

Article

Work Values Predict Job Satisfaction among Chinese Teachers during COVID-19: The Mediation Role of Work Engagement

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Abstract: Teachers' job satisfaction is a prominent aspect that determines workplace well-being and job performance. With the outbreak of COVID-19, changes in the teaching process have emerged (e.g., the shift to online classes and an increase in teaching hours), which might be affecting job satisfaction. A closer look at predictors of teachers' job satisfaction and the level to which they have influenced teaching satisfaction during the period of COVID-19 pandemic is very important. This survey involved a sample of 2886 Chinese teachers to examine the effects of teachers' work values on their job satisfaction through the mediating role of work engagement. The analysis by SPSS 25 and PROCESS for SPSS software was run, and the results showed a strong effect of teachers' work values on job satisfaction ($\beta = 0.203$, $SE = 0.203$, $p < 0.01$) and of work values on job satisfaction through the mediating role of work engagement ($\beta = 0.204$, $SE = 0.017$, $p < 0.01$). From the correlation analysis, work values strongly correlated with work engagement ($r = 0.499$, $p < 0.01$) and job satisfaction ($r = 0.360$, $p < 0.01$). Teachers' work values and work engagement played a predicting role on job satisfaction among Chinese teachers during this period of the COVID-19 pandemic.

Keywords: work values; work engagement; job satisfaction; mediation; COVID-19



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1. Introduction

COVID-19 is a global health problem that continues to affect millions of people, including teachers, students, and parents, since its initial eruption at the end of 2019 [1–3]. The pandemic has substantially disrupted education systems that have affected over 1.5 billion students worldwide [4]. In some countries, national examinations have been temporarily cancelled and face-to-face instructions ceased [5]. Concomitantly, teachers and students have been encouraged to follow the strict rules of physical distancing. Over 63 million teachers have been reported to be affected by COVID-19, while the exact number of deaths is not known. However, the disease has caused a total of 2 million deaths in more than 190 countries and territories [6].

In education, several countries have adopted measures like lockdown (total closure of schools), adoption of relevant technologies [7], promotion of personal hygiene, social distancing, wearing of masks, new teaching protocols, adjustment of curricula, and distance learning as precautionary actions to reduce COVID-19 transmission in schools [1,8]. Notwithstanding, several setbacks have been reported to hinder the smooth implementation of new changes in teaching and learning [9]. Teachers' readiness, competence level, and perceived or actual organizational support have hampered the processes of education transformation during COVID-19. Resulting from these setbacks, many teachers still prefer face-to-face or, at least, blended methods [3,10]. In respect to actual organizational support, a survey jointly done by UNESCO, the World Bank, and UNICEF found 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. The UNESCO's Global Education Monitoring (GEM) report further showed that only 81% and 86% of primary and secondary school teachers (respectively) have the minimum required qualifications, with considerable regional variation [11]. The challenge of teachers' qualifications poses another problem toward the transformative strategies of satisfactory teaching during this period of the pandemic. As the literature suggests, the physical, social, and psychological changes in workplaces have a strong influence on employees' work engagement and work values, which further predict their job satisfaction [12]. With all the changes brought about in education during the pandemic, especially those related to teaching processes, it is imperative to reassess the level of teachers' work engagement and the values they have been putting in their work during the pandemic. In addition, exploring the influence of these two constructs on teachers' job satisfaction will add a missing point during this period of the pandemic.

Institutional authorities in China, specifically, have introduced several strategies of teaching, including distance teaching and learning. Notwithstanding, the introduction of new teaching strategies has always brought physical and psychological complications among teachers due to their reluctance and slowness to adapt and adopt innovative changes [13]. Low level of preparedness and competence among teachers is a historical problem, which seems to be persisting over years. It was reported eighteen years ago (2003), during the spread of the virus of SARS in Asia [14]; eleven years ago (2010), after earthquakes in New Zealand [15]; and recently (2021), after the outbreak of the COVID-19 pandemic. Studies in western countries, (e.g., Poland) have indicated the relationship which exists between COVID-19-forced e-learning and employees' job satisfaction and work engagement [16]. Among Slovenian teachers specifically, COVID-19 pandemic demonstrated negative impacts on job satisfaction among both male and female teachers [17]. Teachers' job satisfaction is an important aspect in educational development in the Chinese context as well. The divergence from the traditional way of teaching (face-to-face) to digital classrooms (online teaching and learning) during the pandemic might have impacts that have been underrated in the previous research, especially in relation to teachers' job (teaching) satisfaction.

Although after the outbreak of the novel virus of COVID-19, many teachers adopted online and blended strategies of teaching and learning [9], their acceptability has been very marginal, as they still perceived face-to-face as their most preferred instructional method [18]. Nevertheless, the literature suggests that the success of the online teaching system depends on teachers' willingness to use the system, availability of teaching facilities, and their level of preparedness. Most of these factors are further determined by values that teachers attach to the teaching job. For example, it is expected that teachers who highly value their work will regularly engage in job crafting to supplement the fewer teaching facilities available. In addition, teachers' work values define their participation, cooperation, and the acceptability of all the changes that are brought by authorities, which further predict their level of engagement in the school, and job satisfaction in general. Job satisfaction is a desire of every employee in an organization, but its predictors, and the level to which that can contribute to teachers' job satisfaction during this period of pandemic, is yet to be addressed.

There are numerous other factors that may impede or realize several benefits to teachers during this period of COVID-19 [3,19]. Teachers' perceived complexity, compatibility, and convenience in teaching are factors that significantly predict the teachers' decision to adapt to the changes, especially with the use new technologies in the teaching process during this period of the pandemic [20]. In response to several technology-related and student-related challenges, most teachers are applying their past experiences to handle the new situations. The use of experience to solve the newly emerging challenges poses another challenge among inexperienced teachers in the field of education, leading to inadaptability and inflexibility in the process of solving the emerging challenges [21]. In this case, it is very imperative to explore teachers' work engagement and work values, as well as job

satisfaction among teachers of different teaching experience levels during this period of the pandemic.

