

## Review Article

---

# Factors influencing teacher wellbeing and burnout in schools: A scoping review<sup>1</sup>

Malik Muhammad Sohail<sup>a,\*</sup>, Ahmed Baghdady<sup>b</sup>, Jessica Choi<sup>c</sup>, Hy V. Huynh<sup>c</sup>,  
Kathryn Whetten<sup>c</sup> and Rae Jean Proeschold-Bell<sup>c</sup>

<sup>a</sup>*Department of Sociology, The Center for Religion, Science and Social Wellbeing, University of Chakwal, Chakwal, Pakistan*

<sup>b</sup>*World Innovation Summit for Education (WISE), Qatar Foundation, Ar Rayyan, Qatar*

<sup>c</sup>*Center for Health Policy and Inequalities Research, Duke Global Health Institute, Duke University, Durham, NC, USA*

Received 25 April 2022

Accepted 26 April 2023

### Abstract.

**BACKGROUND:** Teacher's wellbeing and mental health play a pivotal role in learning experiences and educational environment. For a better future, we need thriving teachers with strong wellbeing.

**OBJECTIVE:** The current scoping literature review aimed to explore the factors fostering wellbeing and causing burnout among school teachers.

**METHODS:** Applying appropriate search terms to relevant databases for the years 2016–2020 yielded 934 potentially relevant research articles which were further filtered to 102 articles.

**RESULTS:** The findings of this review suggested that emotion regulation, positive workplace milieu and teacher self-efficacy (feeling successful as a teacher) are important factors fostering teachers' wellbeing whilst negative workplace environment and negative emotions along with feeling marginalized or bullied by coworkers are factors behind teacher burnout. The strengths of this study include a rigorous research design and relational analysis approach.

**CONCLUSION:** Teacher wellbeing needs a workplace environment with minimum bullying and marginalization. An atmosphere of respect, inclusion, and mutual teacher support is needed to promote wellbeing.

Keywords: Occupational stress, thriving, leadership

## 1. Introduction

The literature on teacher attrition and burnout is substantial, but only more recently researchers have accentuated the significance of teacher wellbeing. Wellbeing is a broad term which has been defined in multiple ways. A literature review of teacher wellbeing conceptualizations provides wellbeing definition as; “a diverse and fluid concept

---

<sup>1</sup>The findings of this manuscript have already been published in the form a research report by same team of authors under the title “Teacher Wellbeing: Findings from a Scoping Literature Review and Case Studies in Cambodia, Kenya, and Qatar”: <https://www.wise-qatar.org/teacher-wellbeing-findings-cambodia-kenya-qatar/>.

\*Address for correspondence: Malik Muhammad Sohail.  
E-mails: malik.sohail@duke.edu; sohailmujahid@gmail.com.

respecting individual, family and community beliefs, values, experiences, culture, opportunities and contexts across time and change, underpinned by positive notions, yet is unique to each of us and provides us with a sense of who we are” [1].

The domains of wellbeing are broad and include physical, mental, and emotional wellbeing. Wellbeing matters to each person, thus it needs fostering and protecting, and the community and contexts can affect wellbeing beyond the individual.

Teaching is one of the challenging jobs that is highly interactive and encompasses interpersonal work. To get the best student outcomes, teachers have to guide and lead students. Working only with students doesn't complete teacher's job but they are also working with principals, other colleagues, and parents. Generally teachers work five or more days per week. Teaching requires intense work that demands multiple skills, from the content taught to the educational process to teaching children social skills. Additionally, teachers are perceived as role models and mentors; students may ask them any question across the day from the very academic to the very personal. Teachers have to be always ready to answer and satisfy queries and questions by their students. With such varied range of tasks, the wellbeing of teachers is always at risk, and yet also always has the opportunity of being strong or improved.

School leaders can play significant role in implementation of strategies to maintain a positive school culture to promote wellbeing of teachers [2]. These strategies may include strengthening physical and social environment, fostering social networks, devising conducive policies for teachers and appreciation of teachers' work. School leadership can bring changes in school's working and social environment to reduce the burnout factors.

In 2019, approximately 94 million teachers were working worldwide [3]. Despite that staggering number, to achieve the international Sustainable Development Goals and reach universal primary and secondary education in 2030, another 69 million teachers will be required. We need to address the wellbeing of our teachers, both for the sake of the 94 million teachers themselves and for the sake of the children being taught.

### *1.1. Teacher burnout, teaching practices and student learning*

Researchers have long been interested in the different sources of teachers' job dissatisfaction, job-

related stress and burnout (a condition characterized by prolonged stress at work) [4, 5]. Most teachers find their job challenging, which makes them vulnerable to stress and burnout. Compared to other professional occupations, professionals in the teaching community rate their wellbeing lower [6]. Empirical studies depict that teaching has unique stressors such as the socio-emotional demands of dealing with quite a lot of students simultaneously [7]. Understanding burnout among teachers is important because it can have multifaceted detrimental effects on teachers, students and schools. Teacher burnout affects teachers' ability to manage the classroom and deal with students' disruptive behavior [8]. Burnout in teaching can negatively affect students' wellbeing and achievement [9].

A number of contributors to teacher burnout are well-recognized. McCallum et al. [1] found that a wide range of studies have emphasized on the challenges of teaching, for instance work overload, or obligation to respond to constant change. Work-related and institutional stress factors eventually cause job burnout among teachers. McCallum et al. [1] identified student misbehavior, problematic behavior by students' parents, and poor support from colleagues and management as relational factors which inhibit teachers' wellbeing.

Other studies have found that insufficiency of social support from coworkers and school administrative staff has a significant effect on teachers' self-efficacy beliefs, which in turn predicts their job burnout [10]. Higher work demands and poor resources such as poor working conditions and inadequate resources produce higher levels of burnout [11]. Heavy workload, job insecurity and time pressure have also been found to be associated with job burnout among teachers [12, 13]. Teachers' exposure to emotionally demanding situations and emotional labor predicts emotional exhaustion, an aspect of burnout [14].

Some researchers have examined ways to reduce burnout. Professional development opportunities have been found to help teachers handle their work stress [15]. Teachers who experience enthusiasm and growth through professional development opportunities report the highest positive emotions, while those who have career frustration report experiencing the lowest positive emotions [16]. A plethora of empirical studies have found that specific interventions and training programs reduce burnout among teachers [17]. Mindfulness-based practices tend to be the most effective means of those studied for maintaining

and enhancing mental health and general wellbeing among teachers [18].

### 1.2. Teacher wellbeing, teaching practices and student learning

Teacher wellbeing is an important resource for education systems and schools which deserves serious attention [19]. Numerous studies on teacher wellbeing have been increasing over the past one and half decades, with a rapid increase in recent years. Thus, to keep up with the growing literature, it is important to assess the factors reported on teacher wellbeing previously and update our evidence-based understanding with findings from recent articles.

The wellbeing of teachers has an important impact on teaching practices and learning of students [20]. Insight into the factors fostering teacher wellbeing can be helpful to improve schools and better understand teachers' attitudes toward school reforms [21]. Teachers who do well across multiple wellbeing domains show better commitment to school and have more satisfaction with their life, health and occupation [22].

The wellbeing of students positively affects their academic achievement and behavior in school [23]. Literature has also established a link between wellbeing of teachers and students [24]. Several studies suggest that teacher wellbeing, directly or indirectly, positively affects children's socioemotional adjustment and behavioral difficulties [25, 26]. Teacher's grit and life satisfaction predict student academic achievements [27], and teachers with higher wellbeing measured in terms of self-efficacy and job satisfaction have students who achieve higher grades [28].

Several individual, interpersonal and organizational level factors are known to be helpful in maintaining teacher wellbeing. Recognizing the significance of these factors can help teachers and policymakers enhance teacher wellbeing. Two such factors, the sense of autonomy and receiving social support, are important job resources for teachers [29, 30]. Another factor, having positive relationships with coworkers, is associated with meaningful work, which fosters wellbeing among teachers [31]. Positive interactions help coworkers establish a better work environment, which then enhances job satisfaction and productivity [32]. Also, teachers with higher social support are likely to experience higher teaching efficacy and work engagement that may bring feelings of wellbeing [33]. Teachers who have higher

professional autonomy possess higher interpersonal self-efficacy, which augments their wellbeing [34]. In terms of practices, empirical evidence confirms that mindfulness-based practices help teachers experience serenity, peace, and wellbeing [35, 36].

