The Impact of Organizational Justice on the Degree of Work Engagement of Primary and Secondary School Teachers: Mediated by Teachers' Professional Achievement

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Abstract – **Organizational justice pertains to the perception of fairness experienced by individuals within an organization, encompassing four dimensions: procedural justice, distributive justice, leadership justice, and informational justice. To obtain the data a questionnaire survey on 432 primary and secondary school teachers was conducted to understand their sense of organizational justice, professional achievement, and work engagement. The research results found that (1) there is a significant positive correlation between organizational justice and teacher work engagement, with organizational justice also serving as a substantial predictor of this engagement level; (2) the sense of professional achievement is significantly positively correlated with the level of teacher work engagement, and it significantly predicts the level of teacher work engagement; and (3) organizational justice indirectly affects teachers' level of work engagement through the mediating effect of professional achievement. Research suggests two strategies to enhance primary and secondary school teachers' sense of organizational justice and professional achievement, thereby improving their work engagement levels.**

1. Introduction

This paper explores the relationship between organizational justice and work engagement among primary and secondary school teachers in China, with a focus on the mediating role of professional achievement. Organizational justice, encompassing fairness in procedures, distribution, and communication within educational institutions, significantly influences teacher attitudes and behaviors. Amidst a growing body of research highlighting the importance of teacher engagement for educational quality, this study contributes to understanding how perceptions of fairness impact teachers' dedication and effectiveness. The investigation centers on the idea that teachers' sense of professional accomplishment plays a crucial role in linking organizational justice to their engagement levels. The motivation behind this research is to enhance the educational environment by providing insights that could help educational leaders in improving teacher engagement and, consequently, student outcomes. This paper aims to offer a clearer understanding of the factors contributing to teacher engagement, thereby enriching the discourse in educational research and practice.

2. Literature Review

This section reviews existing literature on organizational justice, work engagement, and teachers' professional accomplishment. It provides an overview of key theories and research findings that form the foundation of this study.

2.1. Organizational Justice

Organizational justice was defined as a psychological feeling of whether individuals in an organization believe they are treated fairly by the organization [1]. The factors influencing an individual's organization justice mainly involve procedural justice in the allocation of rewards or opportunities, informational justice obtained during the allocation, distributive justice of outcomes, and interpersonal justice during the process [2]. Members of an organization have subjective perceptions of fairness for the organizational system, policies, and measures related to their interests, and this sense of fairness has an impact on employee behavior [3]. Organizational justice has captured the attention of scholars across various disciplines, including organizational psychology, human resource management, and organizational behavior [4]. There are three different views on the classification of organizational justice: The two-factor theory advocated by Thibaut and Walker [5] categorized organizational justice into two dimensions: distributive justice and procedural justice. A study [6] added interactional justice to the two-factor theory of organizational justice. Interactional justice comprises two facets—interpersonal and informational justice thereby introducing a four-factor theory of organizational justice that includes distributive, procedural, interpersonal, and informational justice [7].

Based on the four-factor theory, a scale was designed to measure organizational justice, which is widely used in foreign research [2]. Some scholars, according to China's national conditions, have adapted the scale into an organizational justice scale suitable for Chinese teachers, and it has been widely used in related research, such as Li *et al.* [8] replaced "interpersonal justice" with "leadership justice" according to the Chinese cultural background, and final scale included four aspects of procedural justice, distributional justice, leadership justice, and information justice, and was widely used in subsequent studies, e.g., a study applied it to study rural teachers' organizational justice and it showed good reliability and validity [9].

Organizational justice has attracted the attention of some scholars. A study [10] explored the interplay between organizational justice, organizational citizenship behavior, job satisfaction, and ease of work among Japanese nurses, aiming to enhance their working environment. Another research pointed out that improving management perception could improve organizational justice of nurses, thereby reducing their turnover intention [11]. The credibility of the police is also closely related to their organizational justice [12].

The higher organizational justice of the police, the higher their credibility is. Organizational justice positively influences the job satisfaction of catering employees, emphasizing the critical importance of policy fairness for the development of catering companies [13]. On the other hand, another study explored organizational justice from the perspective of organizational management, and the research pointed out that managers' ethical leadership behavior has a significant impact on organizational justice of hotel employees [14]. By fostering justice in the workplace, managers can enhance employee outcomes and organizational productivity, thereby improving perceptions of organizational justice [15]. It is evident that 'organizational justice' is a key concept in human capital research, serving as a crucial determinant of numerous significant work outcomes [4].

