

# Assessing Teaching Compassion, Work Engagement and Compassion Fatigue Among Teachers During the Pandemic

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**Introduction:** Teachers' mental health is an imperative aspect in ensuring their appropriate cognition, behaviors and perception. Studies have reported mixed results on work engagement and compassion fatigue among employees in different time and cultures. This study assesses and examines the correlation between Chinese teachers' work engagement and compassion fatigue during the pandemic.

**Methods:** An online questionnaire was designed through a Chinese data collection platform (Credamo), and the sample of 3147 teachers in Zhejiang province (China) completed the survey online. The Utrecht Work Engagement Scale (UWES) was used to measure teachers' work engagement (WE), while the Professional Quality of Life Scale version 5 (ProQoL-5) was used to measure teachers' compassion fatigue (CF). SPSS 25, PROCESS Macro of SPSS, and JASP were used to analyze the data.

**Results:** The results indicated a negative correlation between teachers' work engagement and compassion fatigue in general, while particularly, vigor, dedication, and absorption negatively correlated with burnout ( $r = -0.370$ ,  $r = -0.243$ , and  $r = -0.220$  respectively), but positively correlating with secondary traumatic stress ( $r = 0.489$ ,  $r = 0.343$ , and  $r = 0.319$ ).

**Discussion:** Teachers' working experience positively correlates with their work engagement but negatively correlates with their compassion fatigue.

**Conclusion:** Teachers' work engagement (ie, dedication) is important in reducing compassion fatigue and maintaining compassion satisfaction.

**Keywords:** work engagement, compassion fatigue, vigor, dedication, absorption, burnout

## Introduction

In March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. For more than two years since the outbreak, the lives of millions of people have continued to be damaged. As of January 14th, 2022, more than 318 million global confirmed cases were reported, including 5.5 million deaths. The world is still in a war against this natural phenomenon, while several precocious measures continue to be taken by national and international governments. By January 13th, more than 9 billion vaccine doses had been distributed and administered worldwide. In China, 135,299 confirmed cases of COVID-19 had been reported, including 5700 deaths. The government of the People's Republic of China has also made tremendous efforts to ensure a minimal impact of the pandemic on Chinese people and foreigners within the country. By January 2022, more than two million vaccine doses had been administered nationwide.<sup>1</sup>

The pandemic brought several challenges to the education sector and continues to generate a great crash that cannot be written about in a single report.<sup>2</sup> The quick and abrupt shift from traditional (face-to-face) to online (distance) learning approach has had diverse levels of impact in different countries. The reports indicate that at least 463 million children globally could not access remote (distance) learning during school closure in 2020. According to UNICEF, the detrimental effects of the pandemic have by no means been distributed equally across the globe. Children from economically disadvantaged countries and households have been and are expected to be more vulnerable than those

from economically advantaged countries and households.<sup>3</sup> The report further indicates that 0.4% (more than 12,000) of the global reported deaths has been of children and adolescent below 19 years (mostly students), 58% of them (of 12,000) being adolescents of 10–19 years old, while the remaining 42% is of children with 0–9 years old.<sup>1</sup>

Teachers are among the professionals who have experienced professional hardship during the period of the pandemic. The experience of an abrupt shift from traditional face-to-face to distance learning has been associated with an increase in teachers' workload. Besides their psychological effects, teachers have also experienced students' frustrations and the stress of missing classes. Teachers have experienced the loss (deaths) of students, students' parents, friends, relatives, and students' lack of motivation to attend classes. At several higher education institutions, several students have dropped out of their course programs.<sup>1</sup> Globally, 75% of students have experienced unease and anxiety resulting from the suspension of studies.<sup>4</sup> Most teachers' problems during this period have been mediated by a lack of socialization, academic support, and adequate resources to support their online teaching.<sup>5</sup>

The pandemic has affected students' academic performance<sup>2</sup> and caused teachers' loss of teaching interest due to an increased workload.<sup>6</sup> Several previous studies have focused on assessing compassion fatigue among healthcare workers,<sup>7</sup> leaving out teachers who work in environments that can lead to CF conditions during the pandemic. This study aims to bridge this literature gap by exploring the correlational relationship between teachers' work engagement and compassion fatigue during the pandemic. The study will examine teachers' teaching experience, age, level of education, and teaching grades on compassion fatigue.

## Assessing Teachers' Interaction and Teaching Engagement for Their Psychological Well-Being

Teachers' assessment is an imperative process for improving teaching and learning. It provides feedback that helps teachers close the gap between what they do and what they are professionally supposed to do.<sup>8</sup> The multifaceted impact of assessing teachers extends beyond improving students learning process. The assessment results are used to inform the institutions (schools) on the best way to equitably motivate and encourage teachers based on their level of interaction and engagement in their working place, which may further predict their satisfaction and psychological well-being.<sup>2</sup> Although assessing teachers' interaction, engagement and well-being are always impactful,<sup>9</sup> the process may yield more relevant results during the pandemic. COVID-19 has resulted in the closure of the school, an abrupt shift from traditional face-to-face to distance learning, an increase in teachers' workload (especially in exam classes), and limited interactions between teachers, as well as parents and teachers.<sup>10</sup>

Assessing teachers' work engagement and psychological well-being is also important in China because of the history of the pandemic. China was the first country to report COVID-19 cases in December 2019.<sup>11</sup> Lockdown started in China, and schools were closed first in China. Despite the effort from the central government, local government, and institutional organizations (ie, schools) in the country, the pandemic situation is still unstable, especially recently (February 7th to April 8th, 2022) when new cases increased abruptly, leading to the closure of some education institutions. In this case, it is very important to assess teachers' level of work engagement during this difficult period, their psychological well-being, and the interrelationship between the two constructs, especially during this period when distance learning, teachers' workload, and limited interaction between teachers become common in many schools.<sup>12</sup>