The COVID-19 pandemic has necessitated several changes in the teaching system, as most teachers have unavoidably changed their sleeping time, while their workload has increased [16]. In addition, the impacts of COVID-19 have brought fear, stress, and compassion fatigue among teachers because of the novelistic nature of the lockdown situation. Teachers are among the professionals who spend a more significant proportion of their lives working. Sometimes, they do not get enough sleep because of continuously changing teaching environments, which necessitates coping mechanisms (e.g., job crafting). The physical condition of workplaces, the social environment (interaction with colleagues and authorities), and the lack of necessary skills to operate technological tools are some of the challenges that affect teachers' physical and psychological well-being in the workplace [22]. It is very imperative to direct attention toward teachers' work values during this period, considering that the physical and psychological well-being of teachers has been challenged. When teachers' well-being is challenged, their work values, work engagement, and, furthermore, their job satisfaction will also be challenged. It was the aim of this study to explore teachers work values and work engagement, and examine their influence toward job satisfaction, specifically during this tougher period of COVID-19 pandemic.

The situation of the COVID-19 pandemic has affected teachers' private life, increased stress among them, and decreased their life quality, which has further affected their work life and productivity in the longer term. Studies have suggested that the growing complexity of teachers' private and social life causes burnout and job dissatisfaction [23,24]. It was the objective of this study to extend to the existing literature by exploring teachers' job satisfaction during COVID-19 pandemic, especially in relation to predictors like work values and work engagement. Teachers' job satisfaction is a very important concern because, despite the growing complexity of teaching jobs during the pandemic, researchers have overlooked the issues of teachers' workplace well-being, compassion satisfaction, and job satisfaction in a Chinese context. In this study, the authors have spotlighted the predicting role of work values and work engagement in teachers' job satisfaction during the challenging period COVID-19 pandemic. Identifying the predictors of teachers' job satisfaction, especially work values, will help to transform teachers' perception of responsibility toward their own satisfaction at their work place. It is also very imperative for educational organizations to understand the role played by teachers' work engagement toward job satisfaction during this period of the pandemic in order to provide the necessary support.

1.1. Work Values and Job Satisfaction

The concept of values, in general, has been studied in different disciplines, but in psychology specifically, it refers to the beliefs from which a person acts by references [25]. In a workplace, work values can be categorized into extrinsic (tangible rewards) and intrinsic (intangible rewards), but both categories are predicted by the physical, social, economic, and psychological working environment. Literature suggests that employees' feelings of value toward their job may not only influence their well-being, but their general job satisfaction as well [26–30]. Several studies have discussed the critical roles of work values in job selection, employees' well-being, and, subsequently, job satisfaction [31–34]. By considering the essential role the work values play in the life of teachers, they can be referred as salient and influential components of general human life satisfaction [25,35].

Work values are considered as different personal variables that account for different individuals' varied preferences in planning for their careers [26]. They are essential predicting factors for occupational choice, tenure, and job satisfaction [36]. They are described as a mode of behavior (i.e., accomplishing and perceiving) or outcomes (the feeling of accomplishing) [12]. On the other hand, job satisfaction refers to employees' or any other individual's emotional reaction towards their working situation [37]. It aligns with one's feelings concerning their job and its various aspects fall under the multidimensional

concepts of the nature of work, promotions, benefits, pay, working physical environment, supervision, and social relationships with other workers in the same organization [38].

Theories and previous studies have suggested and demonstrated, in detail, the predicting role of work values in several work-related achievements, including job satisfaction and workplace well-being among employees [27,39,40]. Job satisfaction refers to the attitudes and feelings that people have about their job [17]. Given that work values are predicted by the working environment, among many factors, we predicted that teachers work values must have changed during the pandemic because of the change of teaching environment (e.g., distance learning, the use of ICT, physical distancing, and psychological tension). The change of work values may have also influenced teachers' job satisfaction during the period of pandemic. This study adds to the existing literature by examining teachers' work values during the pandemic and the influence on their job satisfaction. Plenty of literature has previously focused on healthcare employees, like physicians working in the hospitals [41], leaving out other professionals like teachers, who also work with clients (students) at schools, especially during the hard times of the COVID-19 pandemic. This study adds to the existing literature by examining the predicting role of work values in teachers' job satisfaction amidst the ongoing physical, social, and psychological changes in teachers' workplaces.

Literature has suggested several antecedents of work values, including the physical, social, and psychological environment of a workplace, that have undergone a dramatic change [16] (e.g., shifting from traditional to online or, at least, blended learning, social distancing at school) in 2019–2021 due to COVID-19. However, with all the changes related to teaching during the pandemic, questions remain about the effect of teachers' work values on teaching and their influence on job satisfaction. Questions like: 'to what extent do the teachers value their teaching during COVID-19 pandemic?' and 'how do these work values affect their job satisfaction?' need answers for further betterment of teachers' life in their workplace. In this case, it is very imperative to consider teachers' job satisfaction by looking at its predictors (i.e., work values), and the rate at which these predictors contribute toward job satisfaction among teachers during COVID-19 pandemic.

