Association between workplace violence and burnout syndrome among schoolteachers: A systematic review

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Abstract

Introduction: This review aimed to examine systematically the epidemiological evidence linking occupational exposure to violence with risk of burnout syndrome (BOS) among schoolteachers.

Methods: A systematic review of literature used five primary databases: PsycINFO; Web of Science; PubMed Medline; Scopus; Cochrane; and keywords related to (a) workplace violence (WV), bullying, harassment, lateral violence, pupil misconduct, physical assault, teacher victimization; (b) schoolteachers, teachers, schools, pre-primary, kindergarten, primary, secondary; (c) burnout, emotional exhaustion, depersonalization, to identify relevant articles. Articles included featured occupational violence and burnout among schoolteachers. Results of the studies were analysed qualitatively.

Results: Of 1,472 peer-reviewed articles initially identified, 13 articles were included. All of them were published from 2005 to 2021 and had a quantitative approach. Type of violence against teachers ranged from workplace bullying or mobbing (n = 4), psychological violence (n = 4), to a combination of physical and psychological violence (n = 5). Most of the (verbal and physical) violence was perpetrated by students (n = 9). All grade and levels of schoolteachers were involved. In all cross-sectional studies (n = 10), WV was found to be correlated or associated with BOS (n = 5), the dimensions of EE and DP (n = 4) or the only dimension of EE (n = 2). Longitudinal studies showed that depersonalization was a significant predictor of workplace bullying (n = 1) and WV was indirectly a predictor of BOS (n = 2).

Discussion and Conclusions: The reviewed studies consistently indicate an association between WV and BOS in schoolteachers. Further longitudinal studies are needed to provide most evidence on this relationship. There is need of legislative interventions for implementing mandatory occupational health programs and voluntary workplace health promotion programs. These solutions may protect and promote teachers’ mental well-being and give more education and emotional support to students and their families.

KEY WORDS: Burnout syndrome; harassment; psychosocial risk factors; systematic review; teachers; workplace violence.
INTRODUCTION

Teaching is a highly demanding and stressful occupation [1]. Teacher stress has been defined as a teacher’s experience of unpleasant, negative emotions resulting from some aspects of their work [2]. Burnout syndrome (BOS) has been described in ICD-11 as an occupational syndrome resulting from poorly managed chronic workplace stress, which is characterized by emotional exhaustion (i.e. feelings of energy depletion), depersonalization or cynism (i.e. increased mental distance from one’s job or feelings of negativism or cynism related to one’s job), and reduced professional efficacy [3]. BOS has been described in a variety of human service professions [4–6] and is considered an occupational hazard in helping professions [7] referred to a state of emotional, attitudinal and physical exhaustion that follows from a prolonged exposure to chronic stress [8–17]. However, many questions on BOS still remain unanswered. For instance, although there is a substantial overlap between BOS and depression [18], BOS should be better conceptualized as a breakdown in the relationship between workers and their work or clients [19]. Indeed, this syndrome is strictly related to occupational setting, and, therefore, BOS and depression should be considered two different concepts [20]. Furthermore, antecedents of work-related stress disorders and antecedents of BOS may be different [21]. Work-related stress is a risk factor that refers to aspects of the design and management of work and its social and organisational contexts that have the potential for causing psychological or physical harm [22], BOS has been described as a peculiar and distinctive psychosocial risk factor in helping professions including teachers, because it is closely associated with high emotional load and emotional demands [8, 23, 24]. According to the Job Demand Resources model [25, 26], occupational antecedents, also termed ‘stressors’ [25] or ‘job demands’ [26] of teacher burnout include job characteristics such as heavy workload, relationships with colleagues and management, poor working conditions, and lack of support from colleagues and management. Moreover, prior research has indicated that workplace violence is associated with burnout among schoolteachers, but the underlying mechanisms are still unclear [27]. Hence, there is a need to further understand the relationship between workplace violence and burnout among schoolteachers.

TAKE-HOME MESSAGE

This systematic review showed a close association between workplace violence and burnout syndrome among schoolteachers. Further longitudinal studies are needed to explain this relationship.

Competing interests - none declared.

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environment, pupil behaviour, long working hours, providing cover for teacher shortages and absences, pressure of school targets and inspections, coping with change and administrative duties [25–28]. On the opposite, positive relations with colleagues and the school administration as well as the feeling of doing a meaningful job are positive aspects of the job, termed as ‘job resources’, which may predict positive outcomes such as teacher motivation and well-being and prevent from the onset of teacher stress and burnout [29–32]. Workplace violence (WV) is another psycho-social risk factor, which is specifically regulated in European workplaces. WV can be physical, psychological and/or emotive, and people who are violent towards or harass an employee could be customers, clients, patients, students or pupils of this person [33]. Psychological and emotive violence can vary through an ideal continuum in terms of intensity, frequency, and severity, ranging from workplace incivility to bullying, passing through lateral violence [34]. Lateral violence is a type of psychological harassment that can be isolated or sporadic and results in hostility. Psychological harassment include sexual harassment (unwanted sexual attention), verbal abuses, threats, humiliations, intimidations, criticism, innuendo, social and professional exclusion, discouragement, disinterest, and denied access to information [35]. Workplace bullying is a type of harassment described as an enduring offensive and insulting behavior, which is worsened by an intimidating, malicious, and insulting pattern [34, 36]. In Europe, bullying is usually termed as ‘mobbing’ [37] and occurs among peers, towards superiors or subordinates (vertical or hierarchical violence) [38, 39]. Bullying is a kind of deliberate and repetitive behavior able to affect negatively the health and economic wellness of the victim. Workplace incivility differs from (physical or verbal) WV for its ambiguity in the intent to damage the victim [40]. Teachers are exposed to physical (e.g., objects thrown, physical attacks, property damages), verbal (e.g., harassment, verbal threats) and social or relational (e.g., gossiping, refusing collaboration or sabotaging teacher’s work by using electronic devices and modern technology) violence, which is often perpetrated by students and their parents, or by colleagues as well [41, 42]. Scholars found a relationship between poor social interrelations with both pupils and colleagues or destructive friction within the professional community due to interpersonal conflicts and pupil misconduct, and an increased risk of developing BOS symptoms among schoolteachers [43–49]. A meta-analysis showed the existence of a relationship between pupils’ misconduct and teacher burnout [43]. Studies conducted in literature [50–53] showed that WV and BOS are associated in nurses and healthcare workers. Also, in teachers this relationship was found. Mościcka-Teske and colleagues [54], for example, in an investigation that involved more than 1,200 teachers, showed that those who were victims of harassment or bullying were more prone to report burnout symptoms than non-victims. Geissler [55] found a correlation between victimization, emotional exhaustion and depersonalization in this population. Similar data were found by Koga and colleagues [56] (verbal violence was associated with emotional exhaustion) and by Melanda and colleagues [57] (violence had a direct effect on emotional exhaustion and depersonalization).

