.1080/02701367.2013.762322
- 4 Gano-Overway, L. A. 2014. The caring climate: How sport environments can develop
5 empathy in young people. In *Organizing through Empathy*, edited by K. Pavlovich
6 and K. Krahe, 166–183, New York: Routledge.
- 7 Gerdin, G., and H. Larsson. 2018. The productive effect of power: (dis)pleasure bodies
8 materialising in and through the discursive practices of boys' physical education.
9 *Physical Education and Sport Pedagogy* 23 (1): 66–83.
10 doi:10.1080/17408989.2017.1294669
- 11 Gibbone, A., and M. Manson. 2010. Bullying: Proactive physical educators'
12 contribution to school-wide prevention. *Journal of Physical Education, Recreation*
13 *& Dance* 81 (7): 20–24.
- 14 Gómez-Ortiz, O., E. M. Romera, and R. Ortega-Ruiz. 2016. Parenting styles and
15 bullying. The mediating role of parental psychological aggression and physical
16 punishment. *Child Abuse and Neglect* 51: 132–143.
17 doi:10.1016/j.chiabu.2015.10.025
- 18 Goodwin, D. L., and E. J. Watkinson. 2000. Inclusive physical education from the
19 perspective of students with physical disabilities. *Adapted Physical Activity*
20 *Quarterly* 17 (2): 144–160. doi:10.1123/apaq.17.2.144
- 21 Gould, D., R. Flett, and L. Lauer. 2012. The relationship between psychosocial
22 developmental and the sports climate experienced by underserved youth.
23 *Psychology of Sport and Exercise* 13 (1): 80–87.
24 doi:10.1016/j.psychsport.2011.07.005

- 1 Grant, S. 2018. The CONSORT-SPI 2018 extension: a new guideline for reporting
2 social and psychological intervention trials. *Addiction* 1–5. doi: 10.1111/add.14411
- 3 Haegele, J. A., and T. N. Kirk. 2018. Experiences in physical education: Exploring the
4 intersection of visual impairment and maleness. *Adapted Physical Activity*
5 *Quarterly* 35 (2): 196–213. doi:10.1123/apaq.2017-0132
- 6 Hand, K. E. 2016. Creating a bully-free environment in physical education. *Journal of*
7 *Physical Education, Recreation & Dance* 87 (7): 55–57.
8 doi:10.1080/07303084.2016.1203685
- 9 Healy, S. 2014. Preventing bullying in inclusive physical education. *Palaestra* 28 (2):
10 42–46.
- 11 Hein, V., A. Koka, and M. S. Hagger. 2015. Relationships between perceived teachers’
12 controlling behaviour, psychological need thwarting, anger and bullying behaviour
13 in high-school students. *Journal of Adolescence* 42: 103–114.
14 doi:10.1016/j.adolescence.2015.04.003
- 15 Hills, A. P., D. R. Dengel, and D. R. Lubans. 2015. Supporting public health priorities:
16 recommendations for physical education and physical activity promotion in
17 schools. *Progress in Cardiovascular Diseases* 57 (4): 368–374.
18 doi:10.1016/j.pcad.2014.09.010
- 19 Hutzler, Y., O. Fliess, A. Chacham, and Y. Van den Auweele. 2002. Perspectives of
20 children with physical disabilities on inclusion and empowerment: Supporting and
21 limiting factors. *Adapted Physical Activity Quarterly* 19: 300–317.
22 doi:10.1123/apaq.19.3.300
- 23 Ioannidis, J. P. A., N. A. Patsopoulos, and H. R. Rothstein. 2008. Reasons or excuses
24 for avoiding meta-analysis in forest plots. *British Medical Journal* 336 (7658):
25 1413–1415. doi:10.1136/bmj.a117

- 1 Jaarsma, E. A., and B. Smith. 2018. Promoting physical activity for disabled people
2 who are ready to become physically active: A systematic review. *Psychology of*
3 *Sport and Exercise* 37: 205–223. doi:10.1016/j.psychsport.2017.08.010
- 4 Jachyra, P. 2016. Boys, bodies, and bullying in health and physical education class:
5 implications for participation and well-being. *Asia-Pacific Journal of Health, Sport*
6 *and Physical Education* 7 (2): 121–138. doi:10.1080/18377122.2016.1196112
- 7 Jiménez-Barbero, J. A., J. A. Ruiz-Hernández, B. Llor-Esteban, & K. Waschgl.
8 2016b. Influence of attitudes, impulsivity, and parental styles in adolescents’
9 externalizing behavior. *Journal of Health Psychology* 21 (1): 122–131.
10 doi:10.1177/1359105314523303
- 11 Jiménez-Barbero, J. A., J. A. Ruiz-Hernández, L. Llor-Zaragoza, M. Pérez-García, and
12 B. Llor-Esteban. 2016a. Effectiveness of anti-bullying school programs: A meta-
13 analysis. *Children and Youth Services Review* 61: 165–175.
14 doi:10.1016/j.chilyouth.2015.12.015
- 15 Jiménez-Barbero, J. A., J. A. Ruiz-Hernández, B. Llor-Esteban, & M. Pérez-García.
16 2012. Effectiveness of antibullying school programmes: A systematic review by
17 evidence levels. *Children and Youth Services Review* 34 (9).
18 doi:10.1016/j.chilyouth.2012.04.025
- 19 Joy, P., and H. Larsson. 2019. Unspoken: exploring the constitution of masculinities in
20 Swedish physical education classes through body movements. *Physical Education*
21 *and Sport Pedagogy* 24 (5): 491-505. doi:10.1080/17408989.2019.1628935
- 22 Ko, M. S. 2017. 학교폭력 예방과 용서 및 태도 변화를 위한 신체활동 프로그램
23 개발 [Development of physical education program to prevent students from school