1.2. Work Values and Work Engagement

The concept of work values has been discussed in detail in Section 1.1. This section (Section 1.2) focuses on the relationship between work values and work engagement among professional workers. Studies have demonstrated a high level of employees' (e.g., physicians and other healthcare workers [2]) burnout and job dissatisfaction characterized by low work values, which further predicts work disengagement [42]. A study involving Romanian teachers [8] demonstrated a strong relationship between professional constraints and teachers' work engagement, suggesting that work engagement is an outcome construct. It is very important to examine one predictor of work engagement and explore the rate to which it has predicted teachers' work engagement during the pandemic. Work values make up an important construct that can be discussed in such a detailed way by focusing on the conceptual framework, which proposes that employees who have high work values will also highly engage in their work, further increasing their job satisfaction [43]. Previous studies have demonstrated that work disengagement is an aspect of work-related burnout that results from employees' conscious judgment about one's career based on an individual's unique set of criteria [44]. Very few pieces of literature have explored the relationship between teachers' level of work values and their level of work engagement in a workplace in a Chinese context, especially after the outbreak of COVID-19.

Several changes, especially technological changes, have been introduced to reduce the spreading of COVID-19 among workers in schools, including teachers. However, with all the social, physical, and psychological changes introduced in schools during the pandemic, and the reported low level of preparedness and willingness among teachers, there is still a gap regarding their work values, and the extent to which such values may have influenced their level of work engagement. What have been the teachers' work values

during the pandemic? What about their level of work engagement in schools? How have teachers' work values influenced their work engagement during the outbreak of COVID-19 pandemic? These are some of the questions that are still unanswered at the moment. In this study, we aimed to add to the existing literature by exploring teachers' work values and their effects on their work engagement during the global pandemic of COVID-19 in a Chinese context.

1.3. Work Engagement and Job Satisfaction

Work engagement refers to the mental and physical energy that people put into their work. It includes employees' perseverance, involvement, sense of significance, enthusiasm, willingness to invest their efforts, and the pride employees have in their workplace [3,45–47]. Literature has associated work engagement with job satisfaction because of the fact that employees' higher engagement in their tasks may help them to experience a sense of meaning (that reward after investing in role performance), psychological safety (trust and security at work), availability (that sense of having the psychological and physical resources which are necessary for their job), and well-being that further predicts satisfaction and performance in a workplace [3,48,49].

Work engagement is essential for any organization because it keeps its employees mentally and physically focused with pride in their job [48]. It is the organization's performance predictor because employees' higher work engagement predicts their higher performance [47]. Studies have demonstrated the predicting role of work engagement in employees' job satisfaction, especially among healthcare employees in Western countries [50–52]. In both Western and Asian contexts, most of the previous literature neglected work engagement among teachers, and focused more on physicians and other healthcare workers. As a result, very little is known about teachers' work engagement and its influence on job satisfaction, especially during the pandemic. To what extent do the teachers engage with their work? How does their work engagement affect their job satisfaction during the period of COVID-19 pandemic? These are important questions that have remain unanswered, especially in the Chinese context, considering the fact that China is the country in which the first case of COVID-19 was reported, and the first country to implement a total lockdown and suspend physical (face-to-face) classroom learning. Consequently, it is an imperative to assess the predicting role of work engagement on job satisfaction among Chinese teachers during this period of the COVID-19 pandemic.

Before the outbreak of the COVID-19 pandemic, studies demonstrated the influence of work engagement on employees' workplace well-being and job satisfaction [43]. There are also antecedents like work values, job crafting, organizational support, and working conditions, that predict work engagement [10,48]. However, most of the studies have been neglecting teachers and focusing more on health workers. Notwithstanding, we predicted that work engagement plays an important mediating role in strengthening the relationship between work values and job satisfaction among teachers as well, especially in China [51]. From the studies that involved health workers, it has been indicated that higher work engagement among employees contributes to higher employee well-being and job performance [51]. Considering the fact that COVID-19 has affected education institutions just like it did to health and other organizations, it is very important to research teachers' level of work engagement and the influence it has had on their job satisfaction during the pandemic. It is also very fundamental to sustain teachers' work engagement during this pandemic period to better students' performance and teachers' well-being and job satisfaction [48]. During the lockdown period, and even after the resumption of physical classroom learning, the teaching time, process, and workload have changed dramatically. However, little is known about teachers' work engagement, and the effect it has had on teachers' job satisfaction during the pandemic. In this study, we have contributed to the existing literature by examining the relationship that exists between teachers' work engagement and their job satisfaction during the COVID-19 pandemic. In other words, we

have examined the effect of teachers' work engagement on job satisfaction among Chinese teachers during the pandemic.

2. Theoretical Review

2.1. Theoretical Background and General Hypothesis Formulation

Values are very important in different domains of life, like religion, work, sports, culture, and politics [53]. They determine people's social, professional, and personal worlds by affecting their actions, choices, attitudes, and behaviors [54]. Values that define one's working life are referred to as work values because they are beliefs that are related to favorable work outcomes (e.g., high pay) and good behavior (e.g., interaction with people in a working environment) [55]. They refer to what the employees expect or seek from their work and the parts they think are essential for their satisfaction. Work values influence both extrinsic and intrinsic behaviors, like career choice, commitment, socialization, engagement, and job satisfaction [56]. They are the conceptual tools that are used in exploring antecedents of job satisfaction among different professionals. They also indicate the degree of worth professionals put on their job, the degree of importance, and desirability of what may happen in the workplace, which further predict the level to which they should engage in particular job [57].

Hypothesis 1 (H1). *Work values have a positive and significant contribution to teachers' job satisfaction during COVID-19 pandemic.*

Studies have demonstrated that work values are more reliable predictors of job satisfaction than other factors, like interest, personality, and abilities. They define people's actions and attitudes (behavior) in their work, including the level of engagement, degree of worth, expectations, commitment, and level of satisfaction. There are extrinsic and intrinsic work values [58]. Extrinsic values include tangible work outcomes or rewards, like benefits, working conditions, income, status, and advancement opportunities. Intrinsic work values refer to intangible rewards, which are associated with interest level and opportunities for new knowledge acquisition. However, they both predict job performance, attitude toward the work, level of engagement, and job satisfaction [38]. There are work values, such as altruism, leisure, social rewards, security, and influence [59], that affect both attitudes and actions of the employees at a work place.