Thus, overall, teacher burnout and teacher wellbeing are both vitally important for the lives of teachers and the students who rely on them for mentoring and education. Gaining a holistic sense of recent literature on teacher wellbeing is important now given the growing rate of teacher wellbeing studies. Because wellbeing and burnout are related, it is helpful to consider simultaneously the most recent studies on each. Previous reviews of the teacher wellbeing literature have not indicated using clear methods in terms of key words searched and exclusion and inclusion criteria of articles contained in the review. In this study, we aimed to use rigorous methods to conduct a comprehensive scoping literature review of recent literature from all countries to identify: 1) factors related to teacher wellbeing and burnout; 2) recommendations to promote teacher wellbeing; and 3) gaps in the literature.

## 2. Methods

To meet the objectives of this study, we conducted a scoping review to identify the factors fostering wellbeing and inducing burnout among school teachers. Initially we found a report on teacher wellbeing titled *Teacher Wellbeing: A Review of the Literature* by McCallum et al. [1] who purposively selected most relevant studies with a strong focus on teacher wellbeing. We decided to not fully replicate their work and performed a literature review of the relevant articles published after the temporal frame opted by McCallum et al. [1]. Thus, we selected studies published in five-year period of 2016–2020. A scoping review method was chosen which provides a broad overview of the literature, the types of methodologies applied, and the types of available empirical evidence [37].

### 2.1. Search terms and databases

We discussed the relevance of potential databases with a professional librarian who made it sure that we do not skip any relevant database. After getting the advice from librarian, we searched following databases; Psycinfo, Scopus, and Education Full Text (H.W. Wilson) from 1st of January 2016 to 21st of November 2020. Each of these databases

were searched to find research articles related to teacher wellbeing by using terms “school, teacher or educator, wellbeing or psychological wellbeing, intervention or service or trial or program.” For burnout, we applied the search terms “school, teacher or educator, burnout or occupational stress, intervention or service or trial or program.” These search terms were decided keeping in view our study objectives and preliminary literature review. The inclusion criteria for this review were full-text articles in English-language, published in peer-reviewed journals. Other studies like systematic reviews, narrative reviews, and meta-analysis were excluded. We also excluded studies that reported only on teacher physical health.

## 2.2. Screening process

Results from the initial databases search resulted in 1,391 articles which were uploaded to *Covidence* software and duplicates were removed. *Covidence* software was also used for further screening for relevant 934 articles. The screening of study titles, their abstracts, and in some cases skimming through the full article, we found 102 articles meeting inclusion criteria of our study. For these articles, we entered descriptors of the studies (e.g., geographic location, kind of schools, research design, sample size and study population) and key study findings, including factors related to wellbeing or burnout into a table for future analysis. We also included policy, intervention, and future research recommendations that the authors made. These recommendations were not always based on their own study’s findings but were sometimes based on their larger understanding of the teacher wellbeing literature.

## 2.3. Data coding procedures

We applied content analysis approach to document and synthesize information in the sampled articles. One of the researchers read the article contents and extracted relevant information. This information were put in a table. Afterwards, the findings were coded by using a codebook. The codebook was generated after a thorough discussion on potential codes. After discussion the researchers approved 12 data-driven codes that organized the content and reflected the study objectives. Three different researchers evaluated study descriptors and key findings table and proposed relevant codes. The further discussed on the proposed codes helped in operational defini-

tions of the codes which eased the consistent coding process.

## 2.4. Analysis

Mainly two kinds of content analysis are conducted to analysis written content; conceptual content analyze and relational content analysis [38]. Mainly focusing on certain words, concepts, or themes to make inferences based on the resultant patterns is known as conceptual analysis. On the other hand, relational analysis deals with finding out the inter-relationships between the concepts and themes that surface from the analyzed text. We also employed qualitative analysis approach by Deterding & Waters [39]. At first, one of the researchers read all the findings extracted from the sampled research articles. A set of studies was generated by combing findings of 5 studies. A summary for each set of these 5 studies was prepared. Subsequently, these summaries were read again to identify themes. The same process was repeated by another member of research team to make it sure that no component was skipped. Recommendations by studies were also documented and added to findings in a separate section.

## 3. Results

Out of 102 sampled research articles on teacher wellbeing and burnout, a majority of studies (41) were conducted in Europe and North America (29) which shows that most of the work on teacher wellbeing comes from developed world. We found 14 studies from Asia and 10 studies from Africa. Only 6 studies came from Australia and 1 from South America. Findings of this review are divided into two major sections: 1) factors fostering wellbeing among teacher and 2) factors behind teacher work-related burnout. Scoping review findings are presented in the form of key thematic areas generated from conceptual and relational content analysis.

### 3.1. Factors fostering teacher wellbeing

Scholarly literature surfaced organizational environment, received social support, social support provided, individual and interpersonal-level interventions, and work-related engagement contributing to teachers’ wellbeing (Fig. 1).

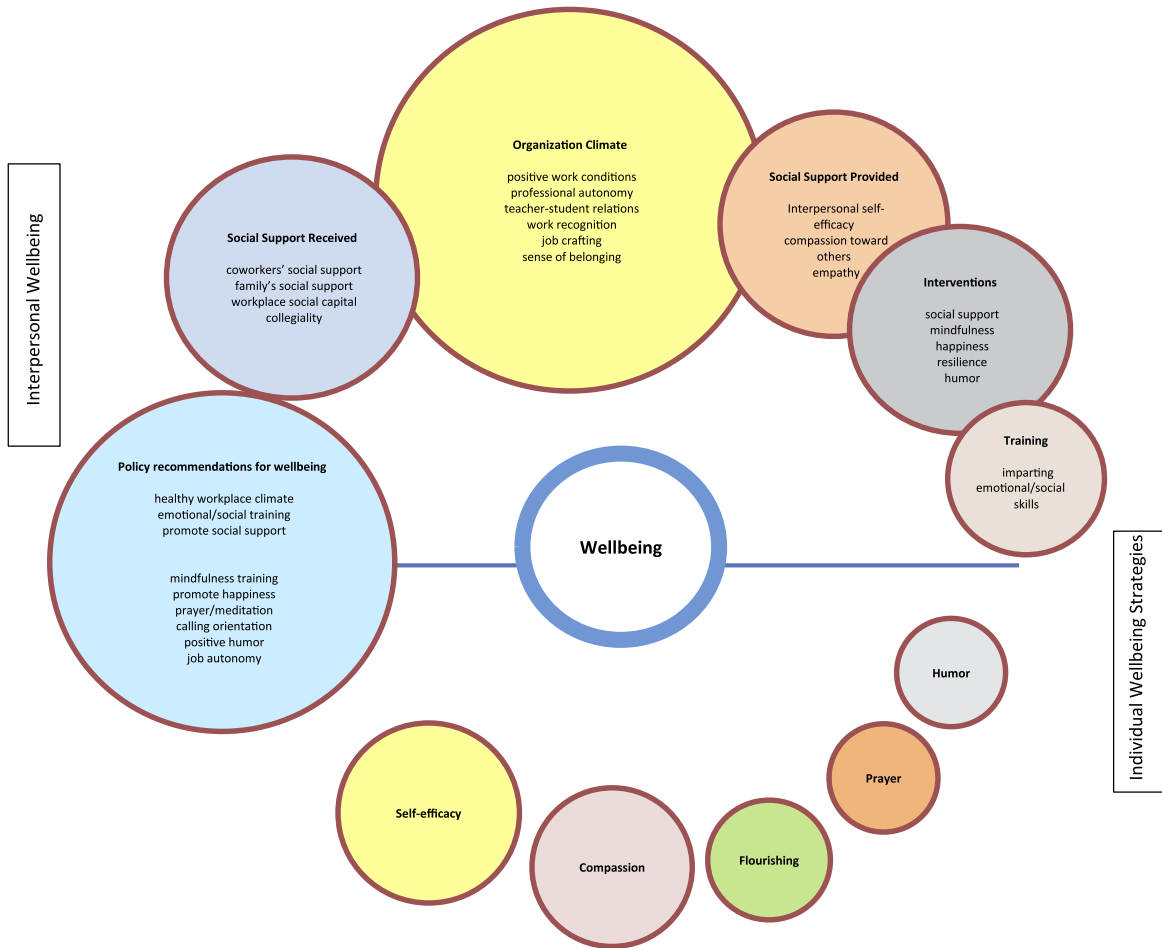


Fig. 1. Wellbeing factors - Circle size indicator of number of relevant articles in the scoping review.