- 1 violence, forgiveness and change their attitude]. *Journal of Korean Society for the*
2 *Study of Physical Education* 22 (3): 1–14.
- 3 Kreager, D. A. 2007. Unnecessary roughness? School sport, peer networks, and male
4 adolescent violence. *American Sociological Review* 72 (2): 705–724.
5 doi:10.1177/000312240707200503
- 6 Little, T. D., S. M. Jones, C. C. Henrich, and P. H. Hawley. 2003. Disentangling the
7 “why” from the “whats” of aggressive behaviour. *International Journal of*
8 *Behavioral Development* 27 (2): 122–133. doi:10.1080/01650250244000128
- 9 Martínez-Baena, A., and J. Faus-Boscá. 2018. Acoso escolar y educación física: una
10 revisión sistemática [School bullying and physical education: A systematic
11 review]. *Retos* 34: 412–419.
- 12 Martins da Silva, J., A. S. F. Silva Martins, M. Barbosa-Câmara, and R. Souza-Bezerra.
13 2014. O bullying na Educação Física escolar: Uma abordagem do conteúdo lutas
14 na perspectiva da consciência corporal [Bullying in school Physical Education: An
15 approach of the fights content in the perspective of body awareness]. *Revista*
16 *Portuguesa de Ciências Do Desporto* 14 (S1A/S1R): 800–900.
- 17 McCusker, K., and S. Gunaydin. 2015. Research using qualitative, quantitative or
18 mixed methods and choice based on the research. *Perfusion (United Kingdom)* 30
19 (7): 537–542. doi:10.1177/0267659114559116
- 20 Menesini, E., and C. Salmivalli. 2017. Bullying in schools: the state of knowledge and
21 effective interventions. *Psychology, Health & Medicine* 22 (sup1): 240–253.
22 doi:10.1080/13548506.2017.1279740
- 23 Merrell, K. W., B. A. Gueldner, S. W. Ross, and D. M. Isava. 2008. How effective are
24 school bullying intervention programs? A meta-analysis of intervention research.
25 *School Psychology Quarterly* 23 (1): 26–42. doi:10.1037/1045-3830.23.1.26

- 1 Mitsopoulou, E., and T. Giovazolias. 2015. Personality traits, empathy and bullying
2 behavior: A meta-analytic approach. *Aggression and Violent Behavior* 21: 61–72.
3 doi:10.1016/j.avb.2015.01.007
- 4 Modecki, K. L., J. Minchin, A. G. Harbaugh, N. G. Guerra, and K. C. Runions. 2014.
5 Bullying prevalence across contexts: A meta-analysis measuring cyber and
6 traditional bullying. *Journal of Adolescent Health* 55 (5): 602–611.
7 doi:10.1016/j.jadohealth.2014.06.007
- 8 Moher, D., L. Shamseer, M. Clarke, D. Ghersi, A. Liberati, M. Petticrew, P. Shekelle,
9 and E. Stewart. 2015. Preferred reporting items for systematic review and meta-
10 analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews* 4 (1): 148–
11 160. doi:10.1186/2046-4053-4-1
- 12 Morgan, P. J., and V. Hansen. 2008. Physical education in primary schools: Classroom
13 teachers' perceptions of benefits and outcomes. *Health Education Journal* 67 (3):
14 196–207. doi:10.1177/0017896908094637
- 15 O'Connor, J. A., and K. C. Graber. 2014. Sixth-grade physical education: An
16 acculturation of bullying and fear. *Research Quarterly for Exercise and Sport* 85
17 (3): 398-408. doi:10.1080/02701367.2014.930403
- 18 O'Moore, M., and C. Kirkham. 2001. Self-esteem and its relationship to bullying
19 behaviour. *Aggressive Behavior* 27 (4): 269–283. doi:10.1002/ab.1010
- 20 Olweus, D. 1994. Bullying at school: Basic facts and effects of a school based
21 intervention program. *Journal of Child Psychology and Psychiatry* 35 (7): 1171–
22 1190. doi:/10.1111/j.1469-7610.1994.tb01229.x
- 23 Olweus, D. 1996. Bullying at school: Knowledge base and an effective intervention
24 program. *Annals of the New York Academy of Sciences* 794 (1): 265–276.