In recent decades, several theoretical and empirical studies from different fields, like psychology, business, management, and medicine, have stipulated the concept of job satisfaction and identified work engagement as its antecedent [41,60]. At the same time, despite the predicting role of work engagement in job satisfaction, there are also antecedents like income, working condition, organizational support, job crafting, and career advancement, which are regarded as predictors of work engagement, work performance, and satisfaction. Different employees within an organization may get satisfied at different levels because of the values they attached to their work [38], which further predict the level of their physical and psychological engagement in that work [23].

Employees' values regarding their job may not only influence their well-being, but their work engagement, performance, and general job satisfaction too [26–29]. Several studies have discussed the critical roles of work values in job selection, employees' well-being, and, subsequently, job satisfaction [32–34]. Work values are salient and influential components of employees' work engagement and general human life satisfaction [25–29,31]. They are different personal variables that account for different individuals' varied preferences in planning for their careers [26].

Hypothesis 2 (H2). *Teachers' work values have a significant and positive relationship with their level of work engagement in schools during COVID-19.*

Hypothesis 3 (H3). *Work engagement has a positive and significant relationship with teachers' job satisfaction during COVID-19.*

Empirical studies have demonstrated the linkage that exists between job satisfaction and other constructs, like career commitment among librarians (in Nigeria) [37,61], work values among family physicians [41], intent to quit [62], employees' attitudes (focal and general) [63], perceived work environment [1], and burnout syndrome and the job among public health inspectors in Greece [64]. They have also indicated the relationship that exists between job satisfaction and ease of working among Japanese nurses [65], prediction of work values (autonomy, opportunity for learning, expression of creativity, the use of knowledge and abilities, and adoption of innovative technological development), and job performance [38]. It is very important to extend the existing theoretical and empirical literature on work values and job satisfaction by examining the mediating role of work engagement.

In the previous studies, groups of professionals, like doctors, nurses and other health care workers, librarians, hotel managers, and information professionals, have been involved. Only few studies have involved teachers, especially during the time of the pandemic. Work values are determined by the social, psychological, and physical environment of the workplace, and they are subject to change in response to variations of these determining variables. In the education sector, several changes have occurred during the COVID-19 pandemic, which may have affected teachers' work values and their job satisfaction [42]. From this theoretical foundation and the literature gap, the authors' objective was to extend or contribute to the existing literature by exploring the mediating role of work engagement in the relationship that exists between teachers' work values and their job satisfaction during the pandemic [66].

Hypothesis 4 (H4). *Work engagement plays a positive and significant mediating role in the relationship between work values and job satisfaction among Chinese teachers during COVID-19.*

2.2. The Theoretical Model of This Study

Our model (Figure 1) is based on the hypotheses that explain the relationship that exists between teachers' work values (WV) and the other two variables—job satisfaction (JS) and work engagement (WE). The line 'c' shows that work values have a positive and significant relationship with job satisfaction (WV-JS), meaning work values predict job satisfaction. Line 'a' (WV-WE) indicates the significant and positive relationship between values and work engagement. Line 'b' (WE-JS) shows the positive and significant relationship between Chinese teachers' work engagement and job satisfaction. In this model, work engagement plays a mediating role in the direct relationship between work values and job satisfaction (WV-WE-JS).

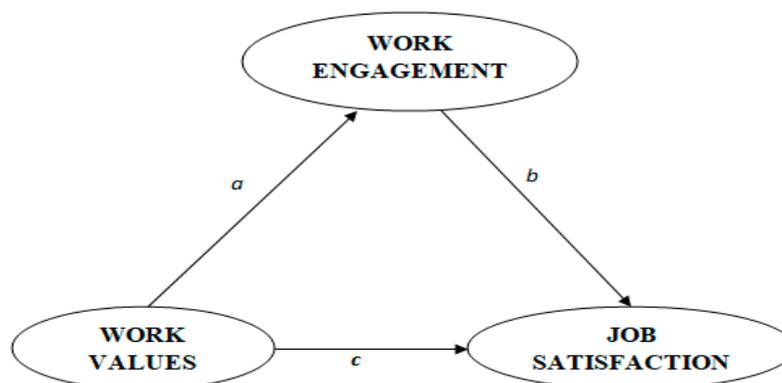


Figure 1. The regression model for the predictive role of work values on job satisfaction as our primary concern and the mediation of work engagement.

3. Method

3.1. Procedure

The participants took part in an online survey platform using a trustworthy Chinese data collection platform. The survey process started in June 2021 and was finished in September 2021. The participants in the study were from different cities inside Zhejiang province, People's Republic of China. The participants completed all of the surveys in about 8 to 15 min. The participants were not given any incentives, the ethics committee of the local university's College of Teacher Education approved the study, and it followed the Declaration of Helsinki.

3.2. Participants

The questionnaire was distributed to 2998 kindergarten, primary, and junior and senior secondary school teachers (Table 1). Only 57 of them did not respond and 55 of the returned responses were erroneous. We excluded the invalid questionnaire forms from analysis, and the final analysis consisted of 2886 teachers (96.26% valid response rate). This included 779 (27%) male teachers and 2107 (73%) female teachers, with an average age of 38.12 years ($SD = 7.86$). The average length of their teaching experience was 16.33 years ($SD = 8.38$), with 11 (0.4%) teachers having their education level below bachelor degree, 198 (6.9%) with professional degrees, 2592 (89.8%) with bachelor degrees, and 85 (2.9%) with a master's or Ph.D. The confidence level of the sample to the entire population of teachers in China was 95%

Table 1. Descriptive statistics of the participants (N = 2886).