2.2. Work Engagement

Work engagement presents the connection between the self and the work roles within the organization. Work engagement was defined as the active control of the self by organizational members to match their work roles [16]. A study [17] proposed that work engagement and burnout are opposite concepts, and in work situations, work engagement can erode burnout. Contrasting with burnout's three dimensions—exhaustion, cynicism, and inefficacy, work engagement is characterized by three distinct dimensions: vigor, dedication, and absorption. However, work engagement was defined as a positive mental state, characterized by three dimensions: vigor, dedication, and absorption [18]. Among them, vigor refers to high levels of energy at work, persistence in face of difficulties, and the willingness to be immersed in the work; dedication refers to being passionate about one's work, being able to feel proud of the work, and being able to give up something in order to achieve the goals at work; and absorption refers to the ecstasy of forgetting the passage of time at work and the feeling of happiness in the workplace. The definition and the Utrecht Work Engagement Scale (UWES) of Schaufeli *et al.* [18] are widely recognized, and have been used in studies exploring work engagement [19], for example, the scale has been applied to explore the work engagement of emergency room nurses, medical staff, students, and pilots [20], [21], [22]. UWES has also been widely used in research on education. For example, a study [23] employed the UWES to assess the work engagement of Norwegian teachers, investigating the relationship between this engagement, teacher autonomy, and self-efficacy.

Another study used the student UWES scale to measure the relationship between students' work engagement and the use of technology, and pointed out that the use of technology for learning can effectively improve students' work engagement [24].

The UWES scale has also been adopted by many scholars in their research in China. For example, a study [25] pointed out that for employees with high affective commitment, they will actively engage in work only when they perceive a certain level of organizational justice. Another study conducted an examination of the Chinese version of the UWES focusing on its factor validity, scale reliability, descriptive statistics, and construct validity [26]. The results indicated that the three factors in the UWES-9 demonstrated acceptable internal consistency and maintained a strong correlation with the factors in the original version.

2.3. Teachers' Professional Accomplishment

Since this research mainly focuses on Chinese teachers, this part mainly discusses professional accomplishment of Chinese teachers. Professional accomplishment is an intrinsic work motivation for teachers. When teachers feel happiness and satisfaction in the teaching process, they will naturally develop professional accomplishment, which will directly affect teaching [27]. Teachers' professional accomplishment is not an exogenous feeling, but an internal pleasure that arises from the satisfaction of teachers' self-professional achievement pursuit [28]. Teachers' professional accomplishment refers to a state in which teachers realize their self-worth when they pursue and achieve their teaching plans and goals [29]. "Teachers' professional accomplishment" was defined as the internal satisfaction of teachers' self-worth and social value by fully exerting their own working ability to achieve teaching goals in the teaching process [30]. Many teachers' professional accomplishment scales are developed based on the local situation in China. Among them, the "Secondary School Teachers' Professional Accomplishment Scale" is the most widely used [31]. This questionnaire includes various aspects of teachers' professional achievement from the current situation to the ways to improve it. Due to the length of the questionnaire, it is difficult to collect, so since then some scholars have adapted it based on this scale [29], [32].

More and more scholars have focused on professional accomplishment of Chinese teachers. A study [33] focused on teachers' professional accomplishment in China, analyzed the factors that lead to the lack of teachers' professional accomplishment, and proposed to help teachers experience the joy of teaching success as much as possible and create a good competitive atmosphere among teachers, so that teachers can have a sense of accomplishment in their work. Another study [28] argued that three paths should be taken to enhance teachers' professional accomplishment: establishing a teacher professional development mechanism, improving teachers' reward methods, and enhancing teachers' professional happiness. A scale of professional accomplishment was developed for secondary school teachers, which provided strong support for the research and practice of teachers' professional accomplishment [30]. Chinese primary school teachers' professional accomplishment is generally low, and that external factors such as salary and evaluation system have a greater impact on teachers' professional accomplishment [29]. Internal factors such as professional beliefs and professional behaviors, as well as external factors related to school and interpersonal relationship, affect professional accomplishment of secondary school teachers [30]. Some studies proposed corresponding strategies to enhance professional accomplishment [32], [34].

2.4. The Relationship between Organizational Justice, Professional Accomplishment and Work Engagement

The research on the relationship between organizational justice and work engagement was first used to study employees to propose more efficient corporate management methods. Organizational justice moderates the relationship between work engagement levels and the quality of employees' work output [35]. When organizational justice is at a higher level, it is more conducive to the communication, collaboration, and cooperation among employees. Organizational justice can affect nurses' work engagement through the mediating effect of employees' identification with the organization, so organizations such as hospitals should take active measures to improve nurses' organizational justice to promote their work engagement [36]. Organizational justice and work engagement serve as crucial mediators in the pathway through which social resource support influences teachers' decisions to remain in their jobs, i.e., the more social resources teachers receive, the higher the organizational justice, and this enables them to engage more deeply in their work and increases their willingness to remain in their positions [37].

There have been few direct studies on teachers' professional accomplishment and work engagement, but several studies have investigated the relationship between burnout and work engagement.