### 3.1.1. Organization climate

Numerous studies in our scoping review found that a positive organizational climate can be associated with wellbeing of teachers. Positive workplace environment helps workers to improve and maintain their wellbeing [40–42]. Studies have reported that positive events at workplace make teachers feel as if they matter more [43]. Teachers working in a positive work environment report higher satisfaction [44]. Another important factor related to worker wellbeing was professional autonomy [34]. Our scoping review analysis discovered the importance of the student–teacher relationship for teacher’s own wellbeing [45]. Literature suggests that job crafting, that can be defined as reorganizing work to maximize meaning and enjoyment, as a factor fostering teacher’s wellbeing [31, 46,]. Studies reported that a sense of belongingness

among coworkers was conducive to wellbeing of teachers [47, 48].

### 3.1.2. Social support received

In our scoping review we found studies reporting social support as important factor for teachers’ wellbeing. Social support at workplace was associated with teachers’ wellbeing, engagement and satisfaction at job [48–50]. Teachers receiving greater social support from colleagues presented higher positive emotions and wellbeing [50]. Perceived collegiality among teachers found to be positively associated with lower job-related stress and greater job satisfaction [31]. Good relations with colleagues were found to be associated with meaningful work [31]. In a study teachers mentioned family as the major source of social support in times of crises [50]. When teachers

felt professionally exhausted and required emotional support, they tend to look towards their family [51]. Furthermore, the association was found by a few studies between social capital at workplace and positive mental health effects among teaching professionals [44]. Socio-emotional support at workplace was found to be associated with a higher prevalence of productive thoughts [52]. Additionally, the milieu of dialogue and discussion about work-related stress among employees and management showed a slight reduction in job demands [53].

### 3.1.3. Social support provided

This scoping review found that individuals with self-compassion are more likely to gain various mental health benefits including subjective wellbeing [54, 55]. Studies showed a direct positive total impact of subjective happiness and compassion on work engagement [56, 57]. Subjective happiness and compassion can foster emotional state generating positive teacher attitude [58]. We found that teacher-student closeness predicts self-efficacy among teachers, which was significantly correlated with teacher's job satisfaction [45, 34]. In addition, teachers experiencing higher self-efficacy experienced lesser intensity of and variability in negative emotions [59].

### 3.1.4. Work-related engagement

Literature suggested that adopting a leadership role increases teachers' sense of wellbeing [60]. Teachers described being acknowledged makes their work an enjoyable and rewarding experience [40]. A calling orientation (experiencing work as highly meaningful or sacred) and good relationship with colleagues were associated with meaningful work [31]. Literature found job crafting associated with meaningful work [46]. Job crafting is when one reorganizes their work activities, colleague relationships, and perceptions of work tasks to optimize meaning and enjoyment [61].

### 3.1.5. Interventions

Out of 102 studies included in review, 55 studies were interventions covering 37 distinct interventions. Most of the studies reported that the interventions had a positive impact on participants. Two kinds of wellbeing strategies were found: 1) individual wellbeing strategies, for 28 out of 37 interventions and 2) interpersonal wellbeing strategies for 9 out of 37 interventions. No policy intervention studies were found.

### 3.1.6. Individual-level teacher wellbeing strategies

Literature surfaced mindfulness-based stress reduction interventions and resilience interventions at the individual level of the ecological model. Mindfulness-based interventions were found effective in reducing stress and compassion fatigue and improving wellbeing among teachers [62–66]. In addition, mindfulness-based practices were significantly associated with lower level of job stress, anxiety, depression and job-related burnout [58, 67, 68]. Mindfulness-based practices were negatively associated with workload stress [69, 70]. It was found that greater the practice of mindfulness ensued lower level of stress [71–73].

Results of our review indicated that mindfulness-based practices may be connected to the ability to regulate emotions [64, 69, 74, 75]. Similarly, there was some evidence that mindfulness based training can be effective in prevention and management of stress by inducing emotion regulation [76]. Subjective happiness was found significantly correlated with work engagement, compassion, self-regulated strategies, and working environment. Resilience (capacity to overcome hardships and challenging life events) was positively correlated with occupational wellbeing among teachers [56, 77]. Of the 55 interventions studies, merely two studies examined humor in context of teachers' wellbeing. Those who had higher humor reported significantly lower level of depersonalization and emotional exhaustion and higher level of personal accomplishment [78].

### 3.1.7. Interpersonal-level teacher wellbeing strategies

At the interpersonal level of the socioecological framework, relationships between teachers and their colleagues appeared very important [44, 50, 79, 80]. Numerous studies found good relationship with colleagues promoting learning among teachers and a better work environment [60]. Professional development of teachers was helpful in dealing with job distress [40, 63]. About eight studies informed the importance of self-efficacy in nurturing wellbeing among teachers [41, 45, 59, 81–85]. Only two studies found the effect of flourishing (employees' emotional, psychological and social wellbeing) on teachers' wellbeing. Flourishing teachers showed low intentions to quit job contrasted with non-flourishing teachers [86]. In one study prayer appeared as a potential intervention [87]; teachers who consider prayer as an intervention had higher job satisfaction.

### 3.2. Factors causing teachers' burnout

Overall, we identified 4 factors associated with teacher burnout in scoping review. These factors include negative emotions, job-related factors, negative workplace environment and school milieu (Fig. 2). Three-component model by Maslach [88] provides widely held conceptualization of burnout. According to this model, emotional exhaustion, depersonalization, and lack of feelings of personal accomplishment at work are three components. Various studies in this scoping review referred to these factors (Figure 2).

#### 3.2.1. Negative workplace climate

This scoping review found various factors behind burnout comprising workload, marginalization of teachers, poor working conditions, excessive bureaucratization and display rules, each of which we discuss below. Literature on job burnout largely counted in unfavorable workplace conditions leading to job burnout. Several studies revealed that workload demands are likely to produce stress [49, 69, 89, 90]. Reduction in workload lessens perceived high psychological task demands [90]. When teachers are repeatedly demanded to adopt new methods, they feel greater pressure of work [91]. Some teachers reported methods to manage wellness during high workload through adequate sleep, having hobbies, involvement in activities other than job work, and pursuing counselling [92]. Excessive bureaucratization and lack of autonomy were associated with emotional exhaustion and burnout [49, 91]. A few studies also informed the influence of marginalization on burnout. Perceived marginalization and, conversely, feeling as if one matters to colleagues affected teachers [43]. Positive workplace events made them feel like they matter [43]. Conflict with the students' families generated feelings of powerlessness and fear of aggression among teachers [91]. Two studies stated that display rules (one cannot openly display certain emotions at work) were related to increased emotional labor among teachers and worse wellbeing [92, 93].

#### 3.2.2. School milieu

This scoping review gathered convincing evidence that social environment of the school strongly impacts wellbeing of teachers. The school's social environment includes institutional support, social support from colleagues, behavior of students and the informal communication with colleagues. It has been

found that poor social support can halt wellbeing of teachers [51]. Poor collegiality (co-worker relationships) denoted as an important cause of workplace stress associated with burnout [31]. Lack of communal and institutional support depreciated teachers' wellbeing [94]. Coworkers' casual interactions and informal relationships were helpful in getting social support [95, 96]. Studies show teachers with low humor experienced more burnout specifically depersonalization/cynicism [78]. It was found that students with problematic behavior can badly affect wellbeing of teacher [92]. Studies reported student misbehavior can lower teacher self-efficacy [34] while greater teacher-student attunement was related to lower emotional exhaustion [45].

