

# The Effect of Trait Mindfulness on Subjective Well-Being of Kindergarten Teachers: The Sequential Mediating Roles of Emotional Intelligence and Work–Family Balance

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**Purpose:** Teaching is a tough and stressful profession. Teachers' pressure and job burnout have become a common and serious problem, which makes teachers' subjective well-being feel a serious impact. The kindergarten environment is challenging and unique. The educational objects faced by kindergarten teachers are usually immature, which brings challenges to the teaching of kindergarten teachers. At the same time, in China, kindergarten teachers also need to undertake daily administrative management and other tasks. Therefore, focusing on the subjective well-being of kindergarten teachers in developing countries during the stage of the COVID-19 pandemic has important implications for promoting teacher well-being globally.

**Patients and Methods:** The study included 321 kindergarten teachers from 13 kindergartens in Jinan, Shandong Province, China. A cross-sectional study design was used with a cluster random sampling technique. For the present study, Five-Factor Mindfulness Questionnaire, Emotional Intelligence Scale, Work–Family Balance Scale and Subjective Well-being Scale were utilized.

**Results:** Findings of the study show that trait mindfulness can directly predict subjective well-being. Emotional intelligence played a mediating role in the relationship between trait mindfulness and subjective well-being. Work–family balance played a mediating role between trait mindfulness and subjective well-being. Emotional intelligence and work–family balance play a sequential mediating effect between trait mindfulness and subjective well-being.

**Conclusion:** This study explores the influence mechanism of trait mindfulness on kindergarten teachers' subjective well-being from the perspective of metacognition. An important conclusion of this study is that emotional intelligence and work–family balance play a sequential mediating effect between trait mindfulness and subjective well-being. We believe the findings of this study have important implications for enriching existing theory and educational practice. This finding has important implications for improving the subjective well-being of kindergarten teachers in developing countries, especially in the context of the current severe impact of the COVID-19 pandemic on education systems.

**Keywords:** trait mindfulness, emotional intelligence, work–family balance, subjective well-being, kindergarten teacher

## Introduction

Teaching is a tough and stressful profession.<sup>1,2</sup> Teachers' pressure and job burnout have become a common and serious problem, which makes teachers' subjective well-being feel a serious impact.<sup>3</sup> For example, a survey on the mental health of teachers in Germany found that nearly 30% of teachers had serious mental health problems.<sup>1</sup> The UK Teachers mental health Survey shows that teachers' mental health was worse than other stressful jobs.<sup>4</sup> In China, teachers' mental health is also deteriorating.<sup>5</sup> One of the most direct and explicit indicators of the decline of teachers' mental health is subjective well-being.

Subjective well-being is one of the core concepts of positive psychology,<sup>6</sup> and is considered to be the scientific concept closest to the general term “happiness”.<sup>7</sup> In the past ten years, subjective well-being has received extensive attention from social sciences. In the field of education, more and more scholars are interested in related research and have explored many factors that affect the teachers’ subjective well-being.<sup>8,9</sup> For example, existing studies have proved that teachers with high qualifications and positions usually have higher subjective well-being.<sup>10</sup> In addition, the quality of school work has a positive predictive effect on teachers’ subjective well-being.<sup>11</sup>

At the same time, the kindergarten environment is challenging and unique.<sup>12</sup> The educational objects facing kindergarten teachers are usually immature and difficult to control, which will undoubtedly increase the difficulties and pressures of teachers’ work.<sup>13</sup> Compared with other educators, kindergarten teachers need to solve the problem of children’s adaptation and the importance of comprehensive children’s development including social emotion.<sup>14</sup> In addition to the most basic physical requirements, they also need to assume the responsibility of daily behavior management, teaching and children’s conservation,<sup>15</sup> which means that the subjective well-being of kindergarten teachers will be affected by many factors, such as age, administrative position and class size.<sup>16</sup> Therefore, we need to pay more attention to the happiness and mental health of kindergarten teachers. Subjective well-being is of great significance to the social interaction of teachers, life and work,<sup>17</sup> and the well-being of teachers will affect educational results and social benefits.<sup>18</sup> High-quality preschool education will bring the advantages of society, education and economy, advantages, and play a strong and beneficial role for children and families.<sup>19,20</sup> Therefore, it is necessary for organization and society to consider how to improve the happiness of preschool teachers.

The subjective well-being of kindergarten teachers is affected by many factors, of which mindfulness is an important factor that cannot be ignored. Its unique role in clinical medicine and psychotherapy has paid widespread attention in clinical and empirical psychology.<sup>21</sup> For a long time, people have always believed that mindfulness can promote happiness,<sup>22</sup> and at present, empirical evidence has confirmed that mindfulness has a positive predictive effect on subjective well-being.<sup>23</sup> However, few researchers have studied the effect of characteristic thoughts on the improvement of the happiness of kindergarten teachers. In particular, there are few studies on the subjective well-being of kindergarten teachers in developing countries. Paying attention to the subjective well-being of kindergarten teachers in developing countries is an important direction to promote the fair development of global education. At the same time, the COVID-19 pandemic has brought a serious impact on the global education system.<sup>24,25</sup> Few studies have revealed the impact on the subjective well-being of kindergarten teachers. This study took Chinese kindergarten teachers as the object to explore the inner relationship between trait mindfulness and kindergarten teachers’ subjective well-being, and to provide literature references for improving the subjective well-being of kindergarten teachers in developing countries.