Given that burnout is the antithesis of professional accomplishment, the relationship between professional accomplishment and work engagement can be inferred from discussions on the link between burnout and work engagement. A study showed that most teachers in China have a high level of burnout, which is also an important reason for teachers' difficulty in generating accomplishment and satisfaction in their work. The higher the teachers' burnout, the lower their work engagement [38].

Teachers' organizational justice and work engagement have received extensive attention from scholars, and studies have confirmed that organizational justice has a significant impact on teachers' work engagement [39]. Teachers with high organizational justice usually have high work engagement. There are few studies on organizational justice and teachers' professional accomplishment, and some scholars have studied the impact of organizational justice on teachers' professional accomplishment by exploring the relationship between organizational justice and teachers' burnout [40]. The higher the teachers' burnout, the lower their work engagement [38], but the relationship between teachers' organizational justice and professional accomplishment remains to be explored. Few studies have addressed the potential mediators between organizational justice and work engagement. Additionally, research specifically examining the relationship among organizational justice, professional accomplishment, and work engagement among primary and secondary school teachers in Western China is limited. This study aims to explore the impact of teachers' organizational justice on work engagement, with a focus on professional accomplishment as a mediating factor. The following research questions are addressed:

RQ1: Can organizational justice affect teachers' work engagement?

RQ2: Can teachers' professional accomplishment affect teachers' work engagement?

RQ3: Can organizational justice influence teachers' work engagement through the mediation of professional accomplishment?

3. Methods

This section outlines the methodology employed in the study, including sampling, measures used for data collection, and the approach to data analysis.

This study investigates the influence of organizational justice on the work engagement of primary and secondary school teachers, considering organizational justice as a precursor. At the same time, taking teachers' professional accomplishment as a mediator, the study investigated how professional accomplishment plays a mediating role

in the process of organizational justice affecting teachers' work engagement. Research hypotheses include:

H1: Organizational justice positively predicts work engagement of the teachers, which means higher levels of organizational justice, brings higher levels of work engagement.

H2: Teachers' professional accomplishment positively predicts work engagement of the teachers, which means higher levels of teachers' professional accomplishment, brings higher levels of work engagement.

H3: Professional accomplishment plays a mediating role in the path in which organizational justice affects the teachers' work engagement.

3.1. Sampling and Procedure

The research team collected suggestions from five experts from universities, primary and secondary schools based on the Delphi method, and adjusted the questionnaire after summarizing the feedback from the experts. After confirming the final questionnaire, it was distributed to public primary and secondary school teachers in two large cities in western China.

3.2. Measures

For the measurement of organizational justice, this study selected the four-factor theory of organizational justice [2], and the organizational justice scale [8] for Chinese teachers according to China's national conditions, which includes four dimensions of procedural justice, distributive justice, leadership justice, and informational justice. Questions for procedural justice include "Distribution is open and transparent", etc. Questions for distributive justice include "My salary reflects my contribution to the school", etc. For leadership justice, questions such as "I am not biased by my school leaders" and as for informational justice questions like "The leader explains the procedure and process of the distribution to me thoroughly" are included. For the measurement of work engagement, the study applied 9-item Work Engagement Scale (WE) [18], which is divided into three dimensions. For vigor, three questions including "I feel full of energy at work" are set. For dedication, three questions including "I am happy at work although it is stressful" are set, and three questions for absorption including "I work so hard that I forget about time" are set. Regarding the measurement of teachers' professional accomplishment, this study adapted the "Teachers' Professional Accomplishment Scale" [31] through interviews to understand the situation and ideas of teachers in western China. The adapted scale includes three dimensions.

For exhaustion, 9 questions such as "I feel like my energy is drained by the end of the day" are included. For depersonalization, 5 questions such as "I worry that this work will make me emotionally indifferent" are included. For professional accomplishment, 8 questions such as "I have accomplished many valuable things in my work".

3.3 Data Analysis

The sample was first analyzed for basic information, and the reliability of each dimension in the three scales of teachers' organizational identification, professional accomplishment and work engagement was tested by using SPSS26.0 with Cronbach coefficient. After the reliability reached the standard, confirmatory factor analysis was carried out on each scale to test the validity of each scale. After the reliability and validity reached the standard, the mediation analysis of SPSS with multiple regression was used to explore the path among the three and the mediating effect of teachers' professional accomplishment in depth to verify whether the experimental hypothesis is valid. The reliability coefficients of the overall and each secondary dimension of organizational justice, work engagement and professional achievement were all in the range of 0.7-1 (Table 1), indicating that the questionnaires used in this study have good reliability and high internal consistency.