Likewise, teachers who regularly witness aggression also present a higher risk of emotional exhaustion although this might be less pronounced than their victimized colleagues [58, 59]. In addition, exposure to a globally high level of several types of aggression (combining witnessing and victimization) might impact teachers more severely than exposure to any specific type of aggression [58]. Physical assaults among education workers is a relevant problem worldwide, which is defined as being ‘hit, slapped, kicked, punched, choked, grabbed, sexually assaulted, or otherwise subjected to physical contact intended to injure or harm’ [60]. Physical violence has a significant impact on teachers’ job satisfaction and health-related quality of life [61]. But, in general, school-related violence predi-
icts physical and emotional effects, as well as teaching-related functioning [62]. Emotional labor and emotional management play an essential role in school teaching, as schoolteachers undergo complex interactions with students, colleagues, and parents [8, 63, 64], and emotional demands are the main risk factors to emotional exhaustion, which is the ‘core’ dimension of BOS [65]. WV can increase the degree of emotional labor among workers [65], who are exposed to verbal and physical violence in their interactions with customers. Emotional labor, indeed, is highly correlated with workplace violence experience [66]. Physical and verbal violence among teachers have consequences in terms of low emotional work ability [67], lower levels of physical, mental and emotional well-being [68, 69] and occurrence of mental disorders including BOS symptoms [70]. Moreover, WV has economic costs for individuals, working organizations and the society [71]. Teacher who experience violence develop a negative attitude towards their work, which discourage the development of their work ability [72], reducing their motivation [73] and commitment [62], with severe consequences on the quality of education provided [62, 68, 69, 73] and the well-being and performances of students [68]. Medical and psychological care, absenteeism, lost instructional time, and the replacement of teachers who leave the profession, produce direct and indirect costs for work organizations and the society in general [72, 73]. A systematic review found a significant correlation between burnout symptoms and physical violence at work among physicians and nurses [74], but this association was not systematically analyzed in teachers. Therefore, the aim of this review was to systematically review studies on the association between WV and BOS and to describe this relationship in schoolteachers.

METHODS
The review was conducted and reported according to the PRISMA 2020 guidelines [75].

Study design
Systematic review

Participants, interventions, comparators, outcome (PICO)

Systematic review protocol
The study protocol of this research was submitted to PROSPERO for registration, on May 16, 2021 with the following ID number: 255293.

Search strategies
During May 2021, a systematic search of the literature was carried out in the databases of Scopus, Pubmed/Medline, WOS, PsycINFO and Cochrane. A free search was carried out in Google Scholar and in portals related to occupational health and healthcare at work to identify those studies that were not published in the databases. The search strategy was based on the combination of specific search terms, properly combined by Boolean operators on Pubmed/Medline: Violence [Mesh], Workplace Violence [Mesh], School teachers [Mesh], Burnout, professional [Mesh], pupil behavior, harassment, workplace incivility, bullying, lateral violence, physical assault, emotional exhaustion. The PICO strategy was adapted to the other databases. Only original studies in English published from the inception to April 2021 were retrieved. Although review studies and commentaries were excluded from the present review, additional eligible studies were included after a hand-search of their reference lists.

Data sources, studies sections and data extraction
The principal criterion for eligibility was the presence of WV and burnout symptoms. All studies that took into consideration any type of WV associated or linked to symptoms of BOS among schoolteachers employed at pre-primary, primary, middle and secondary
schools were included, while studies on WV that failed to provide any information on BOS were excluded. Similarly, studies that reported violence, bullying or harassment perpetrated by schoolteachers vs students or among students (e.g., bullying at school) or in family, and WV on social workers, educators, administrative school workers, school principals, and university teachers (e.g. college instructors) were excluded. All the papers that mentioned emotional exhaustion or burnout symptoms among the observed effects of WV were included. Studies focusing only on emotional distress and other kind of emotional outcomes such as personal disengagement, which did not consider emotional exhaustion and burnout were excluded. Both quantitative and semi-quantitative studies with cross-sectional, retrospective, case-control and prospective design were screened for inclusion. Second level studies (review studies), and qualitative research were excluded, although they were examined in order to identify further research to be included in this review. After independently reviewing all titles/abstracts to identify potentially relevant articles, two authors (IC and MB) used the aforementioned inclusion/exclusion criteria to select studies on the basis of a full-text review. Disagreements were resolved by discussion with a third author (DAM), who acted as the final referee. The selected studies that met the pre-defined inclusion/exclusion criteria and were related to the topic of interest were included in our systematic review. Data concerning the country of study, school type, the type of WV, the method of measurement of WV and BOS, and, when applicable, the WV and BOS prevalence rate were extracted from each study. Data on correlation or association between WV and BOS were also extracted when available. The authors carried out the data extraction process independently. The results of the studies were analysed qualitatively. The findings obtained were discussed by all the authors. Figure 1 illustrates the paper extraction flow diagram for this systematic review.