## Literature Review and Theoretical Hypotheses

### Trait Mindfulness and Subjective Well-Being

Subjective well-being is a broad category of phenomena, including people’s emotional reactions, life satisfaction and overall judgment of field satisfaction. However, the focus of subjective well-being is people’s cognition and emotional assessment of the field of life.<sup>26,27</sup> Subjective well-being mainly has the following dimensions: long-term positive influence, low-level negative impact and life satisfaction.<sup>27</sup> Diener pointed out that subjective well-being has three characteristics.<sup>28</sup> Firstly, it is a subjective judgment of people based on personal experience. Some objective factors, such as health and income, have no direct decisive impact on subjective well-being. Secondly, it not only refers to little negative effects, but also a positive measures taken by individuals; third, it prefers personal judgment and evaluation of all aspects of life, rather than the main evaluation of specific areas. The resources and characteristics that people value are related to subjective well-being. For example, studies have shown that people with high level of happiness tend to succeed in occupation, marriage, work performance and other fields.<sup>29</sup> In addition, individuals with high subjective well-being are healthier and longer than others.<sup>30</sup> Other studies have found that the improvement of teachers’ subjective well-being can reduce the incidence and mortality of teachers.<sup>31</sup>

Mindfulness is considered by contemporary psychology as a way of raising awareness, that is, self-regulation of attention.<sup>21</sup> Paying receptive and sustained attention to the process of experience in the moment, and analyzing the current experience without any criticism in this process with judgment.<sup>22,32</sup> In the realm of traits, mindfulness is considered not only a state of consciousness, but also a trait, as some individuals are more typically and focused in a

state of mindfulness by receiving external and internal stimuli more frequently.<sup>33,34</sup> Higher levels of mindfulness are associated with many favorable outcomes, including better behavioral regulation, more effective pain management, higher levels of mental health and relationships.<sup>34–36</sup> In recent years, more and more scholars have paid attention to the unique role of mindfulness in education. For example, Singh study found that teachers' level of mindfulness affects the quality of relationships with preschool children.<sup>37</sup> Jennings believes that kindergarten teachers with higher levels of mindfulness can feel more emotional support in the classroom.<sup>38</sup> Molloy Elred et al found that mindfulness positively predicts teacher stress relief and job satisfaction effect.<sup>39</sup>

According to the expansion and construction theory of positive emotions, mindfulness is considered as a way to expand cognition. Mindfulness can help individuals build healthier psychological resources, such as a higher level of healthy psychology and resilience. Emotions and cognition are internally linked.<sup>40</sup> Therefore, mindfulness can also promote the establishment of individual positive emotions, which in turn affects the individual's subjective well-being. For example, studies have shown that mindfulness is closely related to subjective well-being.<sup>41</sup> Trait mindfulness can effectively increase subjective well-being.<sup>42</sup> Trait mindfulness was significantly positively correlated with the subjective well-being of college students.<sup>43</sup> There are numerous theoretical and empirical concerns in the current scientific literature focusing on the relationship between mindfulness and well-being, and subjective well-being has also been confirmed by research to be one of the strongest correlates of trait mindfulness.<sup>22,36,44</sup>

Therefore, this study hypothesis:

H1: Trait mindfulness can positively predict subjective well-being.

## Trait Mindfulness, Emotional Intelligence and Subjective Well-Being

Emotional intelligence is essentially the ability to reason and use emotions, representing differences in the ability of individuals to monitor others' and their own emotions and use this information to adjust their own behavior and emotions.<sup>45,46</sup> Emotional intelligence is made up of four combined abilities: emotional perception (the ability to accurately identify emotional cues in one's own and others), emotional utilization (the ability to use emotions to facilitate thinking), emotional understanding (the ability to use knowledge and experience to identify the complexity of emotions), emotional management (the ability to effectively regulate emotions).<sup>48,49</sup>

Emotional intelligence is the collection of a person's character and ability. People with high emotional intelligence tend to be better able to perceive and express their own emotions, reason and understand the emotions of others, and inspire adaptive behaviors that benefit them and others.<sup>46,47</sup> High levels of emotional intelligence were associated with multiple positive outcomes, such as higher relationship quality and better behavior regulation,<sup>50</sup> and emotional intelligence was positively of individual mental health and life satisfaction.<sup>51–53</sup> With the deepening of emotional intelligence, scholars are paying more and more attention to the role of emotional intelligence in school, family and workplaces. Research has proved that managers with high levels of emotional intelligence at work will have more positive work attitudes and work.<sup>54</sup> Chan proved that secondary school teachers with high levels of emotional intelligence are less prone to burnout, cope with stress more effectively and have positive behavioral tendencies.<sup>55</sup> Agbaria found that emotional intelligence positively impacts kindergarten teachers' classroom management skills.<sup>56</sup>

Mindfulness emphasizes comprehensive and continuous attention to the experience of sensory, emotion and cognition, so mindfulness will affect the perception, regulation and utilization of emotions to a certain extent.<sup>57</sup> Individuals with a higher level of mindfulness often have higher resources to obtain ability, and can be more sensitive to their emotional state and objective existence, it can better identify and accept them subjectively, improve the level of cognition, thereby promoting emotional understanding, expressing and regulating, and reducing energy and resources consumption. Many researchers in the field of psychology have explored the influencing factors of emotional intelligence from the perspective of mindfulness. For example, Brown and Ryan proved that mindfulness will bring stronger adaptive emotional functions.<sup>22</sup> Koole believes that mindfulness can promote individual perception of others' and their own emotions through the core aspects of concentration, and promote emotional regulation.<sup>58</sup>