#### 3.2.3. Job-related factors

Our scoping review found several studies depicting job-related factors behind burnout. Job insecurity was associated with stress among teachers [49]. One study revealed that work related dissatisfaction was strongly associated with depression and poor wellbeing [97]. When teachers do not find opportunities for their professional development, they experience job burnout [98]. Studies reported that if teachers lack control over job-related decision making and have limited opportunities for their professional growth, it can trigger feelings of stress and frustrations among teachers [15, 34].

#### 3.2.4. Negative emotions

Workplace stress has been found to be associated with burnout [51]. Several other studies reported the role of negative emotions, for instance frustration, powerlessness, dissatisfaction, and lack of control in generating burnout [15, 59, 91, 92, 97].

#### 3.2.5. Sleep

Of note, four studies mentioned sleep problems as part of burnout [44, 48, 55, 99] while two studies discussed improvements in sleep after interventions [55, 99]. This scoping review could not find a single study reporting sleep difficulty as a cause of burnout.

### 3.3. Recommendations for wellbeing

Of the 102 sampled articles, 29 studies contained within some practical recommendations to foster teacher wellbeing. These recommendations range from individual-level interventions to policy level alterations in the workplace environment.

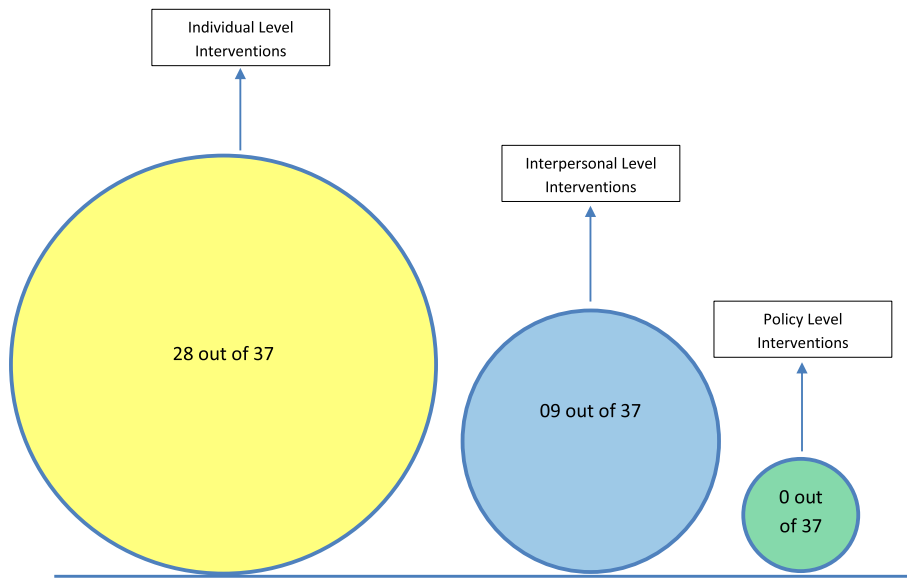


Fig. 2. Level of intervention from literature review, 2015 to 2020.

Literature suggested that receiving training on rational, emotional, and social skills makes teachers experience less burnout [100, 101]. These skills have been bundled into an intervention called rational emotive behavior therapy program (REBT); studies reported positive outcomes for teachers who participated in this intervention. Researchers recommended that teachers should be trained with skills to gain better understanding, perceptions, and regulation of emotional reactions [42]. Developing environments to promote satisfaction among teachers consequently enables them to have higher sense of personal accomplishment [102]. Studies stressed that interventions have to focus on teachers' self-efficacy as well as teachers' perception of job satisfaction [81]. One recommendation was the provision of behavioral specialists, school health counselors, and occupational therapists to help the students which will consequently ease the job of teachers by reducing their job stress [101].

Training and professional development opportunities can promote positive attitudes among teachers [52, 103]. It has been found that subjective happiness enables better decision-making and problem-solving [56]. Studies recommend that happy teachers have better work engagement and express supportive behaviors towards workfellows [103]. Mindfulness-based strategies appeared as a cost-effective way to promote all kinds of wellbeing [55–57, 104–106]. Mindfulness-based stress reduction interventions and

yoga can improve wellbeing of teachers and decrease their stress [58, 64, 93, 105].

Some studies propounded that prayer (like meditation) can effectively reduce stress and strain related to teaching [87]. School management can design their professional training and education programs containing elements of positive humor that can enhance teachers' wellbeing and ability to cope with burnout [78]. Teachers can be provided more support by the school administration to create high levels of collegiality [107].

Another important recommendation for management has been found to adopt approaches to encourage social support among colleagues to decrease stress among teachers and increase job satisfaction [50, 51]. School management can incorporate elements of emotional, instrumental and informational support that can be integrated in seminars and workshops. Additionally, theoretical and practical aspects of social support can be discussed on such platforms. Studies suggest that such social support strengthens positive relations among coworkers in the workplace [108]. Furthermore, workplace social capital has been reported as an important factor pertaining to teachers' wellbeing [44].

Studies have acclaimed health-enhancing effect of workplace environment. A healthy school workplace is one where teachers' work is modified and their efficacy is enhanced [29, 77, 102]. Providing required resources and creating policies of school



environment are other important factors prompting teacher wellbeing [40]. To get a happy school environment, researchers suggested increasing programs gleaned from positive psychology [108]. A worker's relationship with work has significant role in wellbeing and sense of comfort of worker. Refining the relation with work can make employees productive and efficient. Researchers suggested bringing a calling orientation (through job crafting), collegiality, and autonomy in teaching to make work meaningful [31]. Teachers who have job autonomy and flexibility at work are more likely to experience wellbeing [93].

Training of teachers about self-regulation strategies provides a host of benefits that can reduce burnout [109]. Recommendations were made for schools to provide self-regulation learning opportunities [52, 109]. On the basis of empirical evidence that increased workload may cause burnout and job stress, studies recommended that school management should be careful about increasing workload of teachers [89].

#### 4. Discussion

This scoping review revealed that teacher wellbeing, and not just teacher burnout, needs to be emphasized for better teacher performance. Of the 102 studies, most were conducted in high-income countries. The most studies were conducted in Europe (42), while 31 studies were found from North America. We found only 14 studies from the biggest continent Asia; 11 out of these 14 studies were identified from Hong Kong, India, and Israel.

This scoping review found that included studies employed rigorous study designs. A wide range of study designs were found including cross-sectional surveys, qualitative studies, longitudinal studies and randomized controlled trials along with a few quasi-experimental studies. The majority of studies were homogenous in terms of socioeconomic status and race. Further studies on teacher wellbeing can be conducted across diverse cultures and multiple countries.

In general, the studies from our scoping review's time period of 2016–2020 revealed that teachers who have higher social support, strong self-regulation skills, higher teaching self-efficacy and higher compassion are likely to have better wellbeing. This is in line with the findings of earlier studies which suggest that teachers' emotion regulation improves their

teaching efficacy [110]. Teachers who offer social support to coworkers and receive social support from them are more likely to have higher job satisfaction and better relationships at work [111, 112]. Prior education literature indicated that teaching efficacy is associated with teachers' psychological wellbeing [113]. Compassion has been found to be associated with better work experience and a reduced amount of negative emotions [62, 114].

The findings of the studies in this scoping review demonstrated that availability of social support and a sense of collegiality in school settings are conducive to teacher wellbeing. Scoping review showed that positive workplace conditions and events make teachers feel their importance which improves their wellbeing [40, 41, 43]. These are important findings to understand the dimensions of workplace social relations and their subsequent effects on worker wellbeing. Fiorilli et al. [51] reported when teachers needed emotional support and faced job exhaustion, they tend to go towards their families. Merely support of coworkers was not helpful but, teacher-student better relations also predict self-efficacy and satisfaction among teachers [34, 45]. Another promising finding was that work engagement among teachers is directly positively affected by compassion and subjective happiness [56, 57]. Consequently, work engagement brings positive attitudes and better work outcomes. Furthermore, the scoping review found evidence for the role of a calling orientation [31], job crafting [46] and acknowledgement of teachers' work [40] in their wellbeing.