**Study quality assessment**

The quality of cohort and case-control studies was assessed by the Newcastle-Ottawa Scale (NOS) that evaluates selection, comparability and exposure criteria, attributing a maximum score of 9 points [76, 77]. The quality of other studies was assessed using an adapted version of the Newcastle-Ottawa Quality Assessment Scale (NOS-A) for Case-Control/Cross-sectional studies [78] that awards a maximum score of 10 points.

**RESULTS**

**Description of the studies included**

The literature search yielded 1,452 published references. After review of the title, abstract, and full-text, a total of 13 studies met the full inclusion criteria and were included (see Figure 1).

All the included studies were published between 2005 and 2021 (May). Articles that were excluded included: two reviews, mixed cohorts studies on the relationship between WV and BOS in social workers, educators, school principals, and university teachers (n = 29), studies focusing on emotional distress and other types of emotional outcomes (n = 13), studies focusing on community violence (n = 2) or regarding pupils misconducts without verbal/physical/sexual violence (n = 7).

In an analysis by country, the greatest scientific production in this field has been developed in USA (n = 2) and Lithuania (n = 2) followed by several countries with only one study, namely Italy, Germany, Turkey, Brazil, Canada, China, Malaysia, Romania, and Spain.

The methodology used in the papers analyzed provides an overview of how research and reflection on teacher burnout and workplace violence is being addressed. All the publications (n = 13) had a quantitative approach, as we can see in Table 1. Articles with a mixed or qualitative methodology were not included. Most of articles (n =10) were cross-sectional. Only 3 articles were longitudinal, of which one study was carried out with ‘ex post facto design’.
According to our evaluation, the cross-sectional studies had a moderate to high quality score (ranging from 4 to 7 on the 9-point NOS-A scale), while the 3 cohort studies had a low quality score ranging from 3 to 4-point NOS scale.

Females were more represented than males in 12 studies (ranging from 56 to 88% of all participants). Only in one study, females represented 48% out of the total sample.

In our review, type of violence considered was workplace bullying or mobbing (n = 4), psychological violence (n = 4), and a combination of physical and psychological violence (n = 5).

In most studies, psychological violence was labelled as a combination of various type of psychological and verbal violence including abusive supervision, undermining, ostracism, unwanted sexual attention, workplace incivility, insults, humiliation, embarrassment, threats, teacher victimization by pupils and colleagues.

Physical violence was perpetrated by pupils (n = 3), pupils and colleagues (n = 1), and pupils, parents, colleagues, superiors and strangers (n = 1).

Participants of the included studies were primary (n = 1) or secondary (n = 6) schoolteachers, and mixed samples of pre-primary, primary and secondary (n = 3), primary and secondary (n = 2), and primary, middle and secondary (n = 1) schoolteachers. All the grade levels were represented, but most of the studies recruited secondary schoolteachers (n = 12), matching with the evidence that most of the violence acts were perpetrated by students (n = 9) in terms of verbal and/or physical violence. WV by supervisors/superiors and colleagues/coworkers was cited in five [79, 84, 86, 88, 91] and seven [58, 79, 82, 84, 86, 88, 91] studies, respectively. WV by parents was reported in two studies [80, 88] and WV by strangers in only one study [88]. Two studies [81, 83] did not indicate the identity of the perpetrators of violence towards teachers.

WV was measured with several instruments, of which an ‘ad hoc’ instrument was adopted in eight studies. BOS was measured with MBI (n = 13), OLBI (n = 2), CBI (n = 1) and CTJBQ-R (n = 1), showing how most of the studies were carried out with the most known and used instrument to measure BOS,

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**Figure 1.** Flowchart for identification of studies included in the systematic review (n = 13).
<table>
<thead>
<tr>
<th>Author, year</th>
<th>Country</th>
<th>Study design</th>
<th>N. cases</th>
<th>Quality</th>
<th>Type (gender) of ST</th>
<th>Type of violence</th>
<th>Perpetrator of violence</th>
<th>WV Measure</th>
<th>Sub-scale (EE, DP, PA)</th>
<th>BOS measure</th>
<th>Findings on the relationship between WV and BOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fox and Stallworth 2005 [79]</td>
<td>USA</td>
<td>CS</td>
<td>779</td>
<td>6</td>
<td>Pre-primary, primary and secondary (F=82%)</td>
<td>Workplace bullying</td>
<td>Students, supervisors, coworkers</td>
<td>WB-C</td>
<td>EE DP AA</td>
<td>OLBI</td>
<td>BOS was statistically (P &lt; 0.01) related to violent acts (r=0.15), pervasive bullying (r=0.37), bullying by principal (r=0.28), bullying by coworkers (r=0.45).</td>
</tr>
<tr>
<td>2 Unterbrink et al., 2008 [80]</td>
<td>Germany</td>
<td>CS</td>
<td>949</td>
<td>6</td>
<td>Secondary (F=64%)</td>
<td>Psychological violence (verbal violence, insult)</td>
<td>Pupils, parents</td>
<td>Ad hoc</td>
<td>EE DP PA</td>
<td>MBI (Deutche version)</td>
<td>Verbal insult by pupils was statistically (P &lt;0.05) associated with EE (β=0.18), reduced PA(β=0.12), DP (β=0.23). Complaint by parents was associated with reduced PA (β=-0.16) and DP (β=0.08).</td>
</tr>
<tr>
<td>3 Raya Trenas et al., 2009[81]</td>
<td>Spain</td>
<td>Long (ex-post facto design)</td>
<td>220</td>
<td>4</td>
<td>Pre-Primary, primary, and secondary (F=58%)</td>
<td>Workplace bullying</td>
<td>Not reported</td>
<td>LIPT</td>
<td>EE DP PA</td>
<td>MBI</td>
<td>GIPHI was correlated with EE (r=0.258, P &lt;0.001) and DP (r=0.392, P&lt;0.001). Depersonalisation was a significant predictor of workplace bullying (β=0.023, P &lt;0.01).</td>
</tr>
<tr>
<td>4 Austrauskaé et al., 2010 [82]</td>
<td>Lithuania</td>
<td>CS</td>
<td>351</td>
<td>4</td>
<td>Secondary (F=88%)</td>
<td>Psychological violence (WH and witnessing WH)</td>
<td>Colleagues</td>
<td>WHS</td>
<td>EE MBI-ES</td>
<td>Higher WH was related to higher EE (P &lt;0.01). EE was associated to disruption (B=1.140, P &lt;0.01), humiliation (B=0.357, P &lt;0.05), indignity (B=1.304, P &lt;0.01), and alienation (B=0.732, P &lt;0.01). Witnessing WH was associated to higher level of EE (P &lt;0.01).</td>
<td></td>
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<tr>
<td>5 Tanham and Cam 2011 [83]</td>
<td>Turkey</td>
<td>CS</td>
<td>451</td>
<td>4</td>
<td>Primary school teachers (F=48%)</td>
<td>Mobbing</td>
<td>Not reported</td>
<td>MOST</td>
<td>EE DP PA</td>
<td>MBI</td>
<td>MOST scores was associated with EE scores (r=0.36, P &lt;0.01), DP scores (r=0.39, P &lt;0.01) and PA scores (r=0.16, P &lt;0.01) and MBI total score (r=0.40, P &lt;0.01).</td>
</tr>
<tr>
<td>6 Sulea et al., 2012 [84]</td>
<td>Romania</td>
<td>CS</td>
<td>193</td>
<td>6</td>
<td>Secondary (F=80%)</td>
<td>Psychological harassment (abusive supervision, undermining, ostracism, unwanted sexual attention, workplace incivility)</td>
<td>Colleagues, superior</td>
<td>Tepper's scale. 10-item Workplace Ostracism Scale. Subscale of Sexual Experiences Questionnaire 12-item Workplace Incivility Scale</td>
<td>EE DP</td>
<td>MBI-GS</td>
<td>Interpersonal mistreatment was related to BOS sub-dimensions. EE was statistically (P &lt;0.05) associated with abusive supervision (β=0.22), ostracism (β=0.44), undermining (β=0.21), unwanted sexual attention (β=0.20), incivility(β=0.22). Cynicism was statistically (P &lt;0.05) associated with abusive supervision (β=-0.32), ostracism (β=-0.45), undermining (β=-0.29), incivility(β=-0.35).</td>
</tr>
</tbody>
</table>