Variable		Descriptions	
		Number	%
Age ($M = 38.12$, $SD = 7.86$)	20–35 years	1008	34.8
	36–45 years	1390	48.1
	46–60 years	488	17.1
Gender	Males	779	27
	Females	2107	73
Level of education	Non-degree	11	0.4
	Professional degree	198	6.9
	Bachelor degree	2592	89.8
	Masters/PhD	85	2.9
Teaching grade	Kindergarten	341	11.9
	Primary school	1588	55
	Junior secondary school	656	22.7
	Senior secondary school	31	10.4
Teaching experience ($M = 16.33$, $SD = 8.38$)	Less than one year	50	1.7
	1–10 years	704	24.4
	11–25 years	1707	59
	26–35 years	429	14.9

Note: M means median, SD means standard deviation. The minimum age of teachers = 20, maximum = 59, median = 39. The minimum teaching experience < 1, maximum = 32, median = 17.9 (years).

3.3. Measurement

- Work Values

This study used a sub-scale of work value scales, which comprises 9 items measured on a 5-point Likert scale ranging from 1 (unimportant) to 5 (very important). A high score in work values means high work values among the respondents. The scale was adopted from the [49] version. Scholars [67] modified the original work value scales, making them more suitable for Chinese samples [68]. Different studies have used the same scales and proved higher reliability, validity, and confidence, especially with Chinese samples [67]. In this study, the Cronbach's α coefficient was 0.96.

- **Work Engagement**

The teachers' work engagement in their workplace was measured by the Utrecht Work Engagement Scale (UWES), initially designed and developed by [69]. The one-factor UWES is comprised of 9 items, which are answered in a 7-point Likert scale system that ranges from 0 (never) to 7 (always). Items measure three dimensions of work engagement from the respondents: vigor (an example of this dimension is "At my work, I feel bursting with energy."), absorption (an example of this dimension is "I am immersed in my work."), and dedication (an example of this dimension is "I am enthusiastic about my job."). From UWES, each item asks respondents how frequently they experience the illustrated state during their work time. A higher score in this measurement scale means higher work engagement among the respondents (teachers). The Utrecht Work Engagement Scale (UWES) has been used in studies by different researchers [70] and has shown higher reliability and validity of the instruments, especially with Chinese Samples [71]. The Cronbach's α coefficient of UWES in this study was 0.96.

- **Job Satisfaction**

In this study, job satisfaction was a dependent variable, measured by Subjective Career Success (CSS), which Greenhaus and his colleagues developed in 1990. The scale comprises 5 items, which are measured in a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) [72]. An example of one of the items is "I am satisfied with the progress I have made toward meeting my overall career goals". A high score in these items indicates high job satisfaction among the respondents [73]. Several studies have used the Subjective Career Success scale and found high reliability and validity, especially with Chinese samples [74,75]. The Cronbach's α coefficient of CSS in this study was 0.90.

3.4. Data Analysis

We carried out the analysis for our data by using SPSS 25 and PROCESS for SPSS as statistical packages. The statistical tools used in the analysis process were mean, standard deviation, correlation, Cronbach's alpha, regression analysis, and the structural equation model with path analysis. We used the 5000 re-sample bootstrapping methods to test the indirect effect for statistical significance. We used PROCESS for SPSS to substantiate multiple regression analysis to estimate the specific indirect effect.

4. Results

4.1. Teacher's Work Values during the COVID-19 Pandemic

Teachers' work values during the pandemic have been high, with almost the same results across gender groups ($n = 2886$). The total mean score for work values was 4.39 ($SD = 0.53$), 4.38 for males ($SD = 0.55$), and 4.39 ($SD = 0.52$) for female. Teaching experience had a negative correlation with work values ($r = -0.09$), but teachers with ≥ 15 years of experience had higher scores of work values ($M = 3.99$, $SD = 0.62$) compared to teachers with < 15 years of experience ($M = 3.82$, $SD = 0.59$). In relation to teachers' age, there was also a negative correlation ($r = -0.09$) with teachers' work values. In addition, there was no huge difference of mean scores for teachers' work values across the age groups ($M \geq 3.82 \leq 3.81$).

4.2. Teachers' Work Engagement during the COVID-19 Pandemic

Teachers' work engagement during the pandemic was not very high, but with differences across gender groups. The total mean score of teachers' work engagement during the pandemic was 3.87 ($SD = 0.77$). Male teachers had a higher mean score of work engagement ($M = 4.0$, $SD = 0.79$) compared to female teachers ($M = 3.82$, $SD = 0.77$). The results indicate that male teachers have highly engaged with their job during the pandemic compared to female teachers. There was a small and insignificant correlation of teachers' age and work engagement ($r = 0.05$, $p > 0.01$). However, those > 35 years of age had a higher mean score of

work engagement ($M = 3.89$, $SD = 0.53$) compared to teachers ≤ 35 years of age. There was a small correlation ($r = 0.04$) between teachers' work experience and their work engagement.

4.3. Teachers' Job Satisfaction during the COVID-19 Pandemic

Teachers' job satisfaction during the pandemic was satisfactory, with a marginal difference across gender groups. The total mean score of teachers' job satisfaction was 3.82 ($SD = 0.69$). Male teachers' mean score of job satisfaction was higher ($M = 3.88$, $SD = 0.69$) than female teachers' mean score ($M = 3.79$, $SD = 0.68$). There was very small and insignificant correlation ($r = 0.011$, $p > 0.01$) between teachers' age and job satisfaction. However, different from work engagement, teachers ≤ 35 years of age had a higher mean score of job satisfaction ($M = 3.89$, $SD = 0.62$) compared to teachers > 35 years of age. The correlation between teachers' experience and job satisfaction was negative and insignificant ($r = -0.002$, $p > 0.01$).