- 1 Parrish, A. M., H. Yeatman, D. Iverson, and K. Russell. 2012. Using interviews and
2 peer pairs to better understand how school environments affect young children's
3 playground physical activity levels: A qualitative study. *Health Education*
4 *Research* 27 (2): 269–280. doi:10.1093/her/cyr049
- 5 Percy, W. H., K. Kostere, and S. Kostere. 2015. Generic qualitative research in
6 Psychology. *The Qualitative Report* 20 (2): 76–85. Retrieved from
7 <http://www.nova.edu/ssss/QR/QR20/2/percy5.pdf>
- 8 Peterson, J. L., R. M. Puhl, and J. Luedicke. 2012. An experimental investigation of
9 physical education teachers' and coaches' reactions to weight-based victimization
10 in youth. *Psychology of Sport and Exercise* 13 (2): 177–185.
11 doi:10.1016/j.psychsport.2011.10.009
- 12 Puhl, R. M., J. L. Peterson, and J. Luedicke. 2013. Strategies to address weight-based
13 victimization: Youths' preferred support interventions from classmates, teachers,
14 and parents. *Journal of Youth and Adolescence* 42 (3): 315–327.
15 doi:10.1007/s10964-012-9849-5
- 16 Ranta, K., R. Kaltiala-Heino, S. Fröjd, and M. Marttunen. 2013. Peer victimization and
17 social phobia: A follow-up study among adolescents. *Social Psychiatry and*
18 *Psychiatric Epidemiology* 48 (4): 533–544. doi:10.1007/s00127-012-0583-9
- 19 Roman, C. G., and C. J. Taylor, 2013. A multilevel assessment of school climate,
20 bullying victimization, and physical activity. *Journal of School Health* 83 (6): 400-
21 407. doi:10.1111/josh.12043
- 22 Ruiz-Hernández, J. A., E. Moral-Zafra, B. Llor-Esteban, and J. A. Jiménez-Barbero.
23 2018. Influence of parental styles and other psychosocial variables on the
24 development of externalizing behaviors in adolescents: A systematic review. *The*

- 1 *European Journal of Psychology Applied to Legal Context* 11 (1): 9–21.
2 doi:10.5093/ejpalc2018a11
- 3 Sánchez-Queija, I., I. García-Moya, and C. Moreno. 2017. Trend analysis of bullying
4 victimization prevalence in Spanish adolescent youth at school. *Journal of School*
5 *Health* 87 (6): 457-464. doi:10.1111/josh.12513
- 6 Scarpa, S., A. Carraro, E. Gobbi, and A. Nart. 2012. Peer-victimization during physical
7 education and enjoyment of physical activity. *Perceptual and Motor Skills* 115 (1):
8 319–324. doi:10.2466/06.05.10.PMS.115.4.319-324
- 9 Sklad, M., R. Diekstra, M. De Ritter, and J. Ben. 2012. Effectiveness of school-based
10 universal social, emotional, and behavioral programs: do they enhance students’
11 development in the area of skill, behavior, and adjustment? *Psychology in the*
12 *Schools* 49 (9): 892–909. doi:10.1002/pits.21641
- 13 Smith, P. K. 2016. Bullying: definition, types, causes, consequences and intervention.
14 *Social and Personality Psychology Compass* 10 (9): 519-532.
15 doi:10.1111/spc3.12266
- 16 Standage, M., J. L. Duda, and N. Ntoumanis. 2003. A model of contextual motivation in
17 physical education: Using constructs from self-determination and achievement
18 goal theories to predict physical activity intentions. *Journal of Educational*
19 *Psychology* 95 (1): 97-110. doi:10.1037/0022-0663.95.1.97
- 20 Stanley, R. M., K. Boshoff, and J. Dollman. 2012. Voices in the playground: A
21 qualitative exploration of the barriers and facilitators of lunchtime play. *Journal of*
22 *Science and Medicine in Sport* 15 (1): 44–51. doi:10.1016/j.jsams.2011.08.002
- 23 Storch, E. A., V. A. Milsom, N. DeBraganza, A. B. Lewin, G. R. Geffken, and J. H.
24 Silverstein. 2007. Peer victimization, psychosocial adjustment, and physical