Table 1. Studies on workplace violence and burnout syndrome among schoolteachers (n = 13).
<table>
<thead>
<tr>
<th>Author, year</th>
<th>Country</th>
<th>Study design</th>
<th>N. cases</th>
<th>Quality</th>
<th>Type (gender) of ST</th>
<th>Type of violence</th>
<th>Perpetrator of violence</th>
<th>WV Measure</th>
<th>Subscale (EE, DP, PA)</th>
<th>BOS measure</th>
<th>Findings on the relationship between WV and BOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bass, 2016</td>
<td>USA</td>
<td>CS</td>
<td>679</td>
<td>6</td>
<td>Primary, middle, and secondary (F=80%)</td>
<td>Physical violence (physical attacks). Psychological violence (insults, threats, sexual harassment)</td>
<td>Pupils</td>
<td>Ad hoc</td>
<td>EE, DP, PA</td>
<td>MBI</td>
<td>Physical and psychological violence by students was positively related to BOS ($\beta=0.22$, $P &lt; 0.001$)</td>
</tr>
<tr>
<td>Bernotaite et al., 2017</td>
<td>Lithuania</td>
<td>CS</td>
<td>517</td>
<td>6</td>
<td>Secondary (F=81%)</td>
<td>Workplace bullying</td>
<td>Colleagues, superiors, Students</td>
<td>NAQ</td>
<td>EE, DP, PA</td>
<td>MBI</td>
<td>WB was related to EE ($r=0.165$, $P&lt; 0.01$) and DP ($r=–0.260$, $P&lt; 0.01$).</td>
</tr>
<tr>
<td>Santos et al., 2018</td>
<td>Malaysia</td>
<td>CS</td>
<td>575</td>
<td>5</td>
<td>Primary and secondary (F=81.4%)</td>
<td>Physical violence. Psychological violence (verbal abuse, ignoring instructions/requests by teacher, spreading rumours, damaging property, ignoring homework, writing hateful messages, sexual harassment, disturbing classes)</td>
<td>Pupils</td>
<td>Ad hoc</td>
<td>Personal student and work-related BOS</td>
<td>CBI</td>
<td>Total frequency of ETB significantly predicted increased personal burnout ($\beta = 0.139$, $t = 2.935$; $P = 0.044$); work-related burnout ($\beta = 0.351$, $t = 3.833$; $P = 0.000$); and student-related burnout ($\beta = 0.490$, $t = 4.995$; $P &lt; 0.001$).</td>
</tr>
<tr>
<td>Author, year</td>
<td>Country</td>
<td>Study design</td>
<td>N. cases</td>
<td>Quality</td>
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<tr>
<td>Yang 2019 [58]</td>
<td>China</td>
<td>CS</td>
<td>1,711</td>
<td>6</td>
<td>Secondary (F=62%)</td>
<td>Physical violence (physical attacks). Psychological violence (social and cyber violence, verbal violence, sexual harassment, personal property offenses, teacher victimization)</td>
<td>Pupils, colleagues</td>
<td>MTVS</td>
<td>EE DP PA</td>
<td>Total TV was related to BOS (r=0.19, P &lt;0.001), EE (r=0.09, P &lt;0.001), reduced PA (r=0.06), P &lt;0.05, and DP (r=0.21, P &lt;0.001). Physical TV was related to BOS (r=0.15, P &lt;0.001), EE (r=0.17, P &lt;0.001), and DP (r=0.9, P &lt;0.001). Social TV was related to BOS (r=0.28, P &lt;0.001), EE (r=0.17, P &lt;0.001), reduced PA (r=0.07, P &lt;0.01), and DP (r=0.27, P &lt;0.001). Verbal TV was related to BOS (r=0.25, P &lt;0.002), EE (r=0.14, P &lt;0.002), reduced PA (r=0.08, P &lt;0.002), and DP (r=0.25, P &lt;0.001). Cyber TV was related to BOS (r=0.14, P &lt;0.001), reduced PA (r=0.08, P &lt;0.002), and DP (r=0.15, P &lt;0.001). Sexual harassment was related to BOS (r=0.18, P &lt;0.001), EE (r=0.05, P &lt;0.05), reduced PA (r=0.06, P &lt;0.05) and DP (r=0.27, P &lt;0.001). Personal property offenses was related to BOS (r=0.19, P &lt;0.002), EE (r=0.10, P &lt;0.001), reduced PA (r=0.08, P &lt;0.05), and DP (r=0.22, P &lt;0.001).</td>
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<tr>
<td>Author, year</td>
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<tr>
<td>Acquadro Maran and Begotti 2020 [88]</td>
<td>Italy</td>
<td>CS</td>
<td>331</td>
<td>7</td>
<td>Pre-primary, primary, secondary (F=56%)</td>
<td>Physical violence (physical aggression) Psychological violence (verbal aggression, threats, stalking)</td>
<td>Student, parents, colleagues, superiors, strangers.</td>
<td>VIF</td>
<td>EE</td>
<td>OLBI</td>
<td>WV was associated with general burnout (F=5.84, P &lt;0.05), EE (F=3.96, P &lt;0.05) and disengagement (F=5.83, P &lt;0.05).</td>
</tr>
<tr>
<td>Olivier et al., 2021 [89]</td>
<td>Canada</td>
<td>Long</td>
<td>2,072</td>
<td>3</td>
<td>Secondary (F=57.1%)</td>
<td>Physical violence (physical attacks). Psychological violence (verbal violence, student-to-student aggression-WSS; student to teacher aggression- WST with insults, threats, and victimization by students (VS)</td>
<td>Pupils</td>
<td>Ad hoc</td>
<td>EE</td>
<td>MBI-ES</td>
<td>Exposure to aggression was associated with high EE via the effects of aggression on decreased levels of belongingness (indirect effect β=0.152; 95% CI = 0.116 to 0.188) and perceived school safety (indirect effect = 0.174; 95% CI = 0.137 to 0.212).</td>
</tr>
<tr>
<td>Melanda et al., 2021 [91]</td>
<td>Brazil</td>
<td>Long</td>
<td>430</td>
<td>4</td>
<td>Primary, secondary (F 65.8%)</td>
<td>Psychological violence (verbal violence, embarrassment threats)</td>
<td>Pupils, colleagues and superiors</td>
<td>Ad hoc</td>
<td>EE</td>
<td>MBI (Brazilian version)</td>
<td>PV at T0 was related to EE at T0 (β=0.26) and T1 (β=0.21) and PV at T1 was related to EE at T1 (β=0.24) and DP at T0 (β=0.32) and DP at T1 (β=0.32) (P &lt;0.001). PV at T0 predicted EE at T0 (β = 0.435, P &lt;0.001) and DP at T0 (β = 0.332, P &lt;0.01) and PV at T1 predicted EE at T1 (β = 0.334, P &lt;0.01). Longitudinally PV at T0 did not have a sign direct effect on EE (β = 0.114) and DP (β = 0.075) at T1 (pNS), however indirect effect of PV on EE (β = 0.439) and DP (β = 0.428) at T1 was observed.</td>
</tr>
</tbody>
</table>