Multiple factors impact teachers' job dissatisfaction, work stress and burnout. These factors range from individual factors to interpersonal and social factors. In addition, school level factors and policies play significant roles in this regard.

The findings of this scoping literature review suggest that several dimensions of burnout, as well as diverse sources of stress, depression, and job dissatisfaction, may negatively affect wellbeing. In most cases, wellbeing was negatively correlated with job burnout.

Findings yielded by the review identified that the major factors related to teacher burnout are poor work settings, high workload, marginalization, excessive bureaucratization and display rules. Recent evidence confirms that unfavorable workplace conditions contribute to job burnout [13, 115]. Several studies reported the role of stressful workplace environments and workload demands causing stress [49, 69, 89, 90]. Therefore, key stakeholders (e.g., school admin-

istration, principals, and policy makers) should devise strategies to ease work stress among teachers.

The findings of a few studies suggest that excessive bureaucratization, lack of individual teacher autonomy and perceived marginalization contributed to emotional exhaustion and burnout [43, 49, 91]. There is a gap in the literature on strategies to minimize bureaucratization, as well as those to reduce teachers' feelings of marginalization and ways to run schools through inclusive and participative management. Evidence showed that workplace stress can lead to burnout [51]. The review also identified the negative emotions related to burnout, such as frustration, lack of satisfaction, powerlessness and lack of control [15, 59, 91, 92, 97].

The findings on the aspects of school environment which predominantly impact teacher wellbeing are varied. This scoping review demonstrates that the presence of social support and positive co-worker relationships relate to better teacher wellbeing [31, 50] while lack of social support and poor co-worker relationships can be a significant cause of stress at workplace that is related to job burnout [31, 51]. As a result, teachers experience lack of communal and institutional support which deteriorates their wellbeing [94].

Findings of a few studies highlighted the importance of teacher–student relationships for the wellbeing of teachers. The review suggests that problematic behavior of students in the classroom is common and can adversely affect teacher wellbeing and performance [34, 92]. Greater student misbehavior was linked to lower teacher self-efficacy [34]. Key stakeholders should be aware of the psychosocial and educational repercussions pertaining to student misbehavior with teachers. Periodic monitoring of teacher-student interaction in the classroom may be needed, as well as other strategies.

A number of studies highlighted job-related factors contributing to job burnout. One study reported that job insecurity caused stress among teachers [49]. Another study demonstrated that dissatisfaction with work was strongly associated with both poor teacher wellbeing and depressive symptoms [97]. Professional development matters: frustrations with lack of control over job-related decisions and limited access to professional growth opportunities were related to teacher stress [15, 34].

The current scoping review reflects some of the variations in factors behind burnout. There was only one study which depicted that low humor was related to more depersonalization/cynicism among teachers

[78]. This review finds that lack of humor and informal interaction is the research area that has not been explored yet. Therefore, there is need to study how humor and informal interaction can impact all the dimensions of burnout.

Bricheno et al. [116] identified 12 research gaps in the literature on teachers' wellbeing, ranging from impact of parental behavior to the style of leadership exercised by school management. In the intervening years since 2009, researchers have begun to address some of these gaps. Our scoping review found studies addressing some of these gaps, including the meaning of wellbeing, effects of workload and students' misbehavior, impact of parental behavior, influence of demographic and school factors and relationships with colleagues with reference to teachers' wellbeing. We found a few studies on teachers' control over their work and its impact on their wellbeing. A few studies evaluated intervention programs to promote teacher wellbeing. Furthermore, some studies demonstrated a positive relationship between teacher wellbeing and student outcomes.

Some research gaps identified by Bricheno et al. [116] still appear to be gaps based on our scoping review. We could not find studies on global/cross-cultural inquiry of emotional demands and teachers' wellbeing. Studies on different leadership and management styles promoting teacher wellbeing have not been elucidated. None of the studies exclusively investigated respect and rewards for teaching in the context of teacher wellbeing.

Our literature review intentionally built upon the teacher wellbeing review of McCallum and colleagues [1]. McCallum's report mainly emphasized findings on resilience and self-efficacy, social-emotional competence/emotional intelligence, personal responses to teachers' work (burnout, fatigue, exhaustion, stress), and relational factors. In contrast, our review which targeted the newest articles identified more diverse factors contributing to wellbeing including organizational climate, social support, and individual and interpersonal teacher wellbeing strategies. Additionally, a few studies surfaced on flourishing, prayer, having an orientation to work that feels like a calling, and job crafting as contributors of wellbeing. Our findings report that mindfulness-based practices consistently produce beneficial effects for teacher wellbeing. This review also identifies a research gap in studies on policy-level issues of schools, organizational-level interventions, and the link between teacher and student wellbeing.

#### 4.1. Strengths and limitations

This study has several strengths. The strengths of this study include a sound research design and relational analysis approach. We simultaneously analyzed teachers' wellbeing and burnout. We analyzed the content of the sampled studies and conducted a content analysis of the recommendations that authors made in the sampled studies. We further documented the details of all the interventions reported. Additionally, we reported on the geographic distribution of studies by continent, surfacing substantial research gaps. Generally, scoping reviews provide a descriptive account of information which often leads to broad and less focused findings. However, the combination of steps we took in the scoping review yielded focused findings and recommendations for teacher wellbeing.

This study also includes several limitations. One limitation of this study is that we did not formally evaluate the quality of methodology of studies by setting parameters for a critical methodological review of sampled studies. Also, the initial screening of studies was accomplished by only one researcher, which poses a potential risk of selection bias in terms of which articles were included. In addition, the scoping review covered only a five-year period. However, this was an intentional choice to augment the substantial teacher wellbeing literature review by McCallum et al. [1], which covered the literature from 2001–2017. The methodology of the McCallum report was more flexible and less systemic than ours. McCallum et al. do not report tracking of funneling and screening of articles, and they did not state inclusion and exclusion criteria for the final sample of articles present in their methods section. In this way, our study advances the identification of knowledge and gaps in the teacher wellbeing literature, in addition to covering the years of 2016–2020.

#### 5. Conclusion

This scoping literature review includes interesting findings from a large number of studies on teacher wellbeing and burnout. It provides useful insights into teachers' experience of wellbeing and the factors fostering their wellbeing. The study's findings indicate that burnout is associated with varied factors including the behavior of school administrators, colleagues and students, along with the school environment. The findings signify the pivotal role of school leaders in promoting wellbeing and curbing

burnout. Researchers are learning more and more about teacher wellbeing. Wellbeing is distinct from burnout and important in its own way. We hope policymakers, principals, and teachers themselves will benefit from the paths to teacher wellbeing that this study elucidates.

#### Ethical approval

Not applicable.

#### Informed consent

Not applicable.

#### Conflict of interest

The authors declare no conflict of interest.

#### Acknowledgments

The authors are deeply thankful to the members of the World Innovation Summit for Education (WISE) team at Qatar Foundation, including Maryam Al-Khalaf and Asmaa Alfadala, and The Wellbeing Project, including Aaron Pereira, Linda Grdina, Elissa Goldenberg, Xymena Salado, and Renald Morris for their support and contribution. They appreciate the guidance and feedback they received from members of the Teacher Wellbeing Group: Dominic Regester, Chelsea Prax, Daniela Labra Cardero, Leslee Udwin, Stephanie Wong, and Rachel Brody. They also thank Duke University librarian Hannah Rozear for her guidance on scoping reviews, choice of search terms, and databases to include.

#### Funding

This work was supported by a grant from Qatar Foundation and conducted in collaboration with WISE at Qatar Foundation and The Wellbeing Project.