## Teachers' Compassion Fatigue During the Pandemic

Compassion refers to one's empathetic attitude toward another individual's suffering and needs, with the desire to help by alleviating the suffering.<sup>13</sup> On the other hand, compassion fatigue is a psychological condition characterized by both physical and emotional exhaustion, leading to diminished or reduced ability to empathize and feel compassion for others. It is a bi-dimensional construct that comprises burnout (BO) and secondary traumatic stress (STS),<sup>14</sup> often described as a negative side of caring. BO is a feeling of difficulties and hopelessness in dealing or carrying out one's work effectively that may result from a high workload, poor working culture, unsupportive work environment, and the feeling that one's efforts are making no difference.<sup>15</sup> STS is also work-related feelings stemming from one's prolonged secondary exposure to traumatically or extremely stressed person.<sup>16</sup>

Compassion fatigue in its generality (BO & STS) negatively influences employees' well-being and willingness to remain in their profession, affecting job satisfaction among them. In medicine, studies have demonstrated the impacts of CF on clients' outcomes and attendants' satisfaction.<sup>16</sup> An increased sense of powerlessness among employees and that less perceived organizational support increases employees' feelings of helplessness, especially after constant exposure to traumatized individuals. These incidences lead to less job satisfaction and unwillingness to remain in the profession.<sup>17</sup> BO leads to a reduced or diminished satisfaction of occupation or job. Several studies have revealed a high rate of BO and STS among teachers, which results from negative behavioral and academic outcomes.<sup>18</sup>

Studies have also demonstrated greater compassion fatigue among clinicians with fewer years of practice than those with many years of experience. Workers who reported poor working conditions also reported greater compassion fatigue and less compassion satisfaction.<sup>16</sup> The relationship between perceived organizational support, compassion fatigue, and job satisfaction was demonstrated when employees who perceived less organization support reported higher compassion fatigue and less satisfaction (Ibid). A continuum of exposure to needy and traumatized students has posed risks of developing compassion fatigue among teachers.<sup>17</sup> Many studies have concentrated on healthcare workers' compassion fatigue,<sup>19–21</sup> while only a few have focused on teachers' compassion fatigue. This study aims to fill this gap by exploring Chinese teachers' compassion fatigue during the COVID-19 pandemic. In addition, this study aims to explore the extent to which teachers' biographic information (ie, teaching experience and level of teaching) has influenced CF

## Teachers' Secondary Traumatic Stress During the COVID-19 Pandemic

The notion that "there is a cost to caring"<sup>22</sup> refers to the concept of Secondary Traumatic Stress (STS). It is the stress reactions or sometimes symptoms of minor Post-Traumatic Stress Disorder (PTSD),<sup>23</sup> which may be experienced by a teacher or any other helping professional worker who frequently experiences hearing or seeing other people being affected by trauma.<sup>24</sup> Teachers are among the professionals who work on the front line of childhood and adolescent trauma by hearing, seeing, and responding to students' traumas, contributing to emotional burdens, stress, and anxiety.<sup>23,25</sup> While some scholars consider STS a type of Burnout, most have considered it as one aspect of compassion fatigue, BO being the other aspect.<sup>24</sup>

The introduction of online teaching and learning has resulted in teachers' stress and anxiety, especially for those with low ICT competence.<sup>26</sup> Apart from competence, studies have also reported teachers' lack of willingness to shift from traditional face-to-face to distance (online) teaching and learning.<sup>2</sup> The UNESCO survey indicated that only half of the surveyed countries had offered additional training to teachers on distance education. Less than one-third had offered teachers psycho-social support in helping to handle the situation.<sup>27</sup> In addition, only 81% and 86% of primary and secondary school teachers (respectively) have a minimum of the required qualifications, with a considerable regional variation. The situations pose several challenges to teachers, educational authorities, students, and parents<sup>28</sup> toward ensuring that the teaching and learning process continues smoothly.

Duraku and Hoxha (2020) have reported the majority of students' moderate stress levels during the COVID-19 pandemic, which was secondarily experienced by their teachers in school.<sup>5</sup> A study involving elementary teachers in the United States reported higher STS linked with their perceived effectiveness of traumatic-informed care (TIC). Older teachers, teachers with lower compassion satisfaction, and higher STS were more likely to report the intention to leave their job. The general results from the literature show that teachers' compassion fatigue decreases satisfaction and retention among teachers.<sup>29</sup>

## Teachers' Burnout During COVID-Pandemic

Due to the high workload, teachers have had limited time to look for appropriate online materials for students' needs and levels.<sup>4</sup> They have shared many materials, expecting students to choose the best and most suitable for them.<sup>3</sup> The situation has increased anxiety and frustration, affecting their academic achievement.<sup>5,25,30</sup> A study conducted in the US indicated that 72% of students had a high level of stress than usual. In comparison, 73% of respondents expressed fears related to depression, anxiety, and other mental health issues associated with COVID-19. At the same time, most of them were more concerned about their graduation.<sup>31</sup>

Education institutions have been forced to switch to e-learning despite the challenge of readiness and competency among teachers,<sup>32</sup> affecting both students and teachers. Work-ethical dilemmas have been raised as a challenge during the pandemic.<sup>10</sup> With the lockdown, many students faced difficulties finding a conducive environment to focus and learn from home, especially from low socioeconomic status.<sup>33</sup> Many teachers have been working higher than before to comply with the syllabus requirement.<sup>7</sup> Context factors surrounding COVID-19 include the ease of transmission, delayed testing, limited medical equipment (ie, first aid service), and lack of immunity among the population, producing anxiety and stress among teachers and students. The uncertainty of the COVID-19 trajectory and the teachers' general level of anxiety within the school or community increases pressure on their health, students' health, and the public welfare system.<sup>7</sup>