Notes: CS, Cross-sectional; Long, Longitudinal; ST, Schoolteachers; BO, burn-out; CBI, Copenhagen Burnout Inventory; CTJBQ-R, Chinese Teachers’ Job Burnout Questionnaire – Revised; DP, Depersonalization or Cynism; EE, Emotional Exhaustion; ETB, Educator Targeted Bullying; GIPH, Global Index of Psychological Harassment; I, Involvement; MBI-D German version MBI-ES, Emotional Exhaustion Scale of Maslach Burnout Inventory; MIQ-T, Moral Injury Questionnaire – Teacher Version; MOST, mobbing scale for teachers; NAQ, Negative Acts Questionnaire; OLBI, Oldenburg Burnout Inventory; PD, Professional Disengagement; PE, Personal Efficacy; PI, Personal Involvement; PBP, Pupil Behaviour Patterns scale; PV, psychological violence; SMBM, Shirom-Melamed Burnout Measure; SECV, Survey of Exposure to Community Violence; TV, Teacher Victimization; VIF, Violent Incident Form; WB-C, Workplace Bullying Checklist; WHS, Work Harassment Scale; WIS, Workplace Incivility Scale (*) Newcastle–Ottawa Quality Assessment Form for Cohort studies score (maximum score=9) and Newcastle–Ottawa Quality Assessment Scale for Case-Control/Cross-sectional studies score (maximum score=10)
namely the Maslach Burnout Inventory in its various versions [57, 80–88, 89].

**Prevalence of workplace violence and teacher burnout**

In the study by Fox and Stallworth [79], 94.7% of school teachers reported being subjected to bullying; particularly 65% reported being victims of pervasive bullying as the violence occurs ‘quite often’ or ‘extremely often’. This study showed no data about BOS prevalence. Similarly, Raya Trenas et al. [81] reported that two thirds of 220 school teachers had been target of bullying at work.

In the study of Astrauskaié et al. [82], 161 (46%) out of the schoolteachers experienced high emotional exhaustion levels, while 51% of them showed low emotional exhaustion after they had been subjected to work harassment. 179 (51%) schoolteachers in the sample have witnessed work harassment.

In the study of Tanham and Cam [83], more than half of the schoolteachers (54.8%) suffered from moderately mobbing acts, while lower percentage (30.6% and 14.6%) of them suffered from little and intensive mobbing at work, respectively. As a consequence, 27.1%, 48.6% and 24.4% of the participants complained low, moderate and high level of EE, while 51%, 28.6% and 20.4% out of the sample experienced low, moderate and high level of DP, and 10.9%, 31.0% and 58.1% reported low, moderate and high level of PA, respectively.