Table 1. Reliability analysis of the scale for organizational justice, work engagement, and professional achievement

Variables	Alpha	Items
Fair Procedure	0.901	6
Fair Distribution	0.867	6
Fair Leadership	0.904	6
Fair Information	0.840	4
Organizational Justice	**0.920**	**22**
Work Vitality	0.752	3
Work Dedication	0.772	3
Work Focus	0.763	2
Work Engagement	**0.760**	**8**
Emotional Exhaustion	0.888	8
Depersonalization	0.865	5
Job Satisfaction	0.847	5
Professional Achievement	**0.807**	**18**

For the CFA model fit test of organizational justice scale, CMIN/DF = 1.417, within the range of 1-3, and RMSEA = 0.031, within the excellent range of <0.05. The results indicated that IFI, TLI, and CFI all achieved excellent ratings, exceeding the 0.9 threshold. It can be shown that the CFA of organizational justice suggested a good model fit. Under this premise, average variance extracted (AVE) and composite reliability (CR) of each dimension of the scale were further tested. The testing procedure consisted of calculating the appropriate size of standardized factor loadings for each measure based on the established CFA model, followed by the calculation of specific values using AVE and CR formulas. In the validity test of organizational justice scale, the AVE values of each dimension were greater than 0.5, and the CR values were all above 0.7. The study concluded that each dimension demonstrated good convergent validity and composite reliability. Furthermore, in the discriminant validity test, the standardized correlation coefficients between dimensions were lower than the square roots of their respective AVE values, indicating strong discriminant validity among the dimensions (Figure 1).
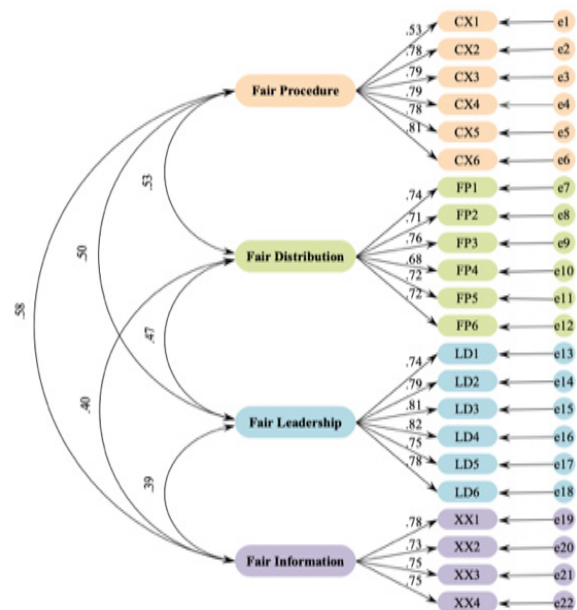

Figure 1. Confirmatory factor analysis CFA model of the organizational fairness scale

For the CFA model fit test of the work engagement scale, CMIN/DF=1.662, RMSEA=0.039, and the results of IFI, TLI, and CFI all reached an excellent level above 0.9. The CFA of the work engagement scale indicated a good model fit, and the AVE values of each dimension were greater than 0.5, and the CR values reached above 0.7. In the discriminant validity test, the standardized correlation coefficients between dimensions were found to be less than the square roots of their respective AVE values.

This indicates that the discriminant validity between the dimensions meets the required standards, paving the way for further research (Figure 2).
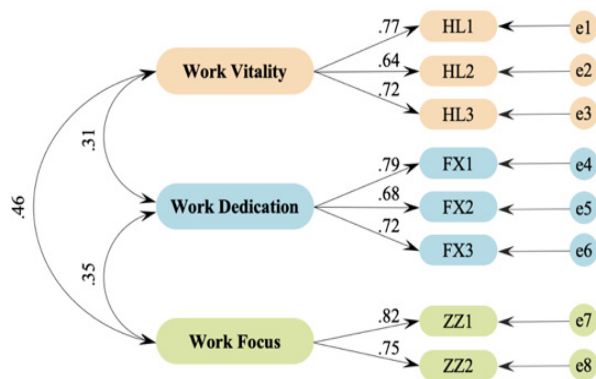

Figure 2. CFA model diagram for confirmatory factor analysis of work engagement scale

For the CFA model fit test of the professional accomplishment scale, CMIN/DF = 4.202, RMSEA= 0.076, the results of IFI, TLI, and CFI all reached a good level above 0.8, and the CFA of professional accomplishment showed a good model fit, with each dimension reaching AVE>0.5 and CR>0.7, indicating the convergent validity and composite reliability of each dimension were at a good level. In the discriminant validity test, the fact that the standardized correlation coefficients between dimensions were lower than the square roots of their respective AVE values indicates that the discriminant validity among the dimensions meets the established standards (Figure 3).
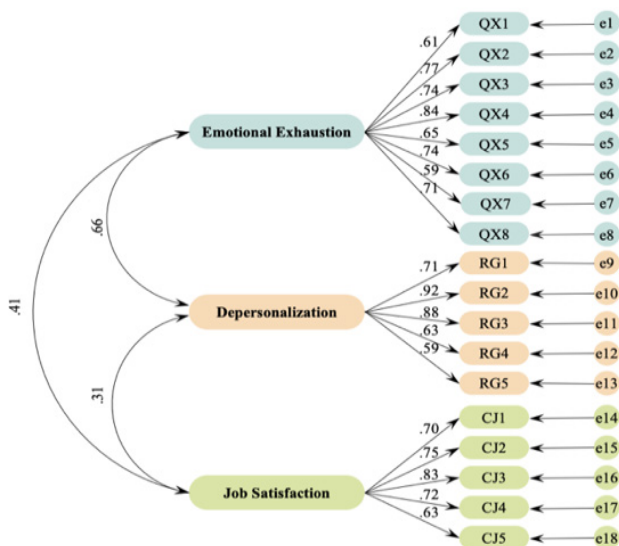