Several studies have revealed a high burnout rate among teachers resulting from an increased workload during the pandemic.<sup>18</sup> Other studies have reported that 75% of teachers working with trauma-affected students had plans to retire, change careers, or transit to another school.<sup>27</sup> Overall, research indicates the presence of compassion fatigue among teachers, affecting more teachers from underserved schools.<sup>29</sup> What is yet to be known is whether teachers' experience, age, gender, and the level they teach influence their feeling of compassion fatigue. This study closes this gap by examining how these two dimensions of compassion fatigue were affected by teachers' experiences

## Work Engagement and Compassion Fatigue

Work engagement refers to a state of mind normally characterized by dedication, absorption, and vigor. It is applied to professional workers and student activities (academic engagement).<sup>34</sup> Vigor in work engagement refers to a high level of mental resilience and energy, persistence (during difficulties), and willingness to invest more effort and energy during working. Dedication is a strong involvement in one's work as one experience a sense of inspiration, pride, enthusiasm, significance, and challenge. The third dimension of work engagement is absorption, which refers to workers' full concentration on what they do, accompanied by the feeling that time passes quickly as they find it difficult to detach themselves from such work.<sup>35</sup>

Studies have demonstrated several antecedents of work engagement, including work values,<sup>36</sup> perceived organization support, and job crafting.<sup>37</sup> In addition, work engagement can result in several work-related advantages like workplace well-being, job satisfaction, and resilience.<sup>14,38,39</sup> There are still gaps in the influence of work engagement on teachers' compassion fatigue, especially during the COVID-19 pandemic. This study aims to close this gap by exploring the correlation between teachers' work engagement and their compassion fatigue during the pandemic.

The concepts of work engagement and compassion fatigue have been discussed by different scholars, especially in the field of medicine.<sup>40</sup> Frontline workers and formal and informal leaders are experiencing burnout and stress, which are very much associated with low job satisfaction, diminished productivity, and low work engagement.<sup>41</sup> Work engagement is associated with career satisfaction, burnout, and secondary traumatic stress. They are all concerned with the quality of life for professionals like teachers, nurses, and doctors.<sup>42</sup> Teaching is a compassionate profession. Although the professional experience of teaching and helping others generally promotes compassion satisfaction, frequent professional engagement and prolonged exposure to traumatized people lead to compassion fatigue.<sup>43</sup> Compassion fatigue results from compassionate working like self-sacrifice and the long-term exposure to people with difficult situations or being directly exposed to a difficult environment.<sup>44</sup>

## The Objective of the Study

This study aims to explore teachers' compassion fatigue (burnout and secondary traumatic stress) during the COVID-19 pandemic and the extent to which their work engagement (vigor, dedication, and absorption) correlates with their feeling of compassion fatigue. The study examines the correlation of teachers' age, teaching experience, education level, and teaching grade on work engagement and compassion fatigue. Although studies have indicated work engagement as an important aspect of improving employees' well-being, none has demonstrated the relationship between dimensions of work engagement and compassion fatigue. This study will show the correlation of all the dimensions distinctively.

## Hypotheses of the Study

Hypothesis 1: Chinese teachers have experienced compassion fatigue during the COVID-19 pandemic

Hypothesis 2: Work engagement has a negative correlation with teachers' compassion fatigue

Hypothesis 3: Teachers' teaching experience, level of education, level of teaching, gender, and age had a significant influence on the feeling of compassion fatigue (BO & STS)

## Methods

### Participants and Procedure

An online questionnaire was designed through a Chinese data collection platform (Credamo), and the sample of 3147 teachers in Zhejiang province (China) completed the survey online. The Utrecht Work Engagement Scale (UWES) was used to measure teachers' work engagement (WE). In contrast, the Professional Quality of Life Scale version 5 (ProQoL-5) was used to measure teachers' compassion fatigue (CF).<sup>33</sup> All the respondents were invited to participate in the study voluntarily. The researcher assured their anonymity, confidentiality, and the fact that the information every respondent provided was only for study purposes. Statistical Package for Social Science (SPSS 25), PROCESS Macro of SPSS, and Jeffreys' Amazing Statistics Program (JASP) were used to analyze the data. This software shows proper permission to use them and is not restricted. Most respondents were females (70.5%), and all participants' mean age was 39.42 years (SD=8.73). Most participants (90.47%) reported having a bachelor's degree and above, and 53.7% were teaching in primary school. The participants' mean years of working experience was 17.9 (SD=9.61). In line with the ethics guidelines, this study was conducted following the Declaration of Helsinki and approved by the Ethics Committee of Zhejiang Normal University. The respondents did not receive any compensation for their contribution, while the informed consent form was given by clicking on the "Finish" button at the very end of the survey.