Bernotaite et al. [86] showed that prevalence of WH was occasional (8.3%) and severe (2.9%) and was witnessed by 3.3% of teachers; 32% out of the schoolteachers reported low, 33% moderate and 35% high levels of EE.

In the study by Santos et al [87], a total of 65.2% (n = 373) of schoolteachers reported that at some time in their career they had suffered or witnessed educator-targeted (ETB) bullying. Prevalence rates for different types of ETB varied considerably; with 49.8% (n = 285) of respondents reporting verbal abuse; and 44.4% (n = 254) of them reporting constant ignoring of instructions/requests by the educator as the most prevalent forms of ETB.

13.8% (n = 79) of them reported having been physically abused; 18.2% (n = 104) reported students spreading rumors about them; and 14.0% (n = 80) reported having property damaged by students. 8.2% (n = 47) indicated that they had experienced some other form of ETB such as ignoring homework; writing hateful messages in weekly journals; sexual harassment and purposefully disturbing classes. As concerning burnout experience in relation to teaching experience, Malaysian educators exhibit above average levels of personal burnout (mean score 49.16, with < 1 year of experience, and 51.24 with 11-15 years of experience) and work-related burnout with increased teaching experience (mean score 43.75 with <1 year of experience, and 47.26 with 11-15 years of experience). For student-related burnout, instead, Malaysian educators exhibited higher than average levels of student-related burnout until 16 years (mean score 41.62, <16 years of experience); after which student-related burnout levels dip below average (mean score 34.92, >16 years of experience).

In the study by Acquadro Maran and Bergotti [88], 58% of schoolteachers (192/331) experienced WV. 19% (n = 62) of them reported that they had been subjected to physical aggression at work or on the way to or from their workplace. 31% (n = 103) stated that they had been victims of threats and 67% (n = 224) of verbal aggression, 5.7% (n = 19) of stalking. Teachers victims of violence at school exhibited above average levels of BOS (mean score 35.21, range 16-64), EE (mean score 18.78, range 8-32), and disengagement (mean score 16.41, range 8-32). In the study by Olivier et al [89], prevalence of teachers victimization by students was 40.6% and among those, 6.8% reported that victimization episodes occurred frequently. Witnessing student to teacher aggression (WST) was not a frequent phenomenon as 73.3% out of school teachers have witnessed WST once or more (17.8%), while witnessing student to student aggression (WSS) was more common in school context (once 30.3%, twice 50.8%, or more 17.8%).
In the longitudinal study by Melanda et al, at time zero 55.1% teachers were insulted by students, 19.5% received threats and 16.7% had been humiliated or embarrassed by colleagues or superiors. After 6 months (time 1), 50% teachers were insulted by students, 21.8% received threats and 9.2% had been humiliated or embarrassed by colleagues or superiors. In this study, schoolteachers complained high median levels of EE (25-26 points) and DP (10 points).

Finally, in our review no study compared WV and BOS prevalence by gender.

The relationship between workplace violence and teacher burnout

The selected studies explored the negative effects of the WV on teachers’ BOS levels. All the cross-sectional studies (n = 10) highlighted a statistically significant association or correlation between WV and the three sub-dimensions of BOS [79, 80, 83, 85, 88], or with high EE and DP [57, 81, 84, 88] or with the only dimension of EE [82, 89]. In the longitudinal study by Raya Trenas et al [81], depersonalization was a significant predictor of workplace bullying (β = -0.023, P < 0.01). In the prospective study by Melanda et al [57], psychological violence including verbal violence, embarrassment and threats was correlated to high EE and DP at time 0 and at time 1 (after 24 months). In this study, there was an indirect effect of psychological violence at T0 on BOS levels observed at T1, including via psychological violence at T1, which suggests that exposure to psychological violence over time has a cumulative effect on dimensions of burnout. In the prospective study by Olivier et al [90], for example, exposure to both physical and verbal aggression by pupils was associated with high EE via the effects of aggression on decreased levels of belongingness (indirect effect² = 0.15; 95% CI 0.11 to 0.18) and perceived school safety (indirect effect = 0.17; 95% CI 0.13 to 0.21).

The relationship between physical violence and teacher burnout

In the studies examining the relationship between physical violence and BOS, the perpetrators were always students from primary, middle and secondary students. This form of violence, furthermore, was associated in most of the studies with verbal violence and teacher victimization. Only in the study by Acquadro Maran and Begotti [88], physical violence was perpetrated not only by student (57%), but also by parents (20%), colleagues (14%), superiors (2%) and strangers (4%). Physical attacks by primary, middle and secondary students were positively related to BOS (β = 0.22, P < 0.001) [85]. Acquadro Maran and Begotti [88] showed that WV experienced by pre-primary, primary and secondary teachers, was associated with general burnout (F = 5.84, P < 0.05), EE (F = 3.96, P < 0.05) and disengagement (F = 5.85, P < 0.05).

In China, Yang and colleagues [58] reported teacher victimization (TV) in secondary teachers. In this study, physical TV was related to BOS (r = 0.15, P < 0.001), EE (r = 0.17, P < 0.001) and DP (r = 0.9, P < 0.001). Olivier and colleagues [89] described victimization of secondary schoolteachers experienced in terms of verbal and physical aggression. Exposure to WV was associated with high EE via the effects of aggression on decreased levels of belongingness (indirect effect² = 0.152; 95% CI 0.116 to 0.188) and perceived school safety (indirect effect = 0.174; 95% CI 0.137 to 0.212).

Psychological violence and teacher burnout

In the study by Fox and Stallworth [79], BOS was statistically (P < 0.01) related to violent acts (r = 0.15), pervasive bullying (r = 0.37), bullying by principal (r = 0.28), bullying by coworkers (r = 0.45). In the study by Astrauskaï and colleagues [82], higher levels of WH by colleagues were related to higher EE (P < 0.01) in secondary teachers. EE was associated to disruption (B = 1.140, P < 0.01), humiliation (B = 0.357, P < 0.05), indignity (B = 1.304, P < 0.01) and alienation (B = 0.732, P < 0.01). Witnessing WH was associated to higher level of EE (P < 0.01).