Figure 3. Confirmatory factor analysis CFA model diagram of the career achievement scale

4. Findings

This part presents the results of the study, highlighting key findings regarding the relationships between organizational justice, professional accomplishment, and work engagement among teachers.

The final sample included 432 participants with a larger proportion of female teachers, (female = 315, 73.1%), which is in line with the common pattern of lack of gender diversity among Chinese teachers. In terms of years of teaching experience, most of the teachers participating in the survey have rich work experience. 72.2% of the teachers have worked for more than 6 years and are in the mature stage of their teaching careers, which laid a good foundation for the reliability of the later survey data. In terms of teachers' positions, teaching subjects, weekly class hours, and working hours of working days, the current work intensity of primary and secondary school teachers is relatively high. 59% of the classroom teachers also served as head teachers, directors, officers, or principals. 27.8% of teachers were responsible for teaching two or more subjects. 75.2% of teachers had 11 or more classroom hours per week. 55.9% of teachers work more than 10 hours a day, and 7.8% of them work for 12 hours. In term of the monthly salary, 68.3% of the teachers earned between 4,000-7,000 yuan per month, 24.50% of the teachers earned between 7,000-10,000 yuan per month, and 7.2% of the teachers earned more than 10,000 yuan per month.

4.1. Descriptive Statistics and Normality Tests

Based on the results of descriptive statistical analysis, except for exhaustion and depersonalization, which are dimensions that reflect professional accomplishment in the reverse direction and score between 2 and 3, the scores of all the dimensions of professional accomplishment scale are between 3-4 (the scale is positively scored from 1-5). This indicated that the perceptions and behaviors of the subjects in this study were above the medium level in terms of organizational justice, work engagement, and professional accomplishment. The normality of each measurement item was assessed using skewness and kurtosis values. Following Kline's criteria, data can be deemed to approximate a normal distribution if the absolute value of skewness does not exceed 3, and the absolute value of kurtosis does not exceed 8. The data satisfied the approximate normal distribution.

4.2. Difference Analysis of Work Engagement, Professional Accomplishment, and Organizational Justice

4.2.1. Tests for Differences in Gender

In terms of work engagement, this study used the independent sample *t*-test to analyze the gender differences in the work engagement level between primary and secondary school teachers, and the results of the analysis showed that the gender differences between primary and secondary school teachers were not significant, but significant gender differences were found in general vigor, dedication, and engagement with men outperforming women significantly in the three aspects. The study found significant gender differences in perceptions of procedural justice, informational justice, and overall organizational justice among primary and secondary school teachers, with male teachers scoring notably higher. There were no clear gender differences in distributive justice and leadership justice among primary and secondary teachers. In terms of professional accomplishment, there were no significant gender differences in the overall levels of job satisfaction, depersonalization, and professional accomplishment among primary and secondary school teachers, while there were significant gender differences in emotional exhaustion with male teachers scoring lower.

4.2.2. Tests for Differences in Salaries

According to the current income level of teachers and experts' advice, this study categorized primary and secondary school teacher salaries into three levels and used univariate analysis. As for work engagement, the overall level of dedication, absorption, and engagement of primary and secondary school teachers had no significant difference in terms of income levels, but there was indeed a difference in vigor (*p*=0.05), with teachers with a monthly income of more than 10,000 yuan having significantly higher vigor compared to those with a monthly income of 7,000-10,000 yuan and those with a monthly income of 4,000-7,000 yuan. As for organizational justice, the study revealed no significant differences in the levels of procedural, distributive, leadership, and informational justice, as well as overall organizational justice, among primary and secondary school teachers when considering income levels. As for professional accomplishment, primary and secondary school teachers did not differ significantly in depersonalization and emotional exhaustion. However, as for the overall level of job satisfaction and professional accomplishment, there was a significant difference in terms of income levels.

Teachers with a monthly salary of more than 10,000 yuan had significantly higher scores than teachers with a monthly salary of 4,000-10,000 yuan.