### Measures

**Work engagement:** Work engagement was measured using the Chinese version of the Utrecht Work Engagement Scale (UWES), translated by Zhang and Gan.<sup>13</sup> The original version of UWES had 17 items that measured three dimensions of work engagement (Vigor, dedication, and absorption).<sup>34</sup> The Chinese version has 9 items (3 items for each dimension) which are scored by a 7-Likert scale point that ranges from 0 (never) to 6 (every day). The Cronbach's alpha ( $\alpha$ ) for work engagement in this study was 0.94 at a confidence level of 95% (LLCI=0.934, ULCI=0.941)

**Compassion Fatigue:** Compassion fatigue (CF) was measured using the Professional Quality of Life Scale version 5 (ProQoL-5). CF includes Burnout (BO) and Secondary Traumatic Stress (STS) as its two dimensions. The scale of ProQoL, in general, was developed by Stamm in 2005 and had 30 items that measured compassion satisfaction (CS) and CF (BO & STS). In this study, we used 11 items to measure CF, which cover BO (6 items) and STS (5 items). The burnout scale measures the feelings of helplessness and difficulties in doing somebody's job effectively.<sup>24</sup> STS scale measures the frequency of symptoms experienced by professionals in a specific period. We use "compassion fatigue" to refer to these two dimensions (BO & STS). Respondents in this study were instructed to indicate the frequency to which they have experienced BO & STS in the previous 30 days and rate their responses on a 5-point Likert scale ranging from 1 (Never) to 5 (Very often). The scores were obtained by summing the responses, whereby higher scores indicated a higher level of compassion fatigue in general. The Cronbach's alpha ( $\alpha$ ) for compassion fatigue was 0.91 with a confidence level of 95% (ULCI=0.91, LLCI=0.92). The Cronbach's alpha ( $\alpha$ ) for Burnout was 0.88, and for Secondary Traumatic Stress was 0.82.

## Results

### Confirmatory Factor Analysis (CFA)

Preliminary to our hypotheses testing, a Confirmatory Factors Analysis (CFA) was done to assess the discriminant validity of our measurement model for work engagement (WE). We used a series of confirmatory factor analyses, including Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation

(RMSEA), Goodness of Fit Index (GFI), and the Expected cross-validation index (ECVI). The results of the CFA showed a CFI of 0.95, TLI of 0.92, RMSEA of 0.023, GFI of 0.92, and the ECVI of 1.387. The reliability of work engagement (WE) in general was high ( $\alpha = 0.94$ ) at the confidence level of 95% (LLCI=0.934, ULCI=0.941). The Cronbach's alpha ( $\alpha$ ) for three dimensions of WE, vigor, dedication, and absorption, were 0.92, 0.81, and 0.86, respectively. In this variable, 9 items were used to measure WE (3 items for each dimension), and all of them showed fitness in our model, as Table 1 shows below.

Regarding compassion fatigue, the construct had two dimensions (Burnout and Secondary Traumatic Stress), measured using 26 items borrowed from the original version. However, after running the CFA, only 10 items (6 items for BO and 4 items for STS) seemed to fit in this study, as shown in Table 1 below. The CFA results of these 10 items showed a CFI of 0.91, TLI of 0.96, RMSEA of 0.069, SRMR of 0.092, GFI of 0.75, and ECVI of 1.251. The Cronbach's alpha ( $\alpha$ ) for Compassion fatigue, in general, was 0.91 with a confidence level of 95% (ULCI=0.91, LLCI=0.92). The Cronbach's alpha ( $\alpha$ ) for Burnout was 0.88, and for Secondary Traumatic Stress was 0.82.

From the Confirmatory Factors Analysis results of the items, 9 items of work engagement scale (3 items for each of the sub-constructs), and 6 items of Compassion Fatigue (6 for burnout and 4 for secondary traumatic stress) had factor loadings above 0.7. Two items of secondary traumatic stress (item 19 and 21) had the factor loadings below 0.7, and so they were excluded from the analysis process. Table 1 presents the main variables, their dimensions, items and the factor loadings for each item in this study.

Our model seems to fit very much with our study based on the CFA results, as shown in Table 1, Scholars suggest that an RMSEA value of  $< 0.05$  usually indicates a closer model fitness, while that of  $< 0.08$  of RMSEA also means a good model-data fit.<sup>45</sup> They further suggest that CFI and TLI,  $> 0.90$  is an acceptable fit rate,<sup>46</sup> while the values for TLI and

**Table 1** Results of the Measurement Model

Constructs	Sub-constructs and Items	Factor Loadings	R <sup>2</sup>
Compassion Fatigue (CFI = 0.915, TLI = 0.964, RMSEA = 0.069, GFI = 0.752, ECVI = 1.251)			
	BO5: I jump or am startled by unexpected sounds	0.80	0.812
	BO6: I feel invigorated after working with those I help	0.83	0.519
	BO7: I find it difficult to separate my personal life from my life as a helper	0.73	0.793
	BO8: I am not as productive at work because I am losing sleep over traumatic experiences of person I help	0.75	0.788
	BO10: I feel trapped by my job as a helper	0.84	0.604
	BO11: because of my helping, I have felt "on edge" about various things	0.79	0.734
	STS18: My work makes me feel satisfied	0.70	0.631
	STS20: I have happy thoughts and feelings about those I help and how I could help them	0.75	0.713
	STS22: I believe I can make a difference through my work	0.71	0.523
	STS23: I avoid of certain activities or situations because they remind me frightening experiences of the people I help	0.80	0.578
Work Engagement (CFI = 0.954, TLI = 0.921, RMSEA 0.023, GFI = 0.923, ECVI = 1.387)			
	VGR1: At work I feel bursting with energy	0.90	0.712
	VGR2: At my job, I feel strong and vigorous	0.91	0.693
	VGR3: I am enthusiastic about my job	0.88	0.801
	Ddc1: My job inspires me	0.88	0.894
	Ddc2: When I work up in the morning, I feel like going to work	0.73	0.713
	Ddc3: I feel happy when I am working intensely	0.60	0.791
	ABS1: I am proud on the work that I do	0.79	0.936
	ABS2: I am immersed in my work	0.92	0.865
	ABS: I get carried away when I am working	0.78	0.917