According to mixed theory of emotional intelligence,<sup>55,59</sup> which states that emotional intelligence is a personality trait that affects many aspects of an individual's life. Just like work, life, mental health, and other areas, including personal

satisfaction and emotional experience, and further affect the level of individual's subjective well-being. The research of many scholars has also confirmed the close relationship between emotional intelligence and well-being.<sup>52,53,61</sup> For example, research by Schutte and Malouff shows that unique interpersonal functions and internal adaptive functions of emotional intelligence can promote the individual produce a higher level of subjective well-being.<sup>62</sup> Gallagher and Vella-Brodick believes that emotional intelligence has significant predictive value for life satisfaction and subjective well-being.<sup>63</sup> Influence mechanism between trait mindfulness and subjective well-being. Studies have shown that emotional intelligence mediates the relationship between mindfulness and subjective well-being.<sup>62</sup> The study by Pan et al also showed that emotional intelligence plays a mediating role between preschool teachers' trait mindfulness and subjective well-being.<sup>64</sup>

Therefore, we propose the following hypothesis:

H2: Emotional intelligence mediates the relationship between trait mindfulness and subjective well-being.

H2a: Trait mindfulness is significantly positively correlated with emotional intelligence.

H2b: Emotional intelligence is significantly positively correlated with subjective well-being.

## Trait Mindfulness, Work–Family Balance and Subjective Well-Being

Work–family balance refers to the degree of individual participation in work and family roles, and is also satisfied with them.<sup>65</sup> They include time balance, participation in balance and satisfaction balance.<sup>66</sup> Therefore, achieving a working family balance means that individuals must invest in two different roles at the same time, investment and commitments. Work–family balance is of great significance to people's life. For example, some studies have shown that when individuals do not fulfill the two characters in the workplace and the family, it will have a conflict, and it will have a negative impact on people's physical and mental health, family harmony and work performance.<sup>67–69</sup> Schwab and Iwanicki showed that the fuzzy and conflict of the character is a significant predictive factors for auxiliary vocational work including teachers.<sup>70</sup> Kilgallon et al believes that the ability of teachers to maintain work–family balance will affect the degree of investment in teaching and students' classroom performance.<sup>71</sup> Ji and Yue research shows that the work–family balance will negative professional burnout to predict teachers.<sup>72</sup>

The role balance theory believes that the individual is close to every different character with a state of concern and focus to establish a positive role balance.<sup>73</sup> Mindfulness, as a way to improve consciousness, is related to attention and concentration.<sup>34</sup> Therefore, when the individual is in a state of mindfulness, tend to be immersed in the current role experience with acceptance and non-judgment. Thereby promoting the overall perception of the character, weakening the perception of character management, and promoting the establishment of positive role balance. According to the expansionist theory,<sup>74</sup> the improvement of role quality can help beneficial influence. When teachers establish a work–family balance relationship, it means that teachers have the same degree of participation and satisfaction in work and family fields, thereby improving the quality of role experience and promoting happiness and other beneficial effects. In addition, multiple roles can adjust negative experience and negative effects through the buffer process, and enhance more positive and positive emotions and experiences. Therefore, work–family balance is beneficial to improving the subjective well-being of teachers. Research has confirmed this relationship. For example, Carvalho and Chambel believed that work–family balance will affect people's work happiness and subjective well-being.<sup>75</sup> The research by Frone et al showed that work–family balance reduced the conflict between the two fields and the enhanced personal happiness index.<sup>76</sup>

According to the resource conservation theory,<sup>77</sup> individuals promote their development by establishing resources with personality characteristics. As a characteristic resources, mindfulness can help teachers to supplement similar resources and strengthen their missing conditional resources, thereby promoting the realization of work–family balance. At present, the existing studies have confirmed the positive prediction of mindfulness to the balance of teachers' work. Such as, Allen and Paddock believe that mindfulness is beneficial to the establishment of work–family balance.<sup>78</sup> Allen and Kiburz discovered that trait mindfulness positively predicts the balance of work family by the role of sleep quality and vitality.<sup>79</sup> When the individual's work–family balance is satisfied, the individual's

subjective well-being will be significantly improved, therefore, we have reason to believe that work–family balance is a mediating variable of trait mindfulness and subjective well-being.

Therefore, we propose the following hypothesis:

H3: Work–family balance mediates trait mindfulness and subjective well-being.

H3a: Trait mindfulness is significantly positively correlated with work–family balance.

H3b: Work–family balance is significantly positively correlated with subjective well-being.

## Emotional Intelligence and Work–Family Balance

Many studies have confirmed the close relationship between emotional intelligence and work–family balance. For example, Lenaghan et al believe that high emotional intelligence has a positive impact on handling work–family conflicts.<sup>80</sup> Michel and Clark found that the level of work and family fullness and satisfaction of people who perceive higher emotions, and individuals who perceive negative emotions are more likely to trigger imbalances from work families.<sup>81</sup> The study of Gao et al confirmed that teachers with high emotional intelligence can relieve the pressure brought by the conflict of work and family, thereby giving more satisfaction in the work field.<sup>82</sup>