- 1 activity in overweight and at-risk-for-overweight youth. *Journal of Pediatric*
2 *Psychology* 32 (1): 80–89. doi:10.1093/jpepsy/jsj113
- 3 Tejero-González, C. M., C. Balsalobre-Fernández, and A. Ibáñez-Cano. 2011. La
4 defensa personal como intervención en la modificación de actitudes violentas
5 [Self-defense as an educational intervention to modify violent attitudes].
6 *International Journal of Medicine and Science of Physical Activity and Sport* 11
7 (43): 513–530.
- 8 Thomas, H. J., J. P. Connor, D. M. Lawrence, J. M. Hafekost, S. R. Zubrick, and J. G.
9 Scott. 2017. Prevalence and correlates of bullying victimisation and perpetration in
10 a nationally representative sample of Australian youth. *The Australian and New*
11 *Zealand Journal of Psychiatry* 51 (9): 909-920. doi:10.1177/0004867417707819
- 12 Tillfors, M., S. Persson, M. Willén, and W. J. Burk. 2012. Prospective links between
13 social anxiety and adolescent peer relations. *Journal of Adolescence* 35 (5): 1255–
14 1263. doi:10.1016/j.adolescence.2012.04.008
- 15 Tischler, A., and N. McCaughy. 2011. PE is not for me: When boys' masculinities are
16 threatened. *Research Quarterly for Exercise and Sport* 82 (1): 37–48.
17 doi:10.1080/02701367.2011.10599720
- 18 Tsaousis, I. 2016. The relationship of self-esteem to bullying perpetration and peer
19 victimization among schoolchildren and adolescents: A meta-analytic review.
20 *Aggression and Violent Behavior* 31: 186–199. doi:10.1016/j.avb.2016.09.005
- 21 Ttofi, M. M., and D. P. Farrington. 2011. Effectiveness of school-based programs to
22 reduce bullying: A systematic and meta-analytic review. *Journal of Experimental*
23 *Criminology* 7 (1): 27–56. doi:10.1007/s11292-010-9109-1
- 24 Twemlow, S. W., P. Fonagy, F. C. Sacco, M. L. Gies, R. Evans, and R. Ewbank. 2001.
25 Creating a peaceful school learning environment: a controlled study of an

- 1 elementary school intervention to reduce violence. *The American Journal of*
2 *Psychiatry* 158 (5): 808–810. doi:10.1176/appi.ajp.158.5.808
- 3 Van den Berghe, L., M. Vansteenkiste, G. Cardon, D. Kirk, and L. Haerens. 2014.
4 Research on self-determination in physical education: Key findings and proposals
5 for future research. *Physical Education and Sport Pedagogy* 19 (1): 97-121.
6 doi:10.1080/17408989.2012.732563
- 7 Van Noorden, T. H. J., G. J. T. Haselager, A. H. N. Cillessen, and W. M. Bukowski.
8 2014. Empathy and involvement in bullying in children and adolescents: A
9 systematic review. *Journal of Youth and Adolescence* 44 (3), 637–657.
10 doi:10.1007/s10964-014-0135-6
- 11 Volk, A. A., R. Veenstra, and D. L. Espelage. 2017. So you want to study bullying?
12 Recommendations to enhance the validity, transparency, and compatibility of
13 bullying research. *Aggression and Violent Behavior* 36: 34–43. doi:10.1016/j.avb.2
- 14 Von Elm, E., D. G. Altman, M. Egger, S. J. Pocock, P. C. Gøtzsche, and J. P.
15 Vandembroucke. 2007. The strengthening the reporting of observational studies in
16 epidemiology (STROBE) statement: guidelines for reporting observational studies.
17 *PLoS Medicine* 4 (10): 1623–1627. doi:10.1371/journal.pmed.0040296
- 18 Vreeman, R. C., and A. E. Carroll. 2007. A systematic review of school-based
19 interventions to prevent bullying. *Archives of Pediatrics & Adolescent Medicine*
20 161 (1): 78-88.
- 21 Walton-Fisette, J. L., and S. Sutherland. (2018). Moving forward with social justice
22 education in physical education teacher education. *Physical Education and Sport*
23 *Pedagogy* 23 (5): 461-468. doi:10.1080/17408989.2018.1476476
- 24 Weimer, W. R., and C. E. Moreira. 2014. Violência e bullying: manifestações e
25 consequências nas aulas de Educação Física escolar [Violence and bullying:

- 1 Expressions and consequences of Physical Education classes]. *Revista Brasileira*
2 *de Ciências Do Esporte* 36 (1): 257–274. doi:10.1590/S0101-32892014000100017
- 3 Williams, T. L., B. Smith, and A. Papatomas. 2014. The barriers, benefits and
4 facilitators of leisure time physical activity among people with spinal cord injury: a
5 meta-synthesis of qualitative findings. *Health Psychology Review* 8 (4): 404-425.
6 doi:10.1080/17437199.2014.898406
- 7 Wolfe, D. A., C. Crooks, P. Jaffe, D. Chiodo, R. Hughes, W. Ellis, L. Stitt, and A.
8 Donner. 2009. A school-based program to prevent adolescent dating violence.
9 *Archives of Pediatrics & Adolescent Medicine* 163 (8): 692–699.
10 doi:10.1001/archpediatrics.2009.69
- 11 Zivin, G., N. R. Hassan, G. F. DePaula, D. A. Monti, C. Harlan, K. D. Hossain, and K.
12 Patterson. 2001. An effective approach to violence prevention: Traditional martial
13 arts in middle school. *Adolescence* 36 (143): 443-460.
- 14 Zych, I., D. P. Farrington, V. J. Llorent, and M. M. Ttofi. 2017. “School bullying in
15 different countries: Prevalence, risk factors, and short-term outcomes.” In
16 *Protecting children against bullying and its consequences*, edited by I. Zych, D. P.
17 Farrington, V. J. Llorent, & M. M. Ttofi, 5–22, Cham: Springer.

Fig. 1. The selection process (Following PRISMA guidelines, Moher et al., 2009).