**Abbreviations:** VGR, Vigor; Ddc., dedication; ABS, absorption; BO, burnout; STS, secondary traumatic stress.

CFI are closer to 1.00, and values for RMSEA which are  $\leq 0.08$  indicate an adequate model fitness. The ECVI  $< 0.703$  suggests the model's fitness.<sup>47</sup> It is recommended that a lower value of ECVI always indicates better model fitness.<sup>48</sup> The GFI, which is close to 1, and the SRMR, which is close to 0, indicate an acceptable fit level of the model.<sup>46</sup> Notwithstanding, many researchers usually assume a cut-off of 0.08 and 0.90 for SRMR and GFI, respectively, and composite reliability of 0.9.<sup>45</sup>

## Correlation Analysis Results

Teachers' working experience had strong correlation with work engagement ( $r = 0.686$ ), but negative correlation with compassion fatigue ( $r = 0.377$ ). The results also indicate a negative correlation between teachers' teaching grades and work engagement ( $r = -0.120$ ) and the level of their education with work engagement ( $r = -0.036$ ). Teachers who teach lower grades are more engaging with their work than teachers who teach at higher grades. In addition, the results showed that the lower the teachers' level of education, the higher their work engagement at schools. Teachers' work engagement negatively correlated with their compassion fatigue ( $r = -0.316$ ). Table 2 shows that all the teachers' biographies have a narrow correlation with compassion fatigue.

The results indicated positive relationships between all the dimensions of work engagement and compassion fatigue, except burnout. Teachers' vigorous work engagement generally correlated with their dedication ( $r = 0.473$ ) and absorption ( $r = 0.381$ ). The three dimensions of work engagement negatively correlated with teachers' burnout but positively correlated with secondary traumatic stress. Table 3 below shows all the correlations between dimensions of work engagement and compassion fatigue.

**Table 2** Work Engagement and Compassion Fatigue Across Teachers' Biographies

#	Variable	1	2	3	4	5	6	7
1	Age	1	–	–	–	–	–	–
2	Gender ( <i>Male=1</i> )	–0.330	1	–	–	–	–	–
3	Experience	0.929	–0.289	1	–	–	–	–
4	Teaching grade	0.231*	–0.238	0.131	1	–	–	–
5	Level of education	–0.223	0.113	–0.258**	0.203	1	–	–
6	WE	0.097	–0.120	0.686	–0.120	–0.036	1	–
7	CF	0.590	0.137	–0.377	0.108	0.012	–0.316	1
	<b>Mean</b>	39.423	1.710	17.90	2.33	3.92	3.897	2.892
	<b>Standard deviation</b>	8.731	0.456	9.613	0.803	0.392	0.118	0.316

Note:  $p < 0.001$ , \* $p < 0.05$ , \*\* $p < 0.01$ .

Abbreviations: WE, work engagement; CF, compassion fatigue.

**Table 3** The Correlation Among General Variable's Dimension

#	Variable	1	2	3	4	5
1	WE_V	1	–	–	–	–
2	WE_D	0.473	1	–	–	–
3	WE_A	0.381	0.634	1	–	–
4	Burnout	–0.370	–0.243*	–0.220	1	–
5	STS	0.489	0.343	0.319**	0.515	1
	Mean	4.174	4.265	4.125	2.677	3.106
	Standard deviation	0.776	0.587	0.745	0.381	0.345

Note:  $P < 0.001$ , \* $p < 0.01$ , \*\* $p < 0.05$ .

Abbreviations: WE\_V, vigor as a dimension of work engagement; WE\_D, dedication as a dimension of work engagement; WE\_A, absorption as a dimension of work engagement; STS, secondary traumatic stress.

**Table 4** Work Engagement and Compassion Fatigue Across the Gender Groups

Gender		Mean CF	Mean WE	WE_V	WE_D	WE_A	Burn	STS
Male	M	2.9592	4.0416	4.2488	4.2751	4.1205	2.7419	3.1765
	SD	0.34646	0.78284	0.78131	0.60730	0.77425	0.41363	0.37426
Female	M	2.8642	3.8365	4.1432	4.2607	4.1270	2.6505	3.0779
	SD	0.29856	0.76899	0.77212	0.57915	0.73332	0.36358	0.32844
Total	M	2.8922	3.8969	4.1743	4.2649	4.1251	2.6774	3.1069
	SD	0.31636	0.77861	0.77621	0.58752	0.74549	0.38123	0.34546

**Abbreviations:** M, Mean; SD, standard deviation; WE\_V, vigor as a dimension of work engagement; WE\_D, dedication as a dimension of work engagement; WE\_A, absorption as a dimension of work engagement; STS, secondary traumatic stress.

**Table 5** Work Engagement and Compassion Fatigue Among Teachers of Different Teaching Grades

Teaching Grade		Mean CF	Mean WE	WE_V	WE_D	WE_A	Burn	STS
Kindergarten	M	2.8259	4.0222	4.2981	4.3829	4.1848	2.5886	3.0633
	SD	0.30208	0.79097	0.78409	0.59987	0.82009	0.36657	0.33712
Primary School	M	2.9078	4.0899	4.2328	4.3333	4.1693	2.6532	3.1624
	SD	0.28048	0.72032	0.71501	0.50090	0.69785	0.36471	0.29955
Junior School	M	2.9216	3.9017	4.1819	4.2421	4.1343	2.7176	3.1256
	SD	0.32336	0.78527	0.76353	0.58771	0.73388	0.37869	0.36029
Senior School	M	2.9566	3.8909	4.1337	4.2037	3.9938	2.7612	3.1519
	SD	0.33403	0.83230	0.84095	0.63685	0.80030	0.39350	0.35988
Total	M	2.8922	3.8969	4.1743	4.2649	4.1251	2.6774	3.1069
	SD	0.31636	0.77861	0.77621	0.58752	0.74549	0.38123	0.34546

**Abbreviations:** M, Mean; SD, standard deviation; WE\_V, vigor as a dimension of work engagement; WE\_D, dedication as a dimension of work engagement; WE\_A, absorption as a dimension of work engagement; STS, secondary traumatic stress.