4.4. Preliminary Analysis of Data in Regression and Correlation

Before running the mediation analysis, a preliminary data analysis was done to determine the possibility of continuing with the mediation analysis. It is suggested that only when a significant relationship exists between the primary independent variable (predictor) and dependent variable (outcome) can the mediation analysis be carried out [76]. A significant relationship between work values and job satisfaction is the factor that guided us throughout the process of preliminary data analysis. In this case, we calculated the means, the standard deviation, and the correlation between variables, and the results are shown in Table 2. The correlation analysis revealed the positive association between work values and job satisfaction ($r = 0.36^*$, $p < 0.01$), work values and work engagement ($r = 0.50^*$, $p < 0.01$), and work engagement with job satisfaction ($r = 0.52^*$, $p < 0.01$). The results concurred with our hypothesis, providing preliminary evidence and support which authenticated the continuation of running our hypothesis testing.

Table 2. Means, standard deviations, and correlations—Pearson's r ($N = 2886$).

#	Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1	Age	38.12	7.86	1							
2	Gender	1.73	0.444	−0.280 *	1						
3	Level of Education	3.93	0.351	−0.124 *	0.057	1					
4	Teaching grade	2.32	0.812	0.255 *	−0.239 *	0.203 *	1				
5	Experience	16.33	8.83	0.906 *	−0.233 *	−0.158 *	0.148 **	1			
6	WV	4.39	0.53	−0.096 *	0.009	−0.012	−0.097 *	−0.096 *	1		
7	WE	3.87	0.77	0.051 *	−0.109 *	−0.007	−0.030	0.035	0.449 *	1	
8	JS	3.82	0.688	0.011	−0.055 *	−0.001	−0.028	−0.002	0.360 *	0.523 *	1

Note: *M* means mean, *SD* means standard deviation, WV means work value, WE means work engagement, JS means job satisfaction, * $p < 0.05$; ** $p < 0.01$.

4.5. Linear Regression in Our Proposed Model

We conducted a simple linear regression analysis between the three variables of our primary concern for unmediated pathways. The results shown in Figure 2 are from the simple linear regression analysis to test hypothesis 1 (H1), hypothesis 2 (H2), and hypothesis 3 (H3). The results demonstrate that teachers' work values had a positive and significant relation to job satisfaction ($\beta = 0.203$, $p < 0.01$), work values were positively related to work engagement ($\beta = 0.660$, $p < 0.01$), and work engagement was positively related to satisfaction ($\beta = 0.400$, $p < 0.01$). The results are concomitant to our hypotheses (H1 to H3), and add to the existing literature [8] about the presence of antecedents (predictors) to teachers' work engagement, but are not in line with the earlier (2020) reported results from Spanish nurses [77], where work engagement was negatively correlated ($r = -0.183$) and had no significant relation with job satisfaction.

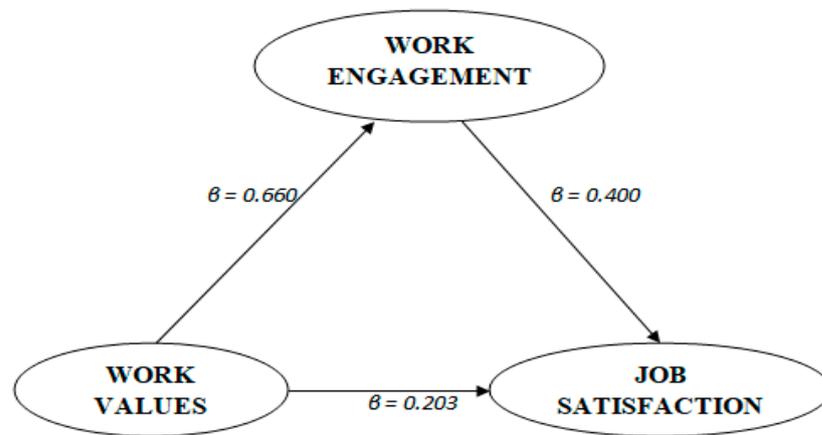


Figure 2. Linear regression analysis of work values predicting work engagement, and each of the two predicting job satisfaction.

Given that the relationship between the independent variable (predictor) and dependent variable (outcome) was shown to be positive and statistically significant, we continued to conduct the mediation analysis through path analysis. We used the 5000-re-sample bootstrapping method because our sample was not relatively large enough to generalize our findings to all teachers beyond China. The unmediated effect, which was obtained through PROCESS for SPSS, was significant ($\beta = 0.203$, $SE = 0.023$, $t = 8.9209$, $LLCI = 0.2317$, $ULCI = 0.2989$, $p < 0.001$).

Teachers' work engagement played a mediation role in the relationship between work values and job satisfaction. The direct effect of work values to job satisfaction was less ($\beta = 0.203$, $SE = 0.023$). However, after the inclusion of a mediator (work engagement), the indirect effect from teachers' work values to job satisfaction was increased to $\beta = 0.264$ with the standard error (SE) of 0.017 (95% CI, 0.232 LLCI & 0.299ULCI). In this case, the mediator played a positive impact in the relationship between the independent and dependent variables (work values and job satisfaction, respectively). More details are shown in Table 3.

Table 3. Testing the pathways of the mediation model (N = 2886).

Effect		β	SE	95.0% Confidence Interval	
				LLCI	ULCI
Direct effect	WV-WE	0.660	0.024	0.612	0.708
	WE-JS	0.400	0.015	0.370	0.430
	WV-JS	0.203	0.023	0.158	0.248
Indirect effect	WV-WE-JS	0.264	0.017	0.232	0.299

Note: WV means work value; WE means work engagement, and JS means job satisfaction. LLCI = lower limit of confidence interval, ULCI = upper limit of confidence interval. Bootstrap sample size = 5000.