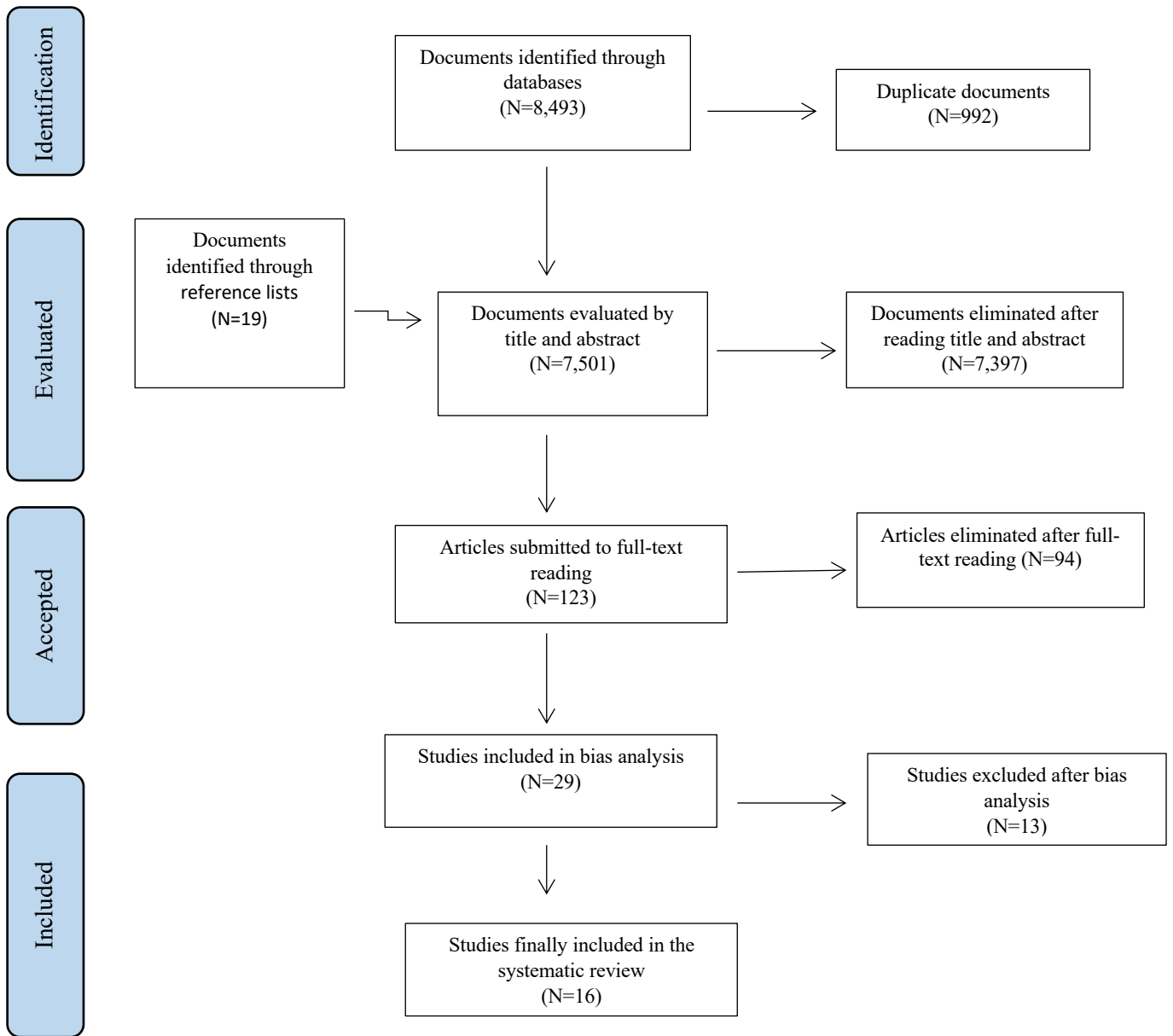


Table 1

Quantitative studies included in the systematic review

<i>Author / Country</i>	<i>Objective</i>	<i>Sample size</i>	<i>Age</i>	<i>Design / Intervention</i>	<i>Duration</i>	<i>Outcome measures / Instruments</i>	<i>Main findings</i>	<i>Conclusions</i>
Bejerot et al. (2011) / Sweden	-To explore in PE the relationship between a history of deficient physical and social skills in childhood and victimization by intimidation among individuals of high academic performance without previous diagnosis of ASD, ADHD, or Conduct Disorders. -To examine whether subliminal traits related to ADHD and ASD increase the risk of bullying in these students.	69 Cases (victimized) = 25 Controls (not victimized) = 44	19-29	Retrospective Control Case	N/A	-Self-concept, executive problems, motor and academic skills, victimization by intimidation / ad hoc. -Inattention and hyperactivity-impulsiveness / Adult ADHD Self-report Scale (ASRS). -Autism / Ritvo Autism and Asperger Diagnostic (RAADS-R). -Mild neurological signs and autistic traits / Neurologic Evaluation Scale (NES).	-Performance in PE below average was a risk factor for being intimidated (OR= 3.59 [95% CI=1.23-10.5]). -Strong correlation between poor performance in PE and a longer duration of victimization (r=0.32) and frequency of being intimidated (r=0.31). -No differences between the bullied group and the non-bullied in symptoms of ADHD, autism, and social and emotional reciprocity.	-Poor motor skills and poor performance in PE is a strong risk factor for being bullied. -There are no group differences in the variables related to social skills.
Bejerot et al. (2013) / Sweden	To study in non-clinical population whether poor motor skills, manifested through poor PE talents, are associated	2730 M = 2161 F = 439	18-75	Retrospective Control Case	4 years and 5 months	-Gross motor skills / PE ad hoc talent questionnaire. -School bullying and victimization by bullying / ad hoc questionnaire.	Motor skills below average in childhood are associated with an increased risk of being bullied OR= 3.05 [95% CI =1.97-4.60].	Poor gross motor skills manifested in PE activities are a robust marker of victimization vulnerability.