4.2.3. Test for Differences in Working Hours

This study categorized the working hours of primary and secondary school teachers into four levels and conducted a one-way analysis of variance. It was found that in terms of work engagement, there were no significant differences in the levels of dedication and absorption among teachers based on their working hours. There were significant differences in general work motivation (*p*=0.01) and work engagement (*p*=0.04) with respect to the length of working hours. Teachers who worked 7-9 hours were more motivated and engaged than those who worked 10-12, 13-15, and 16+ hours. As for organizational justice, while primary and secondary school teachers had no clear differences in procedural justice and informational justice with respect to working hours, there were significant differences in distributive justice, leadership justice, and general organizational justice with respect to working hours. The overall level of distributive justice and organizational justice of primary and secondary school teachers who work 7-9 hours was significantly higher than that of teachers who work more than 10 hours. Primary and middle school teachers who work 13-15 hours had significantly higher levels of perceived leadership justice than teachers who work 7-12 hours or more than 16 hours. In terms of professional accomplishment, primary and secondary school teachers' job satisfaction had no significant difference with respect to working hours, but depersonalization, emotional exhaustion, and the overall level of professional accomplishment had significant differences with respect to working hours. Teachers who worked 7-9 hours had significantly lower rates of depersonalization and emotional exhaustion significantly and had higher rates of professional accomplishment than teachers who worked 10+ hours.

4.2.4. Test for Differences in the Reasons for Engaging in the Teaching Profession

The reasons why teachers choose to engage in the teaching profession were classified into four categories, and One-Way ANOVA was carried out. Regarding work engagement, the study found significant differences in the three dimensions and overall work engagement among primary and secondary school teachers based on their reasons for choosing the teaching profession. All *p*-values were at the highly significant level of <0.001.

The overall level of vigor, dedication, and engagement of teachers who choose to engage in the teaching profession out of "being respected" was significantly higher than that out of "passion for education", "having a stable job" and "being passively arranged". Teachers who choose the teaching career out of "passion for education" were more engaged in their work than teachers who choose the teaching profession out of "having a stable job", "being respected" and "being passively arranged". Teachers who are "passively arranged" to become teachers were similarly at the lowest level in all dimensions of work engagement. In terms of organizational justice, significant differences were observed in the levels of procedural, distributive, leadership, and informational justice, as well as in overall organizational justice, among teachers based on their reasons for entering the teaching profession. The overall level of procedural justice, leadership justice, and organizational justice for teachers who choose teaching profession out of "passion for education" was significantly higher than that out of "having a stable job", "being respected" and "being passively arranged". The teachers who choose the teaching profession out of "being respected" were significantly higher in the two dimensions of distributive justice and informational justice than those who choose the profession out of "passion for education", "being respected" and "being passively arranged". As for professional accomplishment, there was no significant difference in the level of depersonalization of primary and secondary school teachers with respect to reasons for engaging in the teaching profession. There were significant differences in the overall levels of job satisfaction, emotional exhaustion, and professional accomplishment among the teachers with respect to reasons for engaging in the teaching profession. Teachers who choose the teaching profession out of "passion for education" had significantly higher levels of job satisfaction and professional accomplishment than those who choose the profession out of "having a stable job", "being respected", and "being passively arranged". Teachers who choose the teaching profession out of "being passively arranged" had significantly higher perceived emotional exhaustion than teachers who choose teaching profession out of "passion for education", "having a stable job" and "being respected".

4.3. Analysis of the Relationship among Teachers' Work Engagement, Professional Accomplishment, and Organizational Justice

4.3.1. Correlation Analysis

Pearson correlation analysis revealed a significant correlation between the variables, with all reaching statistical significance at the 99% confidence level. It can be seen from the results of the correlation coefficients that all the correlation coefficients (r) were between -1 and 1, indicating that there was a significant correlation between all dimensions. Among them, the correlation coefficient (r) between the three dimensions of organizational justice, work engagement, and professional accomplishment was greater than 0, indicating that there was a significant positive correlation between these variables; the correlation coefficient (r) between the two dimensions of emotional exhaustion and depersonalization and the three dimensions of organizational justice, work engagement, and professional accomplishment was less than 0, indicating that there was a significant inverse correlation between these variables.

4.3.2. Mediation Analysis by Multiple Regression

The Hayes Process Macro was employed to analyze the mediating effect of teachers' work performance on the relationship between their organizational justice perceptions and work engagement. Table 2 showed that the predictive effect of teachers' organizational justice on work engagement was significant (t=14.38, p<0.01), and the direct predictive effect of organizational justice on work engagement remained significant when the mediator professional accomplishment was included (t=10.41, p<0.01). The predictive effect of perceived organizational justice on professional accomplishment was also significant (t=10.01, p<0.01). The Bootstrap 95% confidence intervals for the direct effect of teachers' perceived organizational justice on work engagement, as well as for the mediating effect of professional accomplishment and the overall effect, did not include zero (Table 3), indicating that teachers' perceived organizational justice not only directly predicted teachers' work engagement, but also predicted teachers' work engagement through the mediating effect of teachers' professional accomplishment. This direct effect (0.4226) accounted for 75.18% of the total effect (0.5621), while the mediating effect (0.1415) accounted for 25.17%.