5. Discussion

5.1. Teachers' Work Values, Work Engagement, and Job Satisfaction

Our specific purpose in this study was to examine the mediation effect of work engagement in the relationship between work values and job satisfaction among Chinese teachers during COVID-19. As indicated in Sections 4.1–4.3 authors have described the rates of teachers' work values, work engagement, and job satisfaction during the pandemic. In comparison to the period before the outbreak of the pandemic, these results show a relatively higher result for teachers' work values ($M = 4.39$, $SD = 0.55$) compared to most of the pre-pandemic studies, which involved different employees, like physicians [19], bank managers [24], teachers [33], information professionals [44], and hotel managers [63], conducted in different countries including Greece, India, China, Italy, and Poland. However,

with regards to teachers' age and their teaching experience, the current study is still in line with the previous studies, whereby the two biographical constructs showed a negative correlation to teachers' work values.

Teachers' work engagement during the pandemic was relatively lower ($M = 3.87$, $SD = 0.78$) than in several previous studies [1,3] done before the pandemic. The lower work engagement can be explained by the challenges associated with the shift from traditional teaching (face-to-face) to digital (distance) teaching and learning. The challenges reported in the literature, including teachers' unpreparedness, lack of organizational support in offering additional training during the pandemic, and teachers' low competence level in using new technologies, may help to explain the challenge of lower engagement among teachers. Many teachers have been reported by previous studies to stick with their traditional way of teaching, or at least utilizing a blended method (the mix of online and offline teaching).

However, this study shows different results in relation to teachers' age, gender, and their teaching experience. While most of the previous studies showed the same rate of work engagement across gender groups, this study indicates that male teachers' work engagement was higher than their female counterparts. The correlation between teachers' age and work engagement was still positive, but lower than in most of the studies conducted before the outbreak of COVID-pandemic [4,6]. In line with the previous studies, the results indicate a negative and insignificant correlation between teachers' experience and work engagement.

Coming down to the outcome constructs, this study indicates lower job satisfaction among teachers during the pandemic compared to studies that focused on physicians' job satisfaction in United States [1], Korean employees [3], and even lower than other studies of Chinese teachers [7]. While the total mean score of teachers' job satisfaction in this study was 3.82 ($SD = 0.69$), some studies reported a mean score of ≥ 4.0 before the pandemic [4,5]. This study is in line with another study [7], which indicated almost the same mean score ($M = 3.88$, $SD = 0.77$) of teachers' job satisfaction in a Chinese context during the pandemic.

In line with the previous studies, male teachers' mean score of job satisfaction was still higher ($M = 3.88$, $SD = 0.69$) than female teachers' mean score ($M = 3.79$, $SD = 0.68$). However, the current results indicate a positive and insignificant correlation ($r = 0.011$, $p > 0.01$) between teachers' age and job satisfaction, while in the previous studies it was negative [5]. Teachers ≤ 15 years of age were still advantaged with job satisfaction ($M = 3.89$, $SD = 0.62$) compared to teachers > 15 years of age, and the correlation between teachers' experience and job satisfaction was unchanged, it was negative and insignificant ($r = -0.002$, $p > 0.01$).

5.2. The Effects of Teachers' Work Values and Work Engagement on Job Satisfaction

As suggested [76], the mediation analysis was run after confirming the direct relationship between the predictor and outcomes. The preliminary analysis supported first hypothesis (H1), which predicted that work values have a significant and positive relationship with teachers' job satisfaction. The unmediated simple linear regression demonstrated the relationship that exists between teachers' work values and job satisfaction, with it being positive and significant ($\beta = 0.203$, $p < 0.01$), suggesting that, teachers who highly valued their work during the pandemic were highly satisfied with their job. Whereas most relevant topics have been investigated in Western contexts (e.g., Greece) [38], our study has added to the existing literature regarding the Chinese context during the COVID-19 pandemic. Consistence with what has been found in previous studies [41], job satisfaction was negatively correlated to teaching experience. Contrary to the previous findings before the pandemic [78], the current study has demonstrated that teachers' age is a significant predictor, playing a suppressing role in the relationship between teachers' work values and job satisfaction. Such preliminary results of the predictor–outcome relationship authenticated the further analysis of mediated and unmediated effects.

Concerning hypothesis 2 (H2), we predicted that teachers' work values positively and significantly relate to work engagement. The findings have supported the hypothesis and demonstrated the significant and positive relationship between the two variables ($\beta = 0.660$,

SE = 0.024), with the confidence interval of 95% (LLCI = 0.612, ULCI = 0.708). In contrast, several studies [33,48] done before the pandemic had indicated other predictors of work engagement, like perceived organizational support [6] and job crafting, demonstrating that work engagement is preceded by several antecedents. In this case, teachers' level of work engagement in their workplace is determined by their work values. The results are in line with other studies, in Italy for example [5], which demonstrated the effect of work values on work engagement, adding that teachers' work engagement had a significant decrease after the lockdown. The correlation between work values and work engagement was also high ($r = 0.499, p < 0.01$). We found that teachers' work values are antecedents to their engagement with their teaching job during this challenging period of COVID-19, which was a slightly different finding from other studies that demonstrated the negative influence of professional constraints on teachers' work engagement. The pandemic has changed the social, psychological, and physical working environment—teachers' workloads have increased and ICT is highly integrated with teaching and learning. Teachers' work values are positive determinants of work engagement, resulting in higher educational achievement, compassion satisfaction, and job satisfaction as well.