## References

- [1] McCallum F, Price D, Graham A, Morrison A. Teacher wellbeing: A review of the literature. AIS: NSW, The University of Adelaide, Australia. 2017;34.
- [2] Morris JE, Lummis GW, Lock G, Ferguson C, Hill S, Nykiel A. The role of leadership in establishing a positive staff culture in a secondary school. *Educational Management Administration & Leadership*. 2020;48(5):802-20.
- [3] UNESCO UIS. (2020). UIS Statistics. UNESCO Institute for Statistics. <http://data.uis.unesco.org/>
- [4] Platsidou M. Trait emotional intelligence of Greek special education teachers in relation to burnout and job satisfaction. *School Psychology International*. 2010;31(1): 60-76.
- [5] Richards J. Teacher stress and coping strategies: A national snapshot. *The Educational Forum*. 2012;76(3):299-316.
- [6] Grenville-Cleave B, Boniwell I. Surviving or thriving? Do teachers have lower perceived control and well-being than other professions? *Management in Education*. 2012;26(1):3-5.
- [7] Roeser RW, Skinner E, Beers J, Jennings PA. Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives*. 2012;6(2):167-73.
- [8] Egyed CJ, Short RJ. Teacher self-efficacy, burnout, experience and decision to refer a disruptive student. *School Psychology International*. 2006;27(4):462-74.
- [9] Høglund WL, Klinge KE, Hosan NE. Classroom risks and resources: Teacher burnout, classroom quality and children's adjustment in high needs elementary schools. *Journal of School Psychology*. 2015;53(5):337-57.
- [10] Brouwers A, Evers WJ, Tomic W. Self-efficacy in eliciting social support and burnout among secondary-school teachers. *Journal of Applied Social Psychology*. 2001;31(7):1474-91.
- [11] Bakker AB, Demerouti E, Euwema MC. Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*. 2005;10(2):170.
- [12] Richter A, Näswall K, Lindfors P, Sverke M. Job insecurity and work-family conflict in teachers in Sweden: Examining their relations with longitudinal cross-lagged modeling. *PsyCh Journal*. 2015;4(2):98-111.
- [13] Skaalvik EM, Skaalvik S. Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*. 2010;26(4):1059-69.
- [14] Tuxford LM, Bradley GL. Emotional job demands and emotional exhaustion in teachers. *Educational Psychology*. 2015;35(8):1006-24.
- [15] Sandilos LE, Goble P, Rimm-Kaufman SE, Pianta RC. Does professional development reduce the influence of teacher stress on teacher-child interactions in pre-kindergarten classrooms? *Early Childhood Research Quarterly*. 2018;42:280-90.
- [16] Zysberg L, Maskit D. Teachers' professional development, emotional experiences and burnout. *Journal of Advances in Education Research*. 2017;2(4):287-300.
- [17] Iancu AE, Rusu A, Măroiu C, Păcurar R, Maricuțoiu LP. The effectiveness of interventions aimed at reducing teacher burnout: A meta-analysis. *Educational Psychology Review*. 2018;30(2):373-96.
- [18] Emerson LM, Leyland A, Hudson K, Rowse G, Hanley P, Hugh-Jones S. Teaching mindfulness to teachers: A systematic review and narrative synthesis. *Mindfulness*. 2017;8(5):1136-49.
- [19] Hakanen JJ, Bakker AB, Schaufeli WB. Burnout and work engagement among teachers. *Journal of School Psychology*. 2006;43(6):495-513.
- [20] Turner K, Theilking M. Teacher wellbeing: Its effects on teaching practice and student learning. *Issues in Educational Research*. 2019;29(3):938-60.
- [21] Spilt JL, Koomen HM, Thijs JT. Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*. 2011;23(4):457-77.
- [22] Kern ML, Waters L, Adler A, White M. Assessing employee wellbeing in schools using a multifaceted approach: Associations with physical health, life satisfaction, and professional thriving.
- [23] Lewis AD, Huebner ES, Malone PS, Valois RF. Life satisfaction and student engagement in adolescents. *Journal of Youth and Adolescence*. 2011;40(3):249-62.
- [24] Roffey S. Pupil wellbeing—Teacher wellbeing: Two sides of the same coin?. *Educational and Child Psychology*. 2012;29(4):8.
- [25] Domínguez X, Vitiello VE, Fuccillo JM, Greenfield DB, Bulotsky-Shearer RJ. The role of context in preschool learning: A multilevel examination of the contribution of context-specific problem behaviors and classroom process quality to low-income children's approaches to learning. *Journal of School Psychology*. 2011;49(2):175-95.
- [26] Poulou MS. Students' adjustment at school: The role of teachers' need satisfaction, teacher-student relationships and student well-being. *School Psychology International*. 2020;41(6):499-521.
- [27] Duckworth AL, Quinn PD, Seligman ME. Positive predictors of teacher effectiveness. *The Journal of Positive Psychology*. 2009;4(6):540-7.
- [28] Caprara GV, Barbaranelli C, Steca P, Malone PS. Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*. 2006;44(6):473-90.
- [29] Beusaert S, Froehlich DE, Devos C, Riley P. Effects of support on stress and burnout in school principals. *Educational Research*. 2016;58(4):347-65.
- [30] Slemp GR, Kern ML, Vella-Brodrick DA. Workplace wellbeing: The role of job crafting and autonomy support. *Psychology of Well-Being*. 2015;5(1):1-7.
- [31] Fouché E, Rothmann SS, Van der Vyver C. Antecedents and outcomes of meaningful work among school teachers. *SA Journal of Industrial Psychology*. 2017;43(1):1-0.
- [32] Van Droogenbroeck F, Spruyt B, Vanroelen C. Burnout among senior teachers: Investigating the role of workload and interpersonal relationships at work. *Teaching and Teacher Education*. 2014;43:99-109.
- [33] Minghui L, Lei H, Xiaomeng C, Potměšilc M. Teacher efficacy, work engagement, and social support among Chinese special education school teachers. *Frontiers in Psychology*. 2018;9:648.
- [34] Simões F, Calheiros MM. A matter of teaching and relationships: determinants of teaching style, interpersonal resources and teacher burnout. *Social Psychology of Education*. 2019;22(4):991-1013.
- [35] Kyte D. Toward a sustainable sense of self in teaching and teacher education: Sustainable happiness and well-being through mindfulness. *McGill Journal of Education/Revue des Sciences de l'éducation de McGill*. 2016;51(3):1143-62.
- [36] Telles S, Gupta RK, Bhardwaj AK, Singh N, Mishra P, Pal DK, Balkrishna A. Increased mental well-being and reduced state anxiety in teachers after participation in a