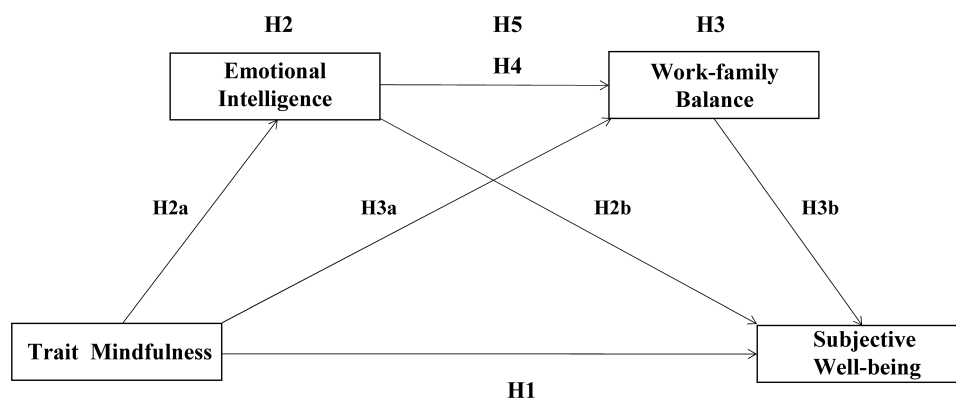
According to the life-work balance model proposed by Koubova and Buchko,<sup>83</sup> emotional intelligence is conducive to regulating emotions and guiding behaviors, improving people's ability to reconcile families and work roles, and promoting work–family balance. Many academic researches support the connection between emotional intelligence and work–family. For example, research conducted by Carmeli shows that senior managers with high emotional intelligence can be more cautious to manage work-family conflict than senior managers with low emotional intelligence.<sup>54</sup> Biggart et al believe that father with high levels of emotional intelligence has less experienced work–family conflict, which can better balance the relationship between work and family.<sup>84</sup> Therefore, it is not difficult to find that emotional intelligence has a significant prediction effect on work–family balance.

Therefore, we propose the following hypothesis:

H4: Emotional intelligence is significantly positively correlated with work–family balance.

H5: Emotional intelligence and work–family balance play serial mediating roles between trait mindfulness and subjective well-being.

Combining relevant theories and the above literature, we propose a conceptual framework for this study. See [Figure 1](#).



**Figure 1** Conceptual framework.

## Materials and Methods

### Participants

Cluster random sampling was used in the study. The cluster random sampling method was adopted to ensure the representativeness of the sample and the convenience of collection. We conducted data collection on 350 teachers in 13 kindergartens in Jinan, Shandong Province, China from March 9 to March 23, 2022. The kindergarten teachers participating in this survey are all full-time teachers. Before distributing the questionnaires, we communicated effectively with the principals of each kindergarten, and obtained the consent of the principals and teachers to distribute the questionnaires on-site through a paper-and-pencil test. Participants provided written informed consent to participate in this study. Full-time kindergarten teachers are included in the scope of this survey. Missing and incorrectly filled questionnaires were not included in the statistics.

A total of 350 questionnaires were distributed in this survey, and 346 were actually recovered. For the wrongly filled and missed questionnaires, we screened them by direct elimination. Finally, 321 valid questionnaires were recovered, and the effective recovery rate was 91.71%. Among them, there are 7 male teachers, accounting for 2.20%, and 314 female teachers, accounting for 97.80%. The average age of the kindergarten teachers surveyed was 27.020, and the standard deviation was 2.299. There are 233 kindergarten teachers with a college degree, accounting for 72.60%, and 88 kindergarten teachers with an undergraduate course, accounting for 27.40%. See Table 1. This study involving human participants was reviewed and approved by the Research Ethics Committee of Wenzhou University. The study complies with the Declaration of Helsinki.

### Measures

#### Five Facet Mindfulness Questionnaire

The Five Facet Mindfulness Questionnaire is a 39-item wellness self-report measure that assesses five aspects of trait mindfulness: (1) observation, (2) description, (3) awareness of action, (4) non-judgmental, and (5) not responding.<sup>85,86</sup> A sample item is, “When I do things, my mind wanders and I get distracted easily”. The Chinese version of the Five Facet Mindfulness Questionnaire was translated by Deng et al and has been shown to have good reliability and validity.<sup>87</sup> A five-point Likert scale was used to assess how often each item was correct to respondents (1 = never or rarely correct, 5 = very often or always correct). In this study, the Cronbach’s  $\alpha$  value of the scale was 0.952, and the Cronbach’s  $\alpha$  value of the sub-dimension scales were 0.894, 0.877, 0.919, 0.849, and 0.891, respectively.

#### Emotional Intelligence Scale

The Emotional Intelligence Scale compiled by Wong and Law,<sup>45</sup> which measures self-emotional evaluation (SEA), others’ emotional evaluation (OEA), use of emotions (UOE), and regulation of emotion (ROE) in the face of emotional intelligence. Chinese version translated by Law et al has good reliability in Chinese modification and proof.<sup>88,89</sup> There are 16 items in the scale, and one sample item is, “I can control my temper when encountering difficulties”. A seven-point Likert scale was used to assess how often each item was correct to respondents (1 = strongly disagree, 7 = strongly agree). In this study, the Cronbach’s  $\alpha$  value of the scale was 0.912, and the Cronbach’s  $\alpha$  value of the sub-dimensional scale were 0.89, 0.851, 0.902, and 0.857, respectively.

**Table 1** Social Demographic Features of Participants (N = 321)

Variables		Percentages
Gender	Male	2.20%
	Female	97.80%
Age	25–27	85.10%
	28–30	6.20%
	31–33	5.60%
	34–36	3.10%
Educational Background	Junior college	72.60%
	Undergraduate course	27.40%



### Work–Family Balance Scale

The Work–family Balance Scale developed by Carlson et al used to measure work–family balance.<sup>90</sup> The scale showed reliability and construct validity in the Chinese population.<sup>91,92</sup> It includes 6 items, a sample item is “I am able to negotiate and accomplish what is expected of me at work and in my family”. The five-point Likert scale was used to measure the scale (1 = strongly disagree, 5 = strongly agree). High scores reflect a high level of personal work–family balance. The internal consistency coefficient of the scale in this study was 0.828.