## Teachers' Work Engagement and Compassion Fatigue Across Their Gender

The results indicated a higher mean score for male teachers' work engagement ( $M=4.041$ ,  $SD=0.782$ ) than for female teachers' mean work engagement ( $M=3.836$ ,  $SD=0.768$ ). Male teachers have also outscored female teachers in the mean burnout score (BO) and secondary traumatic stress (STS). The results in Table 4 show male teachers' work engagement is higher than female teachers' work engagement in all the dimensions (vigor, dedication, and absorption).

## Teachers' Work Engagement and Compassion Fatigue Across the Teaching Level

The results in Table 5 below indicate primary school teachers' mean score of their work engagement score, which is generally higher than that of teachers from other levels (ie, kindergarten, junior and senior high schools). However, senior high school teachers' mean score for compassion fatigue was higher than other teachers at other levels. There was no huge difference in teachers' secondary traumatic stress across the teaching levels, as their score was  $> 3.0$  and  $< 3.2$ . Teachers' mean score for burnout was  $\geq 2.5$ ,  $< 2.8$ , but senior secondary school teachers' burnout was the highest ( $M = 2.761$ ,  $SD=0.393$ ), while kindergarten teachers' mean score was the lowest ( $M = 2.588$ ,  $SD = 0.366$ ).

## Discussion

The assessment has revealed that the pandemic has affected teachers and the teaching process in several aspects. Despite the moderate mean experience among Chinese teachers who responded to the questionnaire, their working engagement was high among them and supported the first hypothesis, which predicted higher work engagement among Chinese teachers during the pandemic. In contrast to previous studies before the outbreak of the pandemic,<sup>49</sup> and in line with the second hypothesis of this study, the results showed a negative correlation between work engagement and compassion fatigue. Compassion fatigue is not good for teachers' psychological well-being,<sup>44</sup> and several measures can be taken to reduce it. With this study, we suggest that teachers' emotional, psychological and physical work engagement reduces

fatigue while at the same time adding satisfaction. The results imply that the more teachers engaged with their work during the pandemic, the less they may experience compassion fatigue.

The two general variables show a negative correlation. However, in a dimensional wise, all the dimensions of WE (vigor, dedication, and absorption) had a negative correlation with burnout (BO) but a positive correlation with secondary traumatic stress (STS). Although different studies have had varied results on the relationship between these main constructs,<sup>49</sup> it is obvious that WE positively influence STS. In this case, we may argue that teachers' work engagement may help them reduce burnout. During this pandemic, teachers' dedication to teaching is very important, but organizational support needs to be strengthened to ensure STS is diminished. It may be through introducing shift hours or weeks of instruction (pause) so that teachers do not continuously experience traumatized children.

Teaching experience positively correlated with work engagement but negatively correlated with compassion fatigue. In line with the previous study,<sup>2</sup> male teachers are more engaged with their work than female teachers. Still, this study adds more issues related to experience, as highly experienced teachers also experienced higher compassion fatigue. Regarding teaching grade level and working engagement, primary school teachers' mean score was higher than other teachers at other levels, and the correlation between the two variables was negative. The results imply that the higher the teaching grades among Chinese teachers, the lower their work engagement. Previous studies have also indicated that teachers' engagements were primarily influenced by several factors, including digital literacy, beliefs, and experiences in teaching.<sup>50</sup>

With compassion fatigue, senior secondary school teachers experienced higher compassion fatigue compared to other levels, while kindergarten teachers experienced the least compassion fatigue among all education levels. Dimensional-wise, teachers experienced higher secondary traumatic stress than they did with burnout, and primary school teachers experienced higher STS, while senior secondary school teachers experienced the highest burnout. The correlation results indicated a very low positive correlation between teaching grades and compassion fatigue in general.

## Limitations and Suggestions for Further Studies

The study has indicated an important result on teachers' work engagement and compassion fatigue. However, the survey was done during the COVID-19 pandemic and cannot be compared to any other period before and after the pandemic. Further studies can be done after the pandemic to compare teachers' engagement and compassion fatigue from COVID-19 complications. In future research, a general Professional Quality of Life can be measured to assess compassion satisfaction (CS) and compassion fatigue (CF). By using another sample, future studies can add to the existing literature, including this one, especially taking into consideration that out of 30 items of Professional Quality of Life Scale version 5, only 10 items appeared to fit with CF in the current study.

## Conclusion

Teaching engagement needs to be assessed progressively, as studies continue to reveal different results from one time to another depending on a social situation (ie, the COVID-19 phenomenon). The findings have supported previous studies<sup>23</sup> that organizational support is crucial in ensuring effective teaching and teachers' psychological well-being. However, it can be further noted that organizations cannot work effectively unless the reality of teachers' psychological status is revealed by empirical findings.<sup>50</sup> Work engagement is important among all employees in different sectors, especially in teaching. Apart from reducing compassion fatigue, work engagement plays an important role in employees' well-being, satisfaction, and performance. In this regard, we may conclude that teachers' work engagement reduces their compassion fatigue and benefits the organization and customers (schools and students or parents) through their work improvement: school organization, parents, students, and teachers all benefit from teachers' work engagement. During the pandemic, studies have reported that many teachers were planning to quit their job or retire early.<sup>7</sup> We build our recommendation from that point that teaching assessment will help policymakers effectively plan to maintain teachers in their teaching career, especially by ensuring their workplace well-being. The results from this study should also be paid attention to by teachers, especially with the point that their well-being is determined by their level of engagement in their workplaces.