- residential yoga program. *Medical Science Monitor Basic Research*. 2018;24:105.
- [37] Munn Z, Peters MD, Stern C, Tufanaru C, McArthur A, Aromataris E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*. 2018;18(1):1-7.
- [38] Wilson V. Research methods: Content analysis. *Evidence Based Library and Information Practice*. 2016;11(1(S)):41-3.
- [39] Deterding NM, Waters MC. Flexible coding of in-depth interviews: A twenty-first-century approach. *Sociological Methods & Research*. 2021;50(2):708-39.
- [40] Barbieri B, Sulis I, Porcu M, Toland MD. Italian teachers' well-being within the high school context: evidence from a large scale survey. *Frontiers in Psychology*. 2019:1926.
- [41] Ouellette RR, Frazier SL, Shernoff ES, Cappella E, Mehta TG, Marfíez-Lora A, Cua G, Atkins MS. Teacher job stress and satisfaction in urban schools: Disentangling individual-, classroom-, and organizational-level influences. *Behavior Therapy*. 2018;49(4):494-508.
- [42] Schoeps K, Tamarit A, de la Barrera U, Barrón RG. Effects of emotional skills training to prevent burnout syndrome in schoolteachers. *Ansiedad y Estrés*. 2019;25(1):7-13.
- [43] Richards KA, Gaudreault KL, Starck JR, Mays Woods A. Physical education teachers' perceptions of perceived mattering and marginalization. *Physical Education and Sport Pedagogy*. 2018;23(4):445-59.
- [44] Framke E, Sørensen OH, Pedersen J, Clausen T, Borg V, Rugulies R. The association of vertical and horizontal workplace social capital with employees' job satisfaction, exhaustion and sleep disturbances: a prospective study. *International Archives of Occupational and Environmental Health*. 2019;92(6):883-90.
- [45] Hoogendijk C, Tick NT, Hofman WH, Holland JG, Seve-riens SE, Vuijk P, van Veen AF. Direct and indirect effects of Key2Teach on teachers' sense of self-efficacy and emotional exhaustion, a randomized controlled trial. *Teaching and Teacher Education*. 2018;76:1-3.
- [46] Peral S, Geldenhuys M. The effects of job crafting on subjective well-being amongst South African high school teachers. *SA Journal of Industrial Psychology*. 2016;42(1):1-3.
- [47] Benita M, Butler R, Shibaz L. Outcomes and antecedents of teacher depersonalization: The role of intrinsic orientation for teaching. *Journal of Educational Psychology*. 2019;111(6):1103.
- [48] Johnsen TL, Eriksen HR, Indahl A, Tveito TH. Directive and nondirective social support in the workplace—is this social support distinction important for subjective health complaints, job satisfaction, and perception of job demands and job control? *Scandinavian Journal of Public Health*. 2018;46(3):358-67.
- [49] Hoefsmit N, Cleef K. If it isn't finished at five, then I'll continue until it is. A qualitative study of work pressure among employees in vocational education. *Work*. 2018;61(1):69-80.
- [50] Wu TJ, Wang LY, Gao JY, Wei AP. Social support and well-being of Chinese special education teachers—An emotional labor perspective. *International Journal of Environmental Research and Public Health*. 2020;17(18):6884.
- [51] Fiorilli C, Schneider B, Buonomo I, Romano L. Family and nonfamily support in relation to burnout and work engagement among Italian teachers. *Psychology in the Schools*. 2019;56(5):781-91.
- [52] Camacho DA, Vera E, Scardamalia K, Phalen PL. What are urban teachers thinking and feeling?. *Psychology in the Schools*. 2018;55(9):1133-50.
- [53] Roozeboom MC, Schelvis RM, Houtman IL, Wiezer NM, Bongers PM. Decreasing employees' work stress by a participatory, organizational level work stress prevention approach: a multiple-case study in primary education. *BMC Public Health*. 2020;20(1):1-6.
- [54] Bradley C, Cordaro DT, Zhu F, Vildostegui M, Han RJ, Brackett M, Jones J. Supporting improvements in classroom climate for students and teachers with the four pillars of wellbeing curriculum. *Translational Issues in Psychological Science*. 2018;4(3):245.
- [55] Dave DJ, McClure LA, Rojas SR, De Lavalette O, Lee DJ. Impact of Mindfulness Training on the Well-Being of Educators. *The Journal of Alternative and Complementary Medicine*. 2020;26(7):645-51.
- [56] De Stasio S, Benevene P, Pepe A, Buonomo I, Ragni B, Berenguer C. The interplay of compassion, subjective happiness and proactive strategies on kindergarten teachers' work engagement and perceived working environment fit. *International Journal of Environmental Research and Public Health*. 2020;17(13):4869.
- [57] Sharp JE, Jennings PA. Strengthening teacher presence through mindfulness: What educators say about the cultivating awareness and resilience in education (CARE) program. *Mindfulness*. 2016;7(1):209-18.
- [58] Beshai S, McAlpine L, Weare K, Kuyken W. A non-randomised feasibility trial assessing the efficacy of a mindfulness-based intervention for teachers to reduce stress and improve well-being. *Mindfulness*. 2016;7(1):198-208.
- [59] Koenen AK, Vervoort E, Kelchtermans G, Verschueren K, Spilt JL. Teachers' daily negative emotions in interactions with individual students in special education. *Journal of Emotional and Behavioral Disorders*. 2019;27(1):37-51.
- [60] Hollweck T. "I love this stuff!": a Canadian case study of mentor-coach well-being. *International Journal of Mentoring and Coaching in Education*. 2019;8(4):325-44.
- [61] Berg JM, Dutton JE, Wrzesniewski A. Job crafting and meaningful work. In B.J. Dik, Z.S. Byrne & M.F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 81-104). Washington, DC: American Psychological Association.
- [62] Jennings PA, Brown JL, Frank JL, Doyle S, Oh Y, Davis R, Rasheed D, DeWeese A, DeMauro AA, Cham H, Greenberg MT. Impacts of the CARE for Teachers program on teachers' social and emotional competence and classroom interactions. *Journal of Educational Psychology*. 2017;109(7):1010.
- [63] Jennings PA, Doyle S, Oh Y, Rasheed D, Frank JL, Brown JL. Long-term impacts of the CARE program on teachers' self-reported social and emotional competence and well-being. *Journal of School Psychology*. 2019;76:186-202.
- [64] Preston K, Spooner-Lane R. 'Making space': a study into the use of mindfulness for alternative school teachers. *Journal of Psychologists and Counsellors in Schools*. 2019;29(2):108-29.
- [65] Sharp Donahoo LM, Siegrist B, Garrett-Wright D. Addressing compassion fatigue and stress of special education teachers and professional staff using mindfulness and prayer. *The Journal of School Nursing*. 2018;34(6):442-8.
- [66] Telles S, Sharma SK, Gupta RK, Pal DK, Gandharva K, Balkrishna A. The impact of yoga on teachers' self-