### Subjective Well-Being Scale

The Subjective Well-being Scale used in this study is the life satisfaction scale compiled by Diener, which is used to measure the cognitive dimension of subjective well-being,<sup>28</sup> with a total of 5 items. The scale has good applicability in Chinese subjects.<sup>93</sup> A seven-point Likert scale was used to assess how often each item was correct to respondents (1 = strongly and 7 =strongly agree). A sample item is, “I am satisfied with my living conditions.” In this study, the Cronbach’s  $\alpha$  value of the scale was 0.811.

## Statistical Methods and Analysis Ideas

In this study, SPSS22.0 and MplusVersion8.3 were used for data analysis, among which SPSS was mainly used for data integration and descriptive statistical analysis. We used the gender, age and educational background of kindergarten teachers as control variables. Gender is a dummy variable (0 = male, 1 = female).

## Results

### Test of Common Method Deviation

Using Harman single factor test, 13 factors with characteristic root greater than 1 were obtained. The explanation rate of the first factor was 25.889%, which was less than the cut-off value of 40%,<sup>94</sup> indicating that there was no significant common method bias in this study.

### Descriptive Statistical Analysis

Table 2 lists the major variables and Pearson correlation coefficients between dimensions. It can be seen from Table 2, subjective well-being is significantly positively correlated with all dimensions of trait mindfulness, all dimensions of emotional intelligence, and work–family balance. According to Tsui,<sup>95</sup> the critical value of correlation for severe multicollinearity problems is generally above 0.75. In this study, the correlation coefficients of all variables were less than 0.67, and there was no serious multicollinearity problem among the major variables.

### Model Inspection

The model was fitted with Mplus, and the model fitting indices were ML  $\chi^2 = 324.585$ ,  $df = 215$ ,  $\chi^2/df = 1.510$ , CFI = 0.953, TFI = 0.945, RMSEA = 0.040, SRMR = 0.041. According to Barrett’s suggestion, the recommended threshold of  $\chi^2/df$  is less than 3 and greater than 1, the recommended threshold of Comparative Fit Index (CFI) is greater than 0.9, the recommended threshold of Tucker-Lewis Index (TLI) is greater than 0.9, the recommended threshold for Root Mean Square Error of Approximation (RMSEA) is less than 0.08, and the recommended threshold of Standardized Root Mean Square Residual (SRMR) is less than 0.08.<sup>96</sup> All the indicators are within the acceptable range, and the model is ideal. See Table 3.

### The Significance Test of Mediating Effect

On the basis of good model fitting, the samples were repeated 5000 times using the Bootstrap program of Mplus. The results showed that the path coefficients of trait mindfulness, emotional intelligence, work–family balance and subjective well-being were all significant.

Trait mindfulness was positively associated with subjective well-being ( $\beta = 0.211$ ,  $p = 0.003$ ), supporting H1. Trait mindfulness was positively associated with emotional intelligence ( $\beta = 0.470$ ,  $p < 0.001$ ), supporting H2a. Emotional intelligence was positively correlated with subjective well-being ( $\beta = 0.248$ ,  $p = 0.001$ ), supporting H2b. Trait

**Table 2** Means, Standard Deviations, and Correlations of the Major Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	0.980	0.146	1													
2. Age	27.020	2.299	−0.017	1												
3. Educational Background	1.270	0.447	0.092	−0.055	1											
4. Observe	3.183	0.800	0.091	0.052	−0.034	1										
5. Describe	3.431	0.725	0.059	0.067	−0.017	0.530**	1									
6. ActAware	3.427	0.913	0.079	0.061	−0.007	0.530**	0.581**	1								
7. NonJudge	3.245	0.670	0.098	0.069	0.099	0.589**	0.505**	0.421**	1							
8. NonReact	3.360	0.842	0.133*	0.078	−0.009	0.507**	0.504**	0.663**	0.492**	1						
9. SEA	4.386	1.281	−0.03	0.039	0.022	0.110*	0.278**	0.195**	0.249**	0.213**	1					
10. OEA	4.258	1.379	−0.003	0.043	0.141*	0.263**	0.327**	0.239**	0.303**	0.285**	0.497**	1				
11. UOE	4.559	1.346	−0.009	−0.016	0.057	0.280**	0.217**	0.303**	0.126*	0.136*	0.539**	0.420**	1			
12. ROE	4.527	1.269	−0.056	−0.033	0.046	0.248**	0.231**	0.189**	0.301**	0.218**	0.480**	0.455**	0.360**	1		
13. WFB	3.421	0.670	0.041	0.121*	0.002	0.251**	0.231**	0.195**	0.280**	0.229**	0.254**	0.242**	0.230**	0.242**	1	
14. SWB	3.911	0.940	0.036	0.136*	0.012	0.296**	0.408**	0.305**	0.304**	0.272**	0.365**	0.320**	0.292**	0.251**	0.492**	1

**Note:** \*\*  $p < 0.01$ , \*  $p < 0.05$ . Gender is the dummy variable (0 = male, 1 = female).

**Abbreviations:** SEA, self-emotion appraisal; OEA, others' emotion appraisal; UOE, use of emotion; ROE, regulation of emotion; WFB, work–family balance; SWB, subjective well-being.



**Table 3** Fit Indices of the Model

Fit Indices	Recommended Threshold	Scores	Remarks
ML $\chi^2$	–	324.585	–
Df	–	215	–
$\chi^2/df$	$1 < \chi^2/df < 3$	1.510	Acceptable
CFI	$> 0.9$	0.953	Acceptable
TLI	$> 0.9$	0.945	Acceptable
RMSEA	$< 0.08$	0.040	Acceptable
SRMR	$< 0.08$	0.041	Acceptable

**Abbreviations:** CFI, comparative fit index; TLI, Tucker Lewis index; RMSEA, root mean squared error of approximation; SRMR, standardised root mean squared residual.

mindfulness was positively associated with work–family balance ( $\beta = 0.199$ ,  $p = 0.009$ ), supporting H3a. Work–family balance was positively related to subjective well-being ( $\beta = 0.413$ ,  $p < 0.001$ ), supporting H3b. Emotional intelligence was positively related to work–family balance ( $\beta = 0.300$ ,  $p < 0.001$ ), supporting H4. See Table 4.