Table 2. Mesomeric effect analysis results of multiple regression model

	Professional Accomplishment				Work Engagement				Work Engagement			
	coeff	se	t	p	coeff	se	t	p	coeff	se	t	p
Organizational Justice	0.32	0.03	10.01	0.00	0.42	0.04	10.41	0.00	0.56	0.04	14.38	0.00
Professional Accomplishment					0.43	0.05	7.91	0.00				
R-squire	0.43				0.64				0.57			
F	100.14				149.52				206.83			

Table 3. Breakdown of total effect, direct effect and mesomeric effect

	Effect	BootSE	BootLLCI	BootULCI	Percentage
The mediating effect of teachers' professional accomplishment	0. 1415	0. 025	0. 0958	0. 1923	25. 17%
Direct effect	0. 4226	0. 05	0. 3225	0. 5218	75. 18%
Total effect	0. 5621	0. 062	0. 315	0. 554	

5. Discussions

This section provides an in-depth analysis of the findings, discussing their implications and how they contribute to the existing body of knowledge.

5.1. *The Differences in Organizational Justice, Professional Accomplishment, and Work Engagement of the Teachers*

Gender disparities were evident in teachers' levels of work engagement, professional accomplishment, and perceptions of organizational justice. The proportion of female teachers in primary and secondary schools has increased year by year, and the gender imbalance in the teaching staff in China has become prominent and intensified. The low proportion of men makes it easier for male teachers to gain attention in the workplace, which makes them have higher organizational justice. Secondly, when female teachers choose a career position, they are more likely to have low career expectations for reasons such as stability, long vacation time, etc. Male teachers tend to expect better career development and have higher expectations. Consequently, male teachers exhibit higher levels of energy and work engagement, which naturally corresponds to their greater professional accomplishment.

The teachers in some areas of our country are still dissatisfied with their salaries. Problems such as the actual income of teachers not being equal to that of local civil servants and poor social security policies are still common. When teachers find themselves paid less than the teachers around them or other practitioners in the industry, this may result in lower vigor scores. "Professional accomplishment" is a kind of intrinsic value satisfaction that teachers experience in their work, and salary is the most direct manifestation of this value satisfaction. Teachers with disadvantageous salaries have lower professional accomplishment. The other two sub-dimensions of professional accomplishment (depersonalization and emotional exhaustion) are more focused on the psychological and emotional state of teachers and therefore are less impacted by salary. "Organizational justice" is a subjective psychological feeling of whether teachers are treated fairly in the organization and is mainly related to distribution system, policy measures, etc., and there is no significant difference across the dimensions in terms of salaries.

Higher expectations and requirements are being placed on the teaching profession with the development of society, and the professionalism and personal ability of the teachers have never been more demanding.

The most intuitive is that most teachers are working extremely long hours. In such an intense and emotionally draining work environment, without satisfactory salary and emotional feedback, teachers' work engagement and professional accomplishment show a low level. Teachers who do not receive satisfactory resource support after intense work can develop a sense of disproportionality between effort and reward, which can lead to doubts about organizational justice. Teachers' enthusiasm for work can be drained over long-term high-intensity work, and in severe cases, it will affect the quality of education and teaching, teachers' physical and mental health, and even students' physical and mental health.

Teachers' internal motivation is of great value and significance in motivating teachers' self-efficacy and plays an important role. Based on the results, it can be found that teachers who choose the teaching profession out of the two subjective reasons of "passion for education" and "being respected" have a deeper sense of belonging and identification with the teaching profession and school organization, so they are more inclined to be actively engaged in their work, thus resulting in higher professional accomplishment and organizational justice. Teachers who engage in the teaching profession out of "having a stable job" and "being passively arranged" tend to lack internal motivation for their work, so they are more prone to burnout, have difficulty finding their own value in the organization, and have lower work engagement.

5.2. The Impact of Organizational Justice and Professional Accomplishment on Work Engagement

The findings of this study unveiled a significant positive correlation between perceived organizational justice and teachers' work engagement. This outcome aligns with previous research conducted by Gao *et al*. [40]. Perceived organizational justice can make teachers have a sense of belonging to the organization, so they are more willing to devote time and energy to the work. When teachers perceive fairness within their organization and feel that they are being treated justly, a natural sense of belonging and meaningful connection to the organization develops. While most previous studies explained this conclusion from the perspective of teachers' psychology, the authors combined the social exchange theory in sociology to explain this conclusion. The social exchange theory holds that all human behaviors are driven by some kind of exchange activities that can bring benefits.