## Ethics Statement

Ethics approval was granted by the Ethics Committee of Zhejiang Normal University's College of Teacher Education (Protocol code: 20210069) approved in 2021.04.01.

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## Author Contributions

All authors contributed to data analysis, drafting or revising the article, have agreed on the journal to which the article will be submitted, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

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## Disclosure

The authors report no conflicts of interest in this work.

## References

- World Health Organization. *Coronavirus Disease (COVID-19). World Health Organization, 2020.* World Health Organization; 2020.
- Maatuk A, Elberkawi EK, Aljawarneh S, Rashaideh H, Alharbi H. The COVID-19 pandemic and E-learning: challenges and opportunities from the perspective of students and instructors. *J Comput High Educ.* 2022;34(1):21–38. doi:10.1007/s12528-021-09274-2
- Fute A, Oubibi M, Sun B, Zhou Y, Xiao W. Work values predict job satisfaction among Chinese teachers during COVID-19: the mediation role of work engagement. *Sustainability.* 2022;14(3):1353.
- Yang C, Chen A, Chen Y. College students' stress and health in the COVID-19 pandemic: the role of academic workload, separation from school, and fears of contagion. *PLoS One.* 2021;16(2):e0246676. doi:10.1371/journal.pone.0246676
- Al-Maskari A, Al-Riyami T, Kunjumuhammed S. Students academic and social concerns during COVID-19 pandemic. *Educ Info Technol.* 2022;27(1):1–21. doi:10.1007/s10639-021-10592-2
- Realyvásquez-Vargas A, Maldonado-Macias A, Arredondo-Soto KC, Baez-Lopez Y, Carrillo-Gutiérrez T, Hernández-Escobedo G. The impact of environmental factors on academic performance of university students taking online classes during the COVID-19 Pandemic in Mexico. *Nanoscale.* 2020;12(21):9194. doi:10.1039/d0nr01151g
- Alharbi J, Jackson D, Usher K. The potential for COVID-19 to contribute to compassion fatigue in critical care nurses. *J Clin Nurs.* 2020;29:2762–2764. doi:10.1111/jocn.15314
- Tillema H. *Formative Assessment in Teacher Education and Teacher Professional Development.* Elsevier; 2010.
- Oubibi M, Fute A, Xiao W, Sun B, Zhou Y. Perceived organizational support and career satisfaction among Chinese teachers: the mediation effects of job crafting and work engagement during COVID-19. *Sustainability.* 2022;14(2):623.
- Jones A, Kessler M. Teachers' emotion and identity work during a pandemic. Paper presented at: *Frontiers in Education.* 2020.
- Roberts D, Rossman J, Jarić I. Dating first cases of COVID-19. *PLoS Pathogens.* 2021;17(6):e1009620. doi:10.1371/journal.ppat.1009620
- Han T. *Global Perspectives on Language Assessment. Research, Theory and Perspectives.* Los Angeles, CA: SAGE Publications Sage CA; 2022.
- Yi-wen Z, Yi-qun C. The Chinese version of Utrecht work engagement scale: an examination of reliability and validity. 2005.
- Lee M, Shin S, Hong E, Health P. Factors affecting secondary traumatic stress of nurses caring for COVID-19 patients in South Korea. *Int J Environ Res Public Health.* 2021;18(13):6843. doi:10.3390/ijerph18136843
- Thompson A. How Schwartz rounds can be used to combat compassion fatigue. *Nurs Manage.* 2013;20(4):16–20.
- Bhutani J, Bhutani S, Balhara Y, Kalra S. Compassion fatigue and burnout amongst clinicians: a medical exploratory study. *Indian J Psychol Med.* 2012;34(4):332–337. doi:10.4103/0253-7176.108206
- Harris C, Griffin M. Nursing on empty: compassion fatigue signs, symptoms, and system interventions. *J Christian Nurs.* 2015;32(2):80–87.
- Herman K, Hickmon-Rosa J, Reinke W. Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *J Positive Behav Intervent.* 2018;20(2):90–100.
- Howell A. Working in the trenches: compassion fatigue and job satisfaction among workers who serve homeless clients. 2012.
- Lemaire J, Wallace J, Dinsmore K, Lewin A, Ghali W, Roberts D. Physician nutrition and cognition during work hours: effect of a nutrition based intervention. *BMC Health Services Res.* 2010;10(1):1–9.
- Shanafelt T. Enhancing meaning in work: a prescription for preventing physician burnout and promoting patient-centered care. *JAMA.* 2009;302(12):1338–1340. doi:10.1001/jama.2009.1385
- Roberts C. *Coping with Post-Traumatic Stress Disorder: A Guide for Families.* McFarland; 2014.
- Hydon S, Wong M, Langley A, Stein B, Kataoka S, Clinics A. Preventing secondary traumatic stress in educators. *Child Adolesc Psychiatr Clin North Am.* 2015;24(2):319–333. doi:10.1016/j.chc.2014.11.003