Table 5 shows the indirect effects of learning paths. Emotional intelligence played a mediating role between trait mindfulness and subjective well-being ( $\beta = 0.164$ ,  $p = 0.007$ ), with 95% confidence interval [0.067–0.314], excluding 0, supporting H2, and the mediation effect accounted for 24.92%.

Work–family balance mediates between trait mindfulness and subjective well-being ( $\beta = 0.115$ ,  $p = 0.020$ ), 95% confidence interval [0.034–0.238], excluding 0, supporting H3, with a mediating effect of 17.48%.

Emotional intelligence and work–family balance sequentially mediate the relationship between trait mindfulness and subjective well-being ( $\beta = 0.082$ ,  $p = 0.005$ ), 95% confidence interval [0.040–0.164], excluding 0, supporting H5, and the mediating effect of 12.46%. See Figure 2.

**Table 4** The Direct Effect of the Research Paths and Research Model Hypothesis Analysis

DV	IV	Std.Est.	S.E.	Est./S.E.	P-value	R <sup>2</sup>	Hypo and Path	Remarks
SWB	TM	0.211	0.072	2.923	0.003	0.476	H1: TM → SWB	Support
	EI	0.248	0.076	3.269	0.001		H2b: EI → SWB	Support
	WFB	0.413	0.074	5.561	***		H3b: WFB → SWB	Support
EI	TM	0.470	0.066	7.146	***	0.238	H2a: TM → EI	Support
WFB	TM	0.199	0.076	2.607	0.009	0.195	H3a: TM → WFB	Support
	EI	0.300	0.076	3.918	***		H4: EI → WFB	Support

**Note:** \*\*\* $p < 0.001$ .

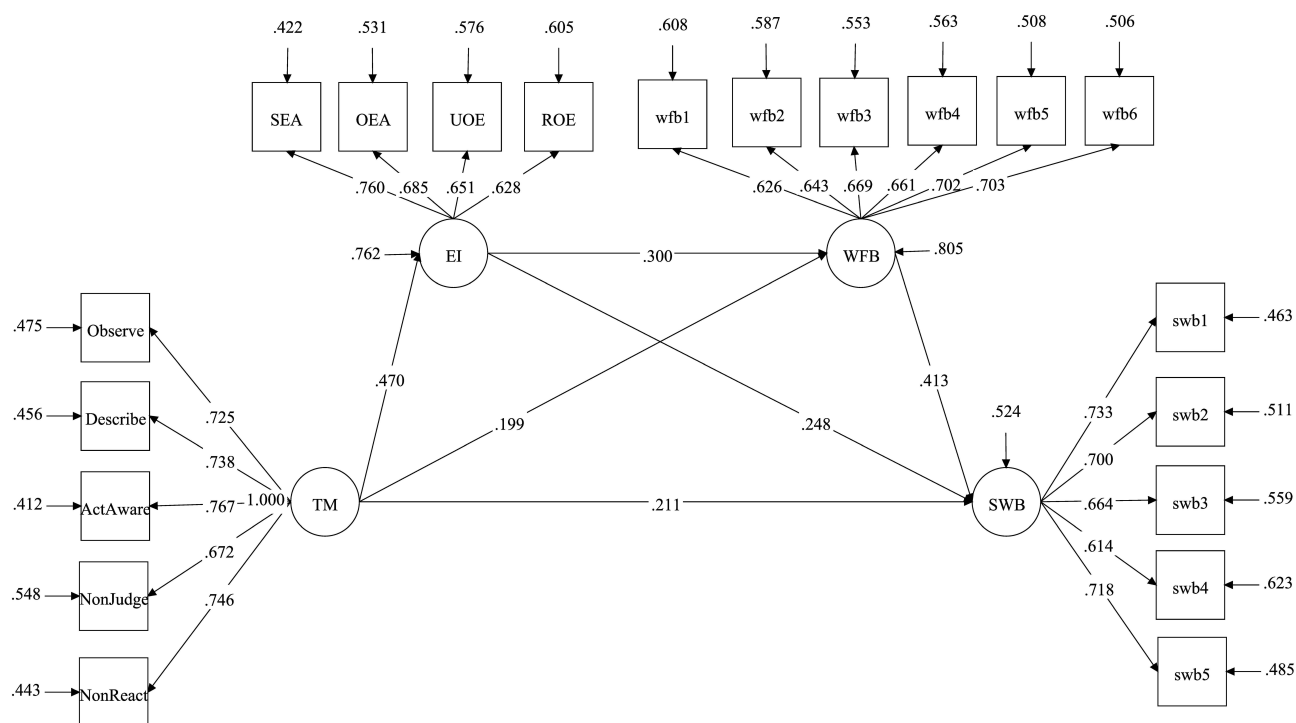
**Abbreviations:** SWB, subjective well-being; TM, trait mindfulness; EI, emotional intelligence; WFB, work–family balance.