The results have also supported our third hypothesis (H3), that teachers' work engagement during this period of COVID-19 has a positive and significant relationship with their job satisfaction. The findings have demonstrated a positive relationship between teachers' work engagement and job satisfaction ($\beta = 0.400, SE = 0.015$), with an LLCI result of 0.370 and ULCI of 0.430 in a confidence interval of 95%. In line with the previous study [50], the correlation between teachers' work engagement and job satisfaction was significant and high ($r = 0.523, p < 0.01$), but lower than that of $r = 0.742, p < 0.01$, which was previously reported among hotel employees in Turkey during the midst of pandemic (2021). While in the previous studies, teachers' gender had weak correlation with work engagement ($r = 0.134, p < 0.01$), this study demonstrated a negative correlation of the two variables ($r = -0.109, p \leq 0.01$). Teachers who are highly engaged in their work have achieved high satisfaction during COVID-19. Job satisfaction was predicted by the level of teachers' engagement in their workplace. These results add to the existing literature [24] that discusses areas of work life (e.g., workload, reward, community, control, fairness, and values being predictors of occupational burnout and satisfaction).

5.3. The Mediating Role of Work Engagement

The findings have supported our fourth hypothesis (H4) that predicted work engagement to play a mediating role in the relationship between work values and job satisfaction. The effect of work values on job satisfaction without the mediator was less ($\beta = 0.203, SE = 0.023$). Notwithstanding, after the inclusion of work engagement as mediator, the indirect effect from teachers' work values to job satisfaction through work engagement was increased to $\beta = 0.264 (SE = 0.017)$. In this case, the mediator had a positive impact on the relationship between teachers' work values (as an independent variable) and job satisfaction (as dependent variable). We can generally comment that, despite the relationship that exists between teachers' work values and their job satisfaction, work engagement strengthened that relationship between the two constructs.

These results are in line with several other studies conducted during the pandemic [6]. However, in the previous studies, teachers' work engagement was demonstrated to positively and significantly mediate the relationship between other variables as well. In several other studies, work engagement mediated the relationship between perceived organizational support and job satisfaction, as well as the relationship between job crafting and job satisfaction [6]. It has also demonstrated to affect the relationship between job crafting and career satisfaction as well [36].

The findings of the mediation analysis are in line with the previous studies that were conducted before the outbreak of COVID-19 [79]. However, the mediating role of work engagement in the relationship between job crafting and job satisfaction in the previous study showed a higher impact than the current one. In line with the previous studies

before the outbreak of COVID-19, the two paths—paths ‘a’ and ‘b’ from Figure 2 for the direct effect of work values to work engagement and work engagement to job satisfaction ($\beta = 0.660, p < 0.01$, and $\beta = 0.400, p < 0.01$), respectively—were positive and significant, but the effects were much higher compared to old studies, which showed relatively lower effects ($\beta = 0.276, p < 0.01$, and $\beta = 0.162, p < 0.01$) among teachers in Italy [80]. In this case, teachers’ work engagement strengthens the positive and significant relationship with job satisfaction. Teachers who highly valued their work were also highly engaged in their workplaces. This relationship further resulted in higher satisfaction with their job during COVID-19. The study is concomitant with the previous studies, suggesting that employees’ feelings of value toward their job may not only affect their well-being, but their general job satisfaction as well [26–28].

6. Limitations and Suggestions for Future Studies

6.1. Limitation of the Study

This study presents the findings obtained during COVID-19 pandemic period, the time within which such disease brought disastrous impacts around the world, especially in the field of education. The data obtained from the subjects are only limited to the period of pandemic. In this case, there is less possibility of signifying the importance of teachers’ work values and work engagement in their job satisfaction by comparing them with the results obtained in period before or after COVID-19. Different samples from different settings and different periods (i.e., after and before COVID-19) may yield different, but incomparable, results.

Another limitation is that this study was conducted in one province inside China, and the results of our research may be different from different countries according to the level of impact of COVID-19 in said countries, the level of organizational supports, and institutional behavior in general. Different institutions in different provinces or countries may have different predictors of work values (salary, social relationships within the institution, and psychological environments) that may lead to different rates of work engagement, and, subsequently, different job satisfaction as well.

We take in consideration that this study involved kindergarten, primary, junior secondary and high school teachers. However, it could be better to include higher education teachers as well, because they are also in the group of educators whose job satisfaction may be influenced by their work values and work engagement in their workplaces. Finally, the results were generalized for all teachers and show the impact of teachers’ work values on their work engagement, and work engagement on their job satisfaction.

6.2. Suggestion for Future Studies

Future studies may be done after COVID-19 with the same participants, to further extend the current findings by comparing work values and work engagement on career satisfaction throughout different time frames. However, we still emphasize that work values and engagement have been important antecedents of teachers’ job satisfaction during the COVID-19 pandemic. Further studies on job crafting are very important for examining the extent to which teachers are engaged in psychological, social, and physical job crafting to ensure their satisfaction.

Another study may take into consideration the integration of higher education teachers in the studies, especially for the purpose of comparing the implication of our variables on different levels of teachers, and include teachers from different regions within People’s Republic of China.

7. Conclusions

Our studies have considered the roles and contributions of policymakers, employers, and school principals toward ensuring teachers’ job satisfaction. Work values are very important for teachers’ job satisfaction and organizational goals. Different studies have mentioned different antecedents or predictors of work values, including job security, pay

and other benefits, the opportunity for professional development, social status, support from the organization or any authority, and the relationship with colleagues or authority. These antecedents can be categorized into intrinsic (intangible) and extrinsic (intangible); however, the policymakers and organization authorities have plenty of opportunities to boost teachers' job satisfaction by providing or necessitating the availability of things like job security and opportunities for professional development. Both categories are predicted by the physical, social, economic, and psychological work environment.

The theoretical contribution of our study allows researchers to test the relationship between work values and job satisfaction in other contexts (e.g., China) during COVID-19. With the impacts of the current pandemic around the world, especially in the sector of education, this study informs organizational psychologists and teachers in China, and worldwide, to give more attention to teachers' work values and work engagement for their compassion and job satisfaction. The main lesson to be learned by teachers from the current results is that work values are crucial for improving teachers' job satisfaction, especially when they highly engage with their teaching work.

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