	with victimization by bullying.						-Overweight.		
Gano-Overway, (2013) / USA	To explore the relationship between a caring climate, prosocial and antisocial behaviors and bullying in PE.	528 M = 241 F = 287	Middle School 10-15	Cross-sectional	6 months	-Perceived caring climate / Caring Climate Scale. -Empathy / Basic Empathy Scale. -Social behaviors / Child Social Behaviors Questionnaire. -Bullying / University of Illinois Bully Scale. -Bullying prevalence / ad hoc.	-Prevalence of bullying: 15% had bullied others during PE classes vs. 23% in school in general and 28% being bullied during PE classes vs. 39% in school in general. -The perception of a caring climate positively predicts prosocial behavior and cognitive empathy and negatively predicts antisocial behavior and bullying. ($\chi^2(214)=351.59$, $p<.001$, CFI=0.959, TLI=0.95, RMSEA=0.04).	The creation of a caring climate is one of the PE teachers' tools to promote positive behaviors and reduce bullying.	
Hein et al. (2015) / Estonia	To develop a model to understand the associations between students' perceptions of their PE teachers' controlling behavior, perceptions of frustration of their basic psychological needs, anger, and intimidating behavior.	602 M = 306 F = 293	12-16	Cross-sectional	N/A	-Teachers' controlling behavior / Multidimensional Controlling Coach Behaviour Scale (CCBS). -Perception of frustration of basic psychological needs in PE/ Psychological Need Thwarting Scale.	Students' perceptions of intimidation and negative conditional regard exhibited by their PE teachers had an indirect effect on their feelings of anger and bullying behavior through the perception of frustrated psychological needs ($\chi^2(238)=704.33$,	PE teachers who avoid the use of intimidation and of negative conditional regard in their classes have students who perceive fewer frustrated needs and report less bullying behavior.	

Peterson et al. (2012) / USA	To examine the responses of PE teachers and coaches toward different types of victimization, involving images of average weight and overweight students.	PE Teachers 162 M = 71 F = 91	Middle and Secondary School 43.7 (10.2)	Experimental Design / Stimuli: Visualization of photographs of overweight and average weight students	N/A	-Bullying behavior and anger / Modified Aggression Scale (MAS). -Participants' reactions to hypothetical scenarios / ad hoc scale. -Attitudes towards target students / Fat Phobia Scale.	CFI=0.96, NFI= 0.95, RMSEA=0.057). Participants were more likely to intervene when the victim was overweight and female (verbal victimization, $F=3.241, p=.007$, relational victimization, $F=5.623, p=.019$).	The findings suggest the importance of increasing awareness of weight-based victimization and its consequences.
Puhl et al. (2013) / USA	To survey youths who reported previous experiences of weight-based victimization about their preferred support interventions from peers, friends, teachers, PE teachers, and parents.	361 M = 44% F = 40% Not reported = 57	14-18	Cross-sectional	N/A	-Weight-based victimization / ad hoc scale. -Intervention preferences. -Demographic information. -Perceived social support.	- Desire for intervention to help cope with weight-based victimization was highest for friends (66%) and peers (58%), followed by teachers (55%), PE teachers (44%), and parents (43%). - Victims preferred supportive interventions from their classmates (e.g., encouragement and inclusion in activities), but more disciplinary or regulatory interventions from school staff (e.g.,	The findings can be useful for the implementation of future interventions aimed at reducing weight-based victimization.