**Table 5** The Indirect Effect of the Research Paths

Path	Std.Est.	S.E.	Est./S.E.	P-value	Boot LLCI	Boot ULCI	The Proportion of the Effect
H2: TM → EI → SWB	0.164	0.061	2.690	0.007	0.067	0.314	24.92%
H3: TM → WFB → SWB	0.115	0.050	2.329	0.020	0.034	0.238	17.48%
H5: TM → EI → WFB → SWB	0.082	0.029	2.818	0.005	0.040	0.164	12.46%
TOTALIND	0.361	0.083	4.354	***	0.225	0.553	54.86%
TOTAL	0.658	0.106	6.218	***	0.460	0.876	100.00%

**Note:** \*\*\* $p < 0.001$ .

**Abbreviations:** SWB, subjective well-being; TM, trait mindfulness; EI, emotional intelligence; WFB, work–family balance.



**Figure 2** Structural equation model.

**Abbreviations:** TM, trait mindfulness; SWB, subjective well-being; EI, emotional intelligence; WFB, work-family Balance; SEA, self-emotion appraisal; OEA, others' emotion appraisal; UOE, use of emotion; ROE, regulation of emotion.

## Discussion

### Trait Mindfulness Can Directly Predict Subjective Well-Being

This study found that trait mindfulness had a significant positive predictive effect on the subjective well-being of kindergarten teachers, which was consistent with previous research results.<sup>22,33</sup> Mindfulness as a valuable individual personality, emphasizing the individual experience of high attention in the moment, without any comprehensive detection of criticism and evaluation, continuing to maintain a state of highly openness and acceptance, and encouraging individuals to maintain a high degree of environmental awareness, self and to others and self gives a high degree of acceptance and tolerance. Reduce the individuals' excessive attention and evaluation of unpleasant experiences or wrong behavior, treat the negative effects of other events more optimistically and positively, and improve the individuals' self-evaluation and life attitude, thereby promoting the individual to maintain a higher level of happiness and life satisfaction.

This conclusion verifies the related view of positive emotion expansion and construction theory,<sup>40</sup> that mindfulness helps individuals to expand their perceptual perspectives on current events and experiences, thereby promoting individuals to construct valuable psychological resources that are beneficial to their own development. Kindergarten teachers have a high degree of mindfulness, and will be more involved in daily teaching activities. They have a high degree of cognition and awareness of children's behavior and emotional state in the classroom.<sup>38</sup> In the event of negative emotions, teachers can more easily deal with emergencies according to the high attention and access to information in the process of teaching activities. Rather than struggling, it encourages teachers to have higher levels of job satisfaction and well-being. In addition, teachers will have a more open and accepting attitude towards completing teaching goals and imperfect teaching activities.<sup>97</sup>

They will choose more appropriate way and progress to improve their teaching behaviors, rather than constantly have too much on their own behaviors negative comments, which helps teachers maintain a happy and positive emotional state in response to teaching problems and stress. Therefore, individuals with higher levels of mindfulness can promote individuals to understand themselves and their surroundings more clearly, and maintain more positive emotions and

satisfaction, while individuals with low levels of mindfulness tend to focus more on their own behavior and negative emotions.<sup>98</sup> This reduces the subjective well-being of individuals to a great extent.

## Emotional Intelligence Played a Mediating Role Between Trait Mindfulness and Subjective Well-Being

In addition, this study further explored the mediating role of emotional intelligence and work–family balance between trait mindfulness and subjective well-being. This study found the mediating effect of emotional intelligence. Emotional intelligence, as an individual ability or trait, is closely related to a variety of positive outcomes that affect an individual's life-long development, which has been confirmed by multiple studies.<sup>52,53</sup> When individuals have a high level of emotional intelligence, they tend to be able to understand and manage emotions more clearly and efficiently, thereby developing adaptive behaviors that have a positive impact on themselves and others. For example, they can have a more accurate perception of their emotional state and actively and consciously control their negative emotions. In addition, they tend to have higher empathy, a more empathetic perception of the emotions of others, and therefore a more understanding and tolerant attitude towards others' emotions.<sup>99</sup> Therefore, high emotional intelligence is more likely to induce positive emotions and attitudes, which in turn have a positive predictive effect on individual subjective well-being.

According to the cognitive theory of emotions,<sup>100</sup> emotions are affected by individual cognitive process and environmental factors, and mindfulness, as a metacognition, affects the construction of individual emotions. When kindergarten teachers have high emotional intelligence, they are better at managing and regulating their own negative emotions, and will not transmit and vent their negative emotions to their children. Kindergarten teacher with high emotional intelligence have a high ability to use emotions, in the course, they know how to use their positive emotions to infect them, and promote young children to participate more actively in activities in the process, indirectly, in terms of children's emotional behavior, this kind of teachers tend to be more with children to maintain a healthy and close relationship.<sup>101</sup> They will be liked and welcomed by children, which also promotes teachers to build a happy mood and higher satisfaction with life and work, which positively affects the subjective well-being level of kindergarten teachers.

## Work–Family Balance Played a Mediating Role Between Trait Mindfulness and Subjective Well-Being

Meanwhile, work–family balance played a mediating role between trait mindfulness and subjective well-being. People with high levels of mindfulness are more attentive and non-judgmental about deal with the demands of work and family, which will promote an increased awareness of the individual's roles at work and family and promote equal participation in work–family foundation. This conclusion further validates role balance theory,<sup>73</sup> which holds that individuals approach different roles with caring and attentiveness and create balance between roles. Kindergarten teachers with a high level of trait mindfulness have a deeper understanding of the dual roles of family and kindergarten. A high level of perception will prompt teachers to clearly understand the requirements of the environment for on them, When facing work and family roles, they will choose a state of high efficiency and high engagement, and deal with different role thinking problems in a more flexible and effective way. Better understand the boundaries between work and home. When kindergarten teachers can easily grasp the balance between the two roles, they tend to have higher sense of satisfaction and efficacy, and maintain a healthy and happy emotions at all times, which further predicts subjective well-being level of kindergarten teachers.<sup>102</sup>