In the study by Santos and colleagues [87], carried out in a sample of Malaysian primary
and secondary teachers, 65.2% (n = 373) of schoolteachers reported that at some time in their career they had suffered or witnessed ETB. Total frequency of ETB significantly predicted increased personal burnout (β = 0.139, t = -2.935; P = 0.004); work-related burnout (β = 0.351, t = 3.833; P = 0.000); and student-related burnout (β = 0.490, t = 4.995; P < 0.001). Teachers reported being victims of the following types of psychological violence: verbal abuse; ignoring instructions/requests by teacher; spreading rumours; damaging property; ignoring homework; writing hateful messages; sexual harassment; and disturbing classes.

In Sulea et al [84], interpersonal mistreatment was related to BOS sub-dimensions in secondary teachers. EE was statistically (P < 0.05) associated with abusive supervision (β = -0.22), ostracism (β = -0.44), undermining (β = -0.20), unwanted sexual attention (β = -0.22). Cynicism was statistically (P < 0.05) associated with abusive supervision (β = -0.32), ostracism (β = -0.45), undermining (β = -0.29), incivility (β = -0.35). In the study by Bernotaite et al [86] on secondary teachers, WH was related to EE (r = 0.165, P < 0.01) and DP (r = -0.260, P < 0.01). In the study by Yang et al [58], social TV was related to BOS (r = 0.28, P < 0.001), EE (r = 0.17, P < 0.001), reduced PA (r = 0.07, P < 0.01), and DP (r = 0.27, P < 0.001). Verbal TV was related to BOS (r = 0.25, P < 0.002), EE (r = 0.14, P < 0.002), reduced PA (r = 0.08, P < 0.002), and DP (r = 0.25, P < 0.001). Cyber TV was related to BOS (r = 0.14, P < 0.001), reduced PA (r = 0.08, P < 0.002), and DP (r = 0.15, P < 0.001). Sexual harassment was related to BOS (r = 0.18, P < 0.001), EE (r = 0.05, P < 0.05), reduced PA (r = 0.06, P < 0.05) and DP (r = 0.27, P < 0.001). Personal property offenses were related to BOS (r = 0.19, P < 0.002), EE (r = 0.10, P < 0.001), reduced PA (r = 0.06, P < 0.05), and DP (r = 0.22, P < 0.001).

**DISCUSSION**

The purpose of this work was to conduct a systematic review of the studies concerning any type of workplace violence on schoolteachers resulting or associated with burnout syndrome. Our findings showed that most part of investigation were cross-sectional and samples were constituted by teachers of all levels and grades of school. Moreover, most part (n = 9) of the studies considered the violence acted by students, five studies considered the violence acted by both students and colleagues (comprising superiors), and only one study considered merely the violence perpetrated by colleagues or all types of occupational perpetrators (students, parents, co-workers, superiors, strangers). This is important because as underlined by Melanda [57], the violent behavior could be acted not only by students, but also by parents, colleagues, superiors and other members of the school. However, also when all the sources of violence against teachers were considered [88], the main source of WV remained the students. Since teachers deal with their pupils every day, this finding means that violence experienced by victims may be constant and repeated, resulting in negative feelings such as humiliation, indignity and alienation [82]. When studies have considered BOS in relation to violence, both the victim and the witnesses were found to be more prone than non-victims and non-witnesses to experience exhaustion and depersonalization [88, 91]. These findings are in agreement with previous research in which the source of violence was among peers (student-to-student), confirming that being witness of violence is *per se* a form of violence [92], and may negatively impact the safety perception in teachers [89].

All the cross-sectional studies included in our review, showed a significant association or correlation between WV and BOS. In longitudinal studies, psychological violence was a significant predictor directly or indirectly of EE and DP [57, 89]. In the longitudinal study by Olivier et al [89], exposure to aggression was associated with high levels of EE via the effects of aggression on decreased levels of belongingness and perceived school safety. In the longitudinal study with a ‘prospective ex post fact’ approach carried out by Raya Trenas
et al [81], a sub-dimension of BOS, namely depersonalization, was a significant predictor of workplace bullying. Although most studies of our review showed an association between WV and BOS, and many of them considered WV as the independent variable of this relationship, their cross-sectional nature prevents us from infer on the directionality of the observed associations, which could also express reverse causality. This main finding of this review, however, confirms previous research on the close relationship between verbal and physical violence, which represent common mental health traumas at workplace, and an increased risk of anxiety, depression and other mental health outcomes [93–96].

In our review, six studies showed high prevalence of WV and BOS among schoolteachers, two studies showed only high prevalence of WV, five studies showed no prevalence data on WV and BOS. With regard to differences in the prevalence of exposure to WV and occurrence of BOS between male and female teachers, our review found no studies comparing schoolteachers by gender.

In the literature [97], there are differences in the form of victimization experienced by males and females, where males are more likely than female to experience verbal and psychological violence, whereas females tend to experience more than male multiple types of concurrent victimizations. Moreover, as suggested by Berg and Cornell [98], Martinez and colleagues [99] and McMahon [69], male teachers are more likely to experience threats, physical violence and multiple forms of aggression from students, whereas female teachers are more likely to experience verbal and nonphysical forms of violence, such as property damage [100, 101].

Findings by Buonomo and colleagues[102] showed that prevalence of WV is higher among females than males. However, other investigations reported opposite findings. Probably, males are less prone that females to recognize themselves as victims of any forms of violence [103, 104], and – as a consequence – are unwilling to ask help [105].