							verbal warning or punishment).	
Roman and Taylor (2013) / USA	To examine the influence of bullying victimization and school environment on physical activity.	7786	Middle School 11-16	Cross-sectional	1 year	- Days of PE / week / ad hoc. -Overweight / obesity / ad hoc. -Bullying / victimization: Olweus Bully / Victim Questionnaire. -Number of friends / ad hoc. -Positive self-image / ad hoc. -Academic achievement / ad hoc.	Students who reported being bullied reported fewer days of participation in PE (ERR=0.95 [0.91, 1.00]) and being less likely to participate more than 1 day per week in physical activity (OR=0.72 [0.55, 0.95]).	The results suggest that reduced levels of PE and physical activity represent a health problem associated with victimization by intimidation.
Scarpa et al. (2012) / Italy	To examine the relationships between peer victimization during sports practice in PE and the enjoyment of physical activity.	395 M = 219 F = 176	12-13	Cross-sectional	N/A	-Peer victimization / Multidimensional Peer-Victimization Scale (MPVS). -Enjoyment of physical activity / Physical Activity Enjoyment Scale (PACES).	Negative associations were observed between peer victimization during sports practice in PE and the enjoyment of physical activity. In particular, verbal victimization and total victimization are related to all the scales of enjoyment of physical activity, but the association is weak ($r=-$	-Peer victimization leads to less enjoyment of the activity during PE sessions. -There are probably other extrinsic factors that determine enjoyment of physical activity, such as self-efficacy in

							.14, $p < .01$ and $r = -.13$, $p < .01$, respectively).	sports, the characteristics of the PE teacher, and the real and perceived sport competition.
Tejero-González et al. (2011) / Spain	To examine the extent to which a self-defense PE teaching unit can reduce violence in high school students.	102 M = 45 F = 57	14-18	Quasi-experimental. Pre-post without control group / Self-defense teaching unit	9 sessions carried out over 3 months	Attitudes towards violence: -General violence, -Unprovoked violence and -Violence as a form of self-protection / ad hoc.	The analysis of unprovoked violence subscale shows statistically significant differences between pre-intervention measurement ($M = 1.73$) and post-intervention measurement ($M = 1.63$) ($t(101) = 2.04$, $p = .021$), although small effect sizes were obtained ($\delta = 0.20$).	A self-defense teaching unit in PE can reduce unprovoked violence in high school students.
Zivin et al. (2001) / USA	To study the effectiveness of martial arts for the prevention of school violence in Middle Schools.	60 Boys IG = 32 CG = 28	Middle School 11-14	Randomized Clinical Trial / Traditional martial arts course	Time 1-2: 6 months Time 2-3: 6 months	-Negative behaviors / Sutter-Eyberg Inventory Student Behavior. -Behavior, schoolwork, popularity, anxiety, happiness / Piers-Harris Children Self Concept Scale. -Attentional self-control / Intermediate Visual and Auditory	Teachers' rating: IG reduced negative behaviors, whereas CG increased them (mean differences not available). Students' rating: IG better scores than CG in happiness ($t(50) = 1.83$, $p = .04$) and class work ($t(50) = 3$, $p = .002$)	Traditional martial arts in the area of PE can reduce violent behaviors in middle school students.

Continuous
Performance Test.
-Permanent
expulsion from
school.

M = males; F= females; PE = Physical Education; ASD = Autism Spectrum Disorders; ADHD = Attention Deficit Hyperactivity Disorder; CG = Control Group; IG = Intervention Group; χ^2 = Chi squared; Z = Standardized unit of the mean; δ = Cohen's delta ; OR = Odds Ratio; ERR = Even Rate Ratio; t = Student's t; F = Snedecor's F; r = Pearson's r; CI = confidence interval; $RMSEA$ = Root Mean Square Error of Approximation; CFI = Confirmatory Fit Index; NFI = Normed Fit Index; TLI = Tucker-Lewis Index.

Table 2

Qualitative and mix-method studies included in the systematic review

<i>Author / Country</i>	<i>Objective</i>	<i>Sample size</i>	<i>Age</i>	<i>Sources of information</i>	<i>Analytic method</i>	<i>Categories</i>	<i>Conclusions</i>
Coates and Vickerman (2010) / United Kingdom	To evaluate the views of children with SEN related to their inclusion and experience in PE.	Surveys: 83 M = 57 F = 26 Focus Group: 3 M = 2 F = 1	7-14	-Self-administered surveys. -Focus Group.	Thematic Analysis.	-PE Activities. -What is important in PE? -Feelings about PE. -Other people in PE classes. -What I would like in PE.	-Children with SEN in conventional schools obtain social and psychological benefits from PE, and learn to release the emotions caused by school bullying. -Teachers and schools should improve bullying management in PE classes with children with SEN.
Haegele and Kirk (2018) / USA	To examine the perspectives on PE of males with visual limitation.	6	18-33	-Semi-structured interview. -Telephone interview. -Reflective field notes.	Four-step phenomenological interpretive analysis.	-Non-inclusive experiences based on blindness. -Bullying, blindness, and maleness. - Competitive culture glass ceiling.	Visual limitation in males is the cause of school bullying and exclusion in PE classes by students and teachers.
Jachyra (2016) / Canada	To explore the mechanisms that deter boys from active participation and incite cultural disaffection towards Health	15	4-14	-Participant observation. -Semi-structured formal interviews.	Grounded theory data analysis.	-Boys, bodies, and pedagogies. -Teachers, ostracism, and disengagement. -Misfits among peers in HPE: Derision, bullying	-The boys are disconnected from HPE because of their repeated experiences of abuse, degradation, and explicit and symbolic ignominy by teachers and peers. -The findings of this study suggest the need for teachers to