- rated emotions. *BMC Research Notes*. 2019 Dec;12(1): 1-5.
- [67] Braun SS, Roeser RW, Mashburn AJ, Skinner E. Middle school teachers' mindfulness, occupational health and well-being, and the quality of teacher-student interactions. *Mindfulness*. 2019;10(2):245-55.
- [68] Harris AR, Jennings PA, Katz DA, Abenavoli RM, Greenberg MT. Promoting stress management and wellbeing in educators: Feasibility and efficacy of a school-based yoga and mindfulness intervention. *Mindfulness*. 2016;7(1):143-54.
- [69] Guidetti G, Viotti S, Badagliacca R, Colombo L, Converso D. Can mindfulness mitigate the energy-depleting process and increase job resources to prevent burnout? A study on the mindfulness trait in the school context. *PloS One*. 2019;14(4):e0214935.
- [70] Johnson S, Naidoo A. Can evolutionary insights into the brain's response to threat suggest different group interventions for perceived stress and burnout of teachers in high-risk schools? *South African Journal of Psychology*. 2017;47(3):401-15.
- [71] Fabbro A, Fabbro F, Capurso V, D'Antoni F, Crescentini C. Effects of mindfulness training on school teachers' self-reported personality traits as well as stress and burnout levels. *Perceptual and Motor Skills*. 2020;127(3): 515-32.
- [72] Ruijgrok-Lupton PE, Crane RS, Dorjee D. Impact of mindfulness-based teacher training on MBSR participant well-being outcomes and course satisfaction. *Mindfulness*. 2018;9(1):117-28.
- [73] Taylor C, Harrison J, Haimovitz K, Oberle E, Thomson K, Schonert-Reichl K, Roeser RW. Examining ways that a mindfulness-based intervention reduces stress in public school teachers: A mixed-methods study. *Mindfulness*. 2016;7(1):115-29.
- [74] de Carvalho JS, Pinto AM, Marôco J. Results of a mindfulness-based social-emotional learning program on Portuguese elementary students and teachers: A quasi-experimental study. *Mindfulness*. 2017;8(2):337-50.
- [75] Schussler DL, DeWeese A, Rasheed D, DeMauro AA, Doyle SL, Brown JL, Greenberg MT, Jennings PA. The relationship between adopting mindfulness practice and re-perceiving: A qualitative investigation of CARE for teachers. *Mindfulness*. 2019;10(12):2567-82.
- [76] DiCarlo CF, Meaux AB, LaBiche EH. Exploring mindfulness for perceived teacher stress and classroom climate. *Early Childhood Education Journal*. 2020;48(4):485-96.
- [77] Brouskeli V, Kaltisi V, Maria L. Resilience and occupational well-being of secondary education teachers in Greece. *Issues in Educational Research*. 2018;28(1):43-60.
- [78] Ho SK. Relationships among humour, self-esteem, and social support to burnout in school teachers. *Social Psychology of Education*. 2016;19(1):41-59.
- [79] Rodríguez I, Kozusznik MW, Peiró JM, Tordera N. Individual, co-active and collective coping and organizational stress: A longitudinal study. *European Management Journal*. 2019;37(1):86-98.
- [80] Sahin F, Yenel K, Kiliç S. Investigation of Teachers' Views on a Happy Work Environment by PERMA Model=Mutlu Bir İş Ortamına İlişkin Öğretmen Görüşlerinin PERMA Modeline Göre İncelenmesi. *Educational Administration: Theory & Practice*. 2019;25(4):773-804.
- [81] Capone V, Petrillo G. Mental health in teachers: Relationships with job satisfaction, efficacy beliefs, burnout and depression. *Current Psychology*. 2020;39(5): 1757-66.
- [82] Cook CR, Miller FG, Fiat A, Renshaw T, Frye M, Joseph G, Decano P. Promoting Secondary Teachers' well-Being and Intentions to Implement Evidence-Based Practices: Randomized Evaluation of the Achiever Resilience Curriculum. *Psychology in the Schools*. 2017;54(1):13-28.
- [83] Fernandes L, Peixoto F, Gouveia MJ, Silva JC, Wosnitza M. Fostering teachers' resilience and well-being through professional learning: Effects from a training programme. *The Australian Educational Researcher*. 2019;46(4): 681-98.
- [84] Jeon L, Buettner CK, Grant AA. Early childhood teachers' psychological well-being: Exploring potential predictors of depression, stress, and emotional exhaustion. *Early Education and Development*. 2018;29(1):53-69.
- [85] Karjalainen S, Sahlén B, Falck A, Brännström J, Lyberg-Åhlander V. Implementation and evaluation of a teacher intervention program on classroom communication. *Logopedics Phoniatrics Vocology*. 2020;45(3):110-22.
- [86] Rothmann S, Redelinghuys K. Exploring the prevalence of workplace flourishing amongst teachers over time. *SA Journal of Industrial Psychology*. 2020;46(1):1-7.
- [87] Chirico F, Sharma M, Zaffina S, Magnavita N. Spirituality and prayer on teacher stress and burnout in an Italian cohort: A pilot, before-after controlled study. *Frontiers in Psychology*. 2020;10:2933.
- [88] Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annual Review of Psychology*. 2001;52(1):397-422.
- [89] Ravalier JM, Walsh J. Working conditions and stress in the English education system. *Occupational Medicine*. 2018;68(2):129-34.
- [90] Harmsen R, Helms-Lorenz M, Maulana R, van Veen K. The longitudinal effects of induction on beginning teachers' stress. *British Journal of Educational Psychology*. 2019;89(2):259-87.
- [91] Alvarado LE, Bretones FD. New working conditions and well-being of elementary teachers in Ecuador. *Teaching and Teacher Education*. 2018;69:234-42.
- [92] Horner CG, Brown EL, Mehta S, Scanlon CL. Feeling and Acting Like a Teacher: Reconceptualizing Teachers' Emotional Labor. *Teachers College Record*. 2020;122(5): 1-36.
- [93] Huang S, Yin H, Tang L. Emotional labor in knowledge-based service relationships: the roles of self-monitoring and display rule perceptions. *Frontiers in Psychology*. 2019;10:801.
- [94] Acheson K, Taylor J, Luna K. The burnout spiral: The emotion labor of five rural US foreign language teachers. *The Modern Language Journal*. 2016;100(2):522-37.
- [95] Kutsyuruba B, Walker KD, Stasel RS, Makhameh MA. Developing resilience and promoting well-being in early career teaching. *Canadian Journal of Education/Revue canadienne de l'éducation*. 2019;42(1):285-321.
- [96] Meredith C, Schaufeli W, Struyve C, Vandecandelaere M, Gielen S, Kyndt E. 'Burnout contagion' among teachers: A social network approach. *Journal of Occupational and Organizational Psychology*. 2020;93(2):328-52.
- [97] Kidger J, Brockman R, Tilling K, Campbell R, Ford T, Araya R, King M, Gunnell D. Teachers' wellbeing and depressive symptoms, and associated risk factors: A large cross sectional study in English secondary schools. *Journal of Affective Disorders*. 2016;192:76-82.
- [98] Helms-Lorenz M, Maulana R. Influencing the psychological well-being of beginning teachers across three

- years of teaching: Self-efficacy, stress causes, job tension and job discontent. *Educational psychology*. 2016;36(3): 569-94.
- [99] Hwang YS, Goldstein H, Medvedev ON, Singh NN, Noh JE, Hand K. Mindfulness-based intervention for educators: Effects of a school-based cluster randomized controlled study. *Mindfulness*. 2019;10(7):1417-36.
- [100] Onuigbo LN, Eseadi C, Ugwoke SC, Nwobi AU, Anyanwu JI, Okeke FC, Agu PU, Oboegbulem AI, Chinweuba NH, Agundu UV, Ololo KO. Effect of rational emotive behavior therapy on stress management and irrational beliefs of special education teachers in Nigerian elementary schools. *Medicine*. 2018;97(37).
- [101] Ugwoke SC, Eseadi C, Onuigbo LN, Aye EN, Akaneme IN, Oboegbulem AI, Ezenwaji IO, Nwobi AU, Nwaubani OO, Ezegbe BN, Ede MO. A rational-emotive stress management intervention for reducing job burnout and dysfunctional distress among special education teachers: An effect study. *Medicine*. 2018;97(17).
- [102] Maior E, Dobrea A, Păsărelu CR. Teacher rationality, social-emotional competencies and basic needs satisfaction: Direct and indirect effects on teacher burnout. *Journal of Evidence-Based Psychotherapies*. 2020;20(1): 135-52.
- [103] Sahin F, Yenel K, Kiliç S. Investigation of Teachers' Views on a Happy Work Environment by PERMA Model=Mutlu Bir İş Ortamına İlişkin Öğretmen Görüşlerinin PERMA Modeline Göre İncelenmesi. *Educational Administration: Theory & Practice*. 2019;25(4):773-804.
- [104] Luthar SS, Mendes SH. Trauma-informed schools: Supporting educators as they support the children. *International Journal of School & Educational Psychology*. 2020;8(2):147-57.
- [105] Matsuba MK, Williams L. Mindfulness and yoga self-care workshop for Northern Ugandan teachers: A pilot study. *School Psychology International*. 2020;41(4): 351-67.
- [106] Zinsser KM, Christensen CG, Torres L. She's supporting them; who's supporting her? Preschool center-level social-emotional supports and teacher well-being. *Journal of School Psychology*. 2016;59:55-66.
- [107] Hur E, Jeon L, Buettner CK. Preschool teachers' child-centered beliefs: Direct and indirect associations with work climate and job-related wellbeing. In *Child & Youth Care Forum*. 2016;45(3):451-65.
- [108] Sahin F, Yenel K, Kiliç S. Investigation of Teachers' Views on a Happy Work Environment by PERMA Model=Mutlu Bir İş Ortamına İlişkin Öğretmen Görüşlerinin PERMA Modeline Göre İncelenmesi. *Educational Administration: Theory & Practice*. 2019;25(4):773-804.
- [109] Tikkanen L, Pyhälä K, Pietarinen J, Soini T. Interrelations between principals' risk of burnout profiles and proactive self-regulation strategies. *Social Psychology of Education*. 2017;20(2):259-74.
- [110] Sutton RE. Emotional regulation goals and strategies of teachers. *Social Psychology of Education*. 2004;7(4):379-98.
- [111] Achor S. Positive intelligence. *Harvard Business Review*. 2012;90(1):100-2.
- [112] Bakker AB, Albrecht SL, Leiter MP. Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*. 2011;20(1):4-28.
- [113] Mehdinezhad V. Relationship between High School teachers' wellbeing and teachers' efficacy. *Acta Scientiarum. Education*. 2012;34(2):233-41.
- [114] Neff KD, Rude SS, Kirkpatrick KL. An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality*. 2007;41(4):908-16.
- [115] Ojekou GP, Dorothy OT. Effect of work environment on level of work stress and burnout among nurses in a teaching hospital in Nigeria. *Open Journal of Nursing*. 2015;5(10):948.
- [116] Bricheno P, Brown S, Lubansky R. Teacher well-being: a review of evidence. *Teacher Support Network*.