Another explanation is inherent in the relationship between victim-perpetrator and the social norms on gender relations, that imply ‘role models’ and ‘stereotypical masculine attributes in violence prevention’ [106]. Further research should investigate the gender of all actors involved in the phenomenon (perpetrator, victim, bystander), as a possible variable in the explanation of victimization in teachers and the propensity to intervene to defend the victim. For example, Ermer and colleagues [107] found that when the perpetrator is male, his behavior is perceived more seriously than the misconduct performed by a female. Furthermore, the role of the bystanders is fundamental to deal with the workplace violence: their prosocial behavior, in combination with more school programs against violence, could help the victims of violence to find a solution [108, 109].

With regard to teacher burnout and grade level, our systematic review confirms that secondary schoolteachers tend to experience higher levels of depersonalization and reduced level of personal accomplishment than primary schoolteachers [110–113]. With regard to the instruments used by scholars, most researchers used original or modified versions of the Maslach Burnout Inventory (MBI) to measure how emotionally exhausted, depersonalized, and/or unaccomplished teachers feel, whereas the measurement of WV was carried out with heterogeneous instruments, namely ‘ad hoc’ questionnaires. This is a critical issue in the research on psychosocial risk factors that prevent us to obtain better evidence from meta-analytic analyses [114].

Generally, in the literature the most used questionnaires are either the MBI-HSS or the MBI-ES, as these inventories were developed specifically for the human service professions, whereas the MBI-GS was created to address all other occupations. According to inventory guidelines, the only difference between the MBI-HSS and the MBI-ES in terms of items is that the MBI-HSS uses the term ‘recipient’ to refer to the clients that human service professionals work with, while the MBI-ES uses the term ‘students’. However, both of these burnout inventories in their
most recent editions focus on the frequency of emotional exhaustion, depersonalization, and lack of personal accomplishment. Teachers with a greater degree of burnout have higher scores on the dimensions of emotional exhaustion and depersonalization, and lower scores on the personal accomplishment dimension [43, 90].

Our systematic review has some implications for policymakers, because prevention programs at school, which could be carried out by employers with the cooperation of occupational physicians and school psychologists within the framework of health surveillance and workplace health promotion programs, may be decisive to tackle WV and BOS, which are relevant psychosocial risk factors in the teaching job. Given the relationship of WV with BOS, it is important to deal with the circularity of this relationship that the violence may trigger. According to Salimi and colleagues [115], it is fundamental to provide information on the phenomenon (what type of misconduct is considered a form of violence, e.g., reflecting on the consequences) starting from a detailed analysis of the school organization and its characteristics. This is important to plan a tailor-made intervention, which reflects the needs of that particular context as well as its unique cultural and organizational values [91].

The WV against teachers determines a sense of distrust in the workplace, that involves not only the victim but also the witnesses and the students that attend the misconduct [89]. Moreover, the absence of intervention permits the escalation of the violent behavior, thus spreading within the organization a culture in which the violence is – implicitly - accepted. Furthermore, depersonalization and emotional disorders may promote a culture of WV. Prevention and intervention programs, therefore, can effectively reduce the risk of individual and organizational poor outcomes of WV and BOS, and give information on the best strategies that could be adopted to deal with this phenomenon. Espelage and colleagues [116] suggested to implement socio-behavioral programs that allow to students, teacher, superiors and other stakeholders to recognize some emotional state such as anger, and to express it in a functional way, avoiding violence. The goal of these programs is to provide teachers with effective strategies to cope with the stressful event, defusing the possible escalation of violence that his/her behavior could increase [117]. At the organizational level, the goal is to intervene to reduce the work-related stress, by promoting a strong sense of trust within organizations, to give specific norms and adopting a ‘zero tolerance’ politic against violent behavior.

Above all, as suggested by McKenzie [118] and by Choong et al [119], it is important to create a climate that permits the support by colleagues, the promotion of the organizational citizenship, that allows to adopt behavior oriented to respect and civility. For those teachers victims of violence and that suffer of BOS, the school should offer a specific therapy to reduce the consequence of the victimization (e.g., anxiety and depressive symptoms, distress, rumination, fatigue, exhaustion and depersonalization). This support should be aimed at re-establishing the confidence in own ability to deal with stressful events, such as the management of interpersonal conflict in classroom.

Strengths and limitations of the review

A first limitation of this review is that we have not included pupil misbehaviour, which is a well-recognized source of teacher burnout in literature. Pupils’ misconduct is better conceptualized as ‘job demand’ and has been defined as those behaviors that disrupt the teaching learning process or interfere with the orderly operation of the classroom. Pupil misbehavior, however, could include verbal violence and disrespect towards teachers as well [43]. A second limitation concerns the criteria of inclusion of the studies analysed: our choice, in fact, was to only include quantitative studies. Moreover, studies with different samples of school workers (e.g., educators, support teachers) and teachers (e.g. university teachers) were excluded. Further systematic reviews could focus on pu-
pils’ misbehavior, including also qualitative studies and different sample of teachers. In the future, systematic reviews could compare results from qualitative and quantitative investigations and findings from different sample of workers and perpetrators. Finally, most of the studies included in our review were cross-sectional, which does not allow to verify the direction of the observed associations between WV and BOS. Our review, however, is likely the first to shed light on the relationship between WV and BOS in a category of workers who are at high risk of WV and BOS. Subsequent longitudinal studies could help understand the mechanisms linking WV and mental health. Further research should also deepen the prevalence of the phenomenon, the type of behavior acted, the differences by gender in the victims, and the relationship between perpetrator and victim.

CONCLUSIONS

This systematic review highlights the existence of an association between psychological and physical violence against schoolteachers and teacher burnout, and in some cases WV has been found as a predictor of BOS. Our review highlights some important factors that affect teachers who are victims of WV in relation with BOS. First at all, although pupils are the most represented actors of violence, violent behaviours may involve all the actors who are part of this phenomenon at school (students, colleagues, superiors and so on). All grade and levels of schoolteachers may be involved. In conclusion, there is need of legislative interventions for implementing mandatory occupational health programs and voluntary workplace health promotion programs. These solutions may be useful to protect and promote teachers’ mental well-being and give education and emotional support to students and their families.

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