	and PE classes (HPE).					and disengagement. -Body image challenges and participation.	reflect on their teaching practices, while teaching students critical health literacy skills in an effort to meet adolescent boys' health and well-being needs. PE programs can help modulate emotions and maintain a positive relationship with others, reducing the risk of school violence.
Ko (2017) / South Korea	To prevent school violence and develop a PE program for students' attitude change.	3 PE Teachers and 2 university professors of Sports Education	Not specified	-In-depth interviews. -Experts' meeting.	Inductive content analysis.	-Students' positive emotions. -Students' emotional attitudes.	
Martins da Silva et al. (2014) / Portugal	To study the pedagogical content of fighting in PE programs and its effect on students' corporal awareness and modification of violent attitudes.	25	8-9	-Semi-structured interviews. -Participant observation.	Ethnographic analysis.	-Body awareness. -Fights. -Violence.	Body awareness considered in school PE through the pedagogical content of fighting would help students develop correct attitudes towards violence, enhance respect for the rules, strengthen behaviors against disloyal attitudes and assimilation of actions against confrontation.
O'Connor and Graber (2014) / USA	To discover students' and teachers' perceptions of bullying in PE. -To explore students' perceptions of the support of peers and adults (teachers and	-4 PE teachers. -24 Sixth-grade students: Bullies = 6 Victims = 6 Bystanders = 6 Bully-victims = 6	- Teachers : 32, 39, 51, 52. - Students : 10-12	-Formal interviews: combination of standardized open interview and structured interview. -Informal interviews: an informal conversational	- Open and axial coding. - Codes analyzed both inductively and deductively throughout the duration of the project. - Constant comparative	-Adults as bullies: Parents as messengers of bullying. Teacher inattention as bullying. Curricular choices as bullying. -Differences as bullying material. -Fear as a bully: No snitching. Lack	-Specific intervention programs are needed for bullying in PE. -PE educators should be critically reflective of their management (be proactive in the face of verbal and physical bullying) and instructional systems, and introduce instructional methods that promote empathy.

family) in relation to bullying in PE.
-To determine in which PE environments bullying behaviors are occurring.

interview technique.

process of data analysis.

of peer assistance. Physical environments as bullying.
-Impacts of bullying in PE.

SEN = Special Educational Needs; PE = Physical Education; HPE = Health and PE Classes.

Supplementary Material

Appendix A

	<i>MEDLINE</i>	<i>PsycINFO</i>	<i>SportDiscus</i>	<i>Web of Science</i>	<i>Scopus</i>
#1	(“Physical”) AND (“Educat*”) OR (“Activity”) AND (“Bully*”)	(“Physical Educat*”) AND (“Bully*”) OR (“School Violenc*”)	(“Physic*”) AND (“Educat*”) AND (“Bully*”) OR (“Harassm*”) OR (“School Violenc*”)	(“Physic*”) AND (“Educat*”) AND (“Bully*”) OR (“Harassm*”) OR (“School Violenc*”)	(“Physic* Educat*”) AND (“Bully*”) OR (“School Violenc*”) OR (“Harassm*”) AND (“teach* status”)
#2	(“Physic* Educat*”) AND (“School Violenc*”) AND (“teacher status”)	(“Physical”) AND (“Educat*”) AND (“Harassm*”) OR (“Bully*”)	(“Physical Educat*”) OR (“teacher”) AND (“Bully*”) OR (“School Violenc*”)	(“Physic* Educat*”) AND (“Bully*”)	(“Physic* Educat*”) AND (“Bully*”) OR (“School Violenc*”)
#3	#1 OR #2	#1 OR #2	#1 OR #2	#1 OR #2	#1 AND #2
#4	(“Physic*”) AND (“Educat*”) AND (“Bully*”) OR (“Harassm*”) OR (“School Violenc*”)	(“Physic* Educat*”) OR (“teacher status”) AND (“Bully*”)	(“Physical”) AND (“Educat*”) OR (“Activity”) AND (“Bully*”) OR (“Harassm*”)	(“Physical”) AND (“Educat*”) OR (“Activity”) AND (“Bully*”)	(“Physic*”) AND (“Educat*”) AND (“Bully*”) OR (“Harassm*”) OR (“School Violenc*”)

#5	("Physic* Educat*") AND ("teacher status") AND ("Bully*") OR ("School Violenc*") OR ("Harrassm* in school*")	("Physic* Educat*") AND ("Bully*") OR ("School Violenc*") OR ("Harrassm* in school*")	("Physic* Educat*") OR ("teach* status") AND ("Bully*") OR ("School Violenc*") OR ("Harrassm* in school*")	("Physic* Educat*") AND ("Bully*") OR ("School Violenc*") OR ("Harrassm* in school*")	("Physic* Educat*") AND ("teacher") AND ("Bully*") OR ("School Violenc*") OR ("Harrassm* in school*")
#6	#4 OR #5	#4 OR #5	#4 OR #5	#4 OR #5	#4 OR #5
Title	1815	2849	992	1480	1357
s					