24. Stamm B. *The Concise ProQOL Manual*. Pocatello, ID: The ProQOL. orgID; 2010.
25. Chen G, Oubibi M, Liang A, Zhou Y. Parents' educational anxiety under the "double reduction" policy based on the family and students' personal factors. *Psychol Res Behav Manage*. 2022;15:2067. doi:10.2147/PRBM.S370339
26. Oubibi M, Zhao W, Wang Y, et al. Advances in research on technological, pedagogical, didactical, and social competencies of preservice TCFL teachers. *Sustainability*. 2022;14(4):2045.
27. Caringi JC, Stanick C, Trautman A, Crosby L, Devlin M, Adams S. Secondary traumatic stress in public school teachers: contributing and mitigating factors. *Adv School Ment Health Promotion*. 2015;8(4):244–256.
28. Ahrari S, Roslan S, Zaremohzzabieh Z, Mohd Rasdi R, Abu Samah A. Relationship between teacher empowerment and job satisfaction: a meta-analytic path analysis. *Cogent Educ*. 2021;8(1):1898737.
29. Christian-Brandt A, Santacrose D, Barnett M. Neglect. In the trauma-informed care trenches: teacher compassion satisfaction, secondary traumatic stress, burnout, and intent to leave education within underserved elementary schools. *Child Abuse Neglect*. 2020;110:104437. doi:10.1016/j.chiabu.2020.104437
30. Zhan H, Zheng C, Zhang X, Yang M, Zhang L, Jia X. Chinese college students' stress and anxiety levels under COVID-19. *Front Psychiatry*. 2021;2021:915.
31. Fitzgerald A, Konrad S. Transition in learning during COVID-19: student nurse anxiety, stress, and resource support. Paper presented at: Nursing Forum. 2021.
32. Labrague L, de Los Santos J. Resilience as a mediator between compassion fatigue, nurses' work outcomes, and quality of care during the COVID-19 pandemic. *Appl Nurs Res*. 2021;61:151476. doi:10.1016/j.apnr.2021.151476
33. Demerouti E, Rispens S, Psychology O. Improving the image of student-recruited samples: a commentary. *J Occup Organ Psychol*. 2014;87(1):34–41.
34. Carmona-Halty M, Schaufeli W, Salanova M. The Utrecht Work Engagement Scale for Students (UWES–9S): factorial validity, reliability, and measurement invariance in a Chilean sample of undergraduate university students. *Front Psychol*. 2019;10:1017. doi:10.3389/fpsyg.2019.01017
35. Schaufeli W. General engagement: conceptualization and measurement with the Utrecht General Engagement Scale (UGES). *J Well Being Assess*. 2017;1(1):9–24.
36. Papavasileiou E, Lyons S, Shaw G, Georgiou A. Work values in tourism: past, present and future. *Ann Tour Res*. 2017;64:150–162.
37. Jolly P, McDowell C, Dawson M, Abbott J. Pay and benefit satisfaction, perceived organizational support, and turnover intentions: the moderating role of job variety. *Int J Hosp Manag*. 2021;95:102921.
38. Toyama H, Upadyaya K, Salmela-Aro K. Job crafting and well-being among school principals: the role of basic psychological need satisfaction and frustration. *Eur Manag J*. 2021. doi:10.1016/j.emj.2021.10.003
39. Van Wingerden J, Niks I. Construction and validation of the perceived opportunity to craft scale. *Front Psychol*. 2017;8:573. doi:10.3389/fpsyg.2017.00573
40. Al-Majid S, Carlson N, Kiyohara M, Faith M, Rakovski C. Assessing the degree of compassion satisfaction and compassion fatigue among critical care, oncology, and charge nurses. *J Nurs Admin*. 2018;48(6):310–315. doi:10.1097/NNA.0000000000000620
41. Ray S, Wong C, White D, Heaslip K. Compassion satisfaction, compassion fatigue, work life conditions, and burnout among frontline mental health care professionals. *Traumatology*. 2013;19:255–267.
42. Remegio W, Rivera R, Griffin M, Fitzpatrick J. The professional quality of life and work engagement of nurse leaders. *Nurse Leader*. 2021;19(1):95–100.
43. Ozturk A, Karatepe O, Okumus F. The effect of servant leadership on hotel employees' behavioral consequences: work engagement versus job satisfaction. *Int J Hosp Manag*. 2021;97:102994.
44. Zhang Y, Han W, Qin W, et al. Extent of compassion satisfaction, compassion fatigue and burnout in nursing: a meta-analysis. *J Nurs Manage*. 2018;26(7):810–819. doi:10.1111/jonm.12589
45. Cho G, Hwang H, Sarstedt M, Ringle C. Cutoff criteria for overall model fit indexes in generalized structured component analysis. *J Market Analytics*. 2020;8(4):189–202.
46. Hu L, Bentler P. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct Equation Model*. 1999;6(1):1–55.
47. McDonald R, Ho M. Principles and practice in reporting structural equation analyses. *Psychol Methods*. 2002;7(1):64. doi:10.1037/1082-989x.7.1.64
48. Shao P, Lasseben H. Determinants of consumers' willingness to participate in fast fashion brands' used clothes recycling plans in an omnichannel retail environment. *J Theoretical Appl Electron Commerce Res*. 2021;16(7):3340–3355.
49. Mason V, Leslie G, Clark K, et al. Compassion fatigue, moral distress, and work engagement in surgical intensive care unit trauma nurses: a pilot study. *Dimensions Crit Care Nurs*. 2014;33(4):215–225. doi:10.1097/DCC.0000000000000056
50. Zou M, Kong D, Lee I. Teacher engagement with online formative assessment in efl writing during COVID-19 pandemic: the case of China. *Asia Pacific Educ Res*. 2021;30(6):487–498.

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