## Emotional Intelligence and Work–Family Balance Play a Sequential Mediating Role Between Trait Mindfulness and Subjective Well-Being

In addition, emotional intelligence and work–family balance play a sequential mediating effect between trait mindfulness and subjective well-being. Trait mindfulness influences subjective well-being through the mediating effects of emotional intelligence and work–family balance. This further validates the relevant view of resource conservation theory, that individuals actively construct resources that are beneficial to their own development to cope with pressure and threats.<sup>77</sup> As an individual characteristic resource, emotional intelligence can help individuals better cope with stressful events in life and work. When kindergarten teachers have high levels of emotional intelligence, they can more clearly perceive the

effect of different roles in the two domains on their own emotions, and use high-level emotional skills to regulate their own emotional states and behaviors. Kindergarten teachers with high emotional intelligence can deeply understand the profound meaning of work and family to them, they can invest enough energy in their own emotional involvement, actively mobilize their emotional management ability and the ability to use problem to deal with different areas, so as to promote kindergarten teachers in the field of emotional participation. There is equal participation and satisfaction in the work and family areas, and a healthy work–family balance is established. Kindergarten teachers' perceptions of high engagement and satisfaction in these two fields promoted teachers to generate more positive emotions and life satisfaction, which further predicted the level of subjective well-being.<sup>103</sup>

Therefore, the higher the level of emotional intelligence, the more it will be encourage individuals to invest an appropriate degree of emotional participation, actively adjust their own emotional and behavioral states, and solve problems encountered in the two fields, thereby enhancing the positive emotions and satisfaction.<sup>104,105</sup> The lower the level of emotional intelligence, the less able to deal with their emotions, the lack of high emotional intelligence will make it difficult for the individual to reconcile the conflict between the two, resulting in a decrease in participation and satisfaction in the two areas, and inability to feel happy and satisfied, which will weaken the subjective well-being.

## Theoretical Implication

Previous studies have rarely explored the influence mechanism of kindergarten teachers' subjective well-being from the perspective of metacognition. This study enriches the literature on this research by not only exploring the relationship between kindergarten teachers' trait mindfulness and subjective well-being, but also finding the sequential role of emotional intelligence and work–family balance between the two. This finding explores the role of trait mindfulness to subjective well-being, and further enriches the research on the influencing factors of kindergarten teachers' subjective well-being. Previous studies have paid less attention to the work–family balance of kindergarten teachers. This study provides a new research perspective. At the same time, the findings of this study will further enrich the related viewpoints and research fields of role balance theory. Kindergarten teachers have higher work stress and lower subjective well-being, especially in developing countries, coupled with the novel coronavirus pandemic, kindergarten teachers have lower subjective well-being. The previous role balance theory was mostly used in the field of management. This study applies this theory to the field of education, expanding the scope of theoretical research.

## Practical Implications

The conclusions of this study also have important implications for kindergarten management practice. Kindergarten managers should provide appropriate mindfulness intervention training for kindergarten teachers to improve their cognitive flexibility and problem-solving ability. In addition, emotional intelligence is of great significance to improving the subjective well-being of kindergarten teachers. Therefore, kindergartens should pay attention to the sustainable development of kindergarten teachers' emotional intelligence assessment, and formulate improvement strategies according to the status of kindergarten teachers' emotional intelligence to help kindergarten teachers improve emotional intelligence. Kindergarten managers need to correctly view the role concept of kindergarten teachers, which can provide teachers with more self-management and time allocation, reduce unnecessary tasks and pressure on kindergarten teachers, and improve kindergarten teachers' positive cognition and satisfaction at work and family levels, Promote the positive emotional experience of kindergarten teachers and improve the subjective well-being level of kindergarten teachers. For kindergarten teachers, kindergarten teachers should improve the level of trait mindfulness, pay attention to their ability to accept external changes, and continuously improve their emotional intelligence. Be more accepting and wise when it comes to dealing with work–family balance. Treat the conflict between work and family with a more optimistic and positive attitude, so as to obtain more subjective well-being.

## Limitations and Future Research Directions

This study adopted a cross-sectional research design to explore the impact of trait mindfulness on the subjective well-being of kindergarten teachers. Although the study is based on sufficient theoretical and empirical reasoning, and employs good reliability and validity measurement tools and results testing methods, the cross-sectional study still has limitations. Therefore,

more robust methods such as longitudinal studies can be used for further research in the future. At the same time, this study adopts cluster random sampling, although the representativeness of the sample is guaranteed. However, the sample for the study was all kindergarten teachers in Jinan, Shandong Province, China. To a certain extent, there are limitations of non-probability sampling and data generalization. Finally, the background of this study occurred in the special period of the COVID-19 pandemic, and people's emotional cognition will be affected by the new COVID-19 pandemic, which affects the results to a certain extent. Future studies consider further discussions at the end of the COVID-19 pandemic.

## Conclusion

This study explores the impact mechanism of trait mindfulness on the subjective well-being of kindergarten teachers from the perspective of metacognition. The results of this study suggest that trait mindfulness can directly predict subjective well-being. Emotional intelligence played a mediating role in the relationship between trait mindfulness and subjective well-being. Work–family balance played a mediating role between trait mindfulness and subjective well-being. Emotional intelligence and work–family balance play a sequential mediating effect between trait mindfulness and subjective well-being. We believe that these findings have important reference value for improving the subjective well-being of kindergarten teachers in developing countries in the context of the current severe impact of the COVID-19 pandemic on the education system.

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## Disclosure

The authors report no conflicts of interest in this work.

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