When the organization treats teachers fairly in terms of policies, distribution, information, etc., teachers feel respected by the organization for their work and receive fair economic returns. If teachers perceive this exchange to be fair, they will be motivated to contribute more to the organization, thus improving their work engagement, and thereby obtaining a higher level of organizational respect and more economic returns.

Teachers' work engagement is significantly influenced by teachers' professional accomplishment. When teachers experience a strong sense of professional accomplishment in their work, it naturally motivates them to invest more time and energy into their responsibilities. This is consistent with the findings pointed out by Wang [32] in the research: teachers with a high sense of accomplishment tend to have higher enthusiasm for work and are more motivated and conscientious about their teaching. Professional accomplishment is an internal motivation for teachers. When teachers complete their teaching tasks and feel a sense of happiness and satisfaction in the teaching process, they will naturally have professional accomplishment, which will directly affect their work engagement. Teachers with high work engagement tend to complete teaching tasks better and achieve higher teaching quality.

Most existing studies have explored the differences in teachers' work engagement from the perspective of burnout but have neglected to pay attention to teachers' professional accomplishment. For instance, Zeng *et al.* [38] proposed that burnout can substantially diminish teachers' engagement in teaching, potentially impacting the quality of instruction and students' learning outcomes, particularly in severe cases. The findings of the study indicate that a high level of professional accomplishment attained at work can directly enhance work engagement.

5.3. The Mediating Role Professional Accomplishment in the Relationship Between Organizational Justice and Work Engagement

Teachers' professional accomplishment not only directly influenced work engagement but also played a substantial mediating role in the connection between teachers' organizational justice perceptions and work engagement. In this mediating role, professional accomplishment accounted for 25.17% of the pathway through which organizational justice influenced work engagement. It showed that the stronger the teachers' perceived organizational justice in the school, the higher their professional accomplishment and satisfaction, and the greater their commitment to teaching.

Research has demonstrated that both burnout and workplace boredom exert a notable negative predictive influence on work engagement.

Maslach and Leiter [17] defined burnout as encompassing three dimensions: emotional exhaustion, depersonalization, and a reduced sense of achievement. These dimensions stand in stark contrast to emotional satisfaction and personal fulfillment. Does professional accomplishment affect teachers' work engagement? In Deng's [30] research, professional accomplishment was defined as teachers' inner satisfaction of self-worth and social value through giving full play to their working abilities to achieve teaching goals in the teaching process. This satisfaction will be transformed into a kind of internal motivation in the teaching process, helping teachers to better integrate into their job roles in the process of achieving their work goals, to achieve higher work engagement, and finally to produce higher quality teaching outcomes. Khamar *et al.* [39] indicated that organizational justice can effectively reduce teachers' burnout, so being treated fairly in schools can effectively improve professional accomplishment and happiness. Teachers' achievements in teaching have a certain mediating effect between their organizational justice and work engagement, verifying the above theory.

6. Implications and Conclusions

The final section draws conclusions from the study's findings and discusses their practical implications, particularly for educational policy and teacher management.

6.1. *Promote Teachers' Organizational Justice*

First, strengthen the training of principals for a new era and pay attention to leadership justice. Leadership justice is a vital component of teachers' organizational justice, yet it is currently overlooked in school management practices. Compared with the traditional and strict hierarchical relationship in corporate working environments, the relationship between leaders and teachers in schools is more intimate. While this makes a more harmonious working environment, it also enhances leaders' impact on their judgment due to subjective feelings, which can lead to a sense of injustice among some teachers, so it is necessary to strengthen the training of school leaders, especially principals in modern school management methods to make teachers feel leadership justice and create a good working environment in schools.

Second, focus on procedural justice and establish a sound developmental evaluation system. In schools, a good evaluation mechanism can be directional and guiding, leading teachers to combine evaluation standards in the process of completing teaching work and improve teaching quality and work to achieve evaluation standards. Hence, the premise is that before deciding or promulgating new standards, the school should carefully listen to the opinions of teachers, consider their dignity and value, make fair decisions from their perspective, and equally safeguard their interests. Only when all teachers are involved in the standard-setting process and genuinely recognize this standard, can the process be fair, and teachers be motivated and creative in their work.

6.2. *Stimulate Teachers' Professional Accomplishment*

First, stimulate teachers' internal driving force and cultivate their respect for the teaching profession. The research results clearly demonstrate that the "reasons for choosing the teaching profession" have a profound influence on teachers' professional accomplishment. Teachers who choose to be teachers because of their "passion for education" generally have higher professional accomplishment, while teachers who are "passively arranged" to engage in the teaching profession are difficult to have professional accomplishment. In contrast, we can see that teachers' inner pursuit of their profession is an important reason for their professional accomplishment. Therefore, it is important to focus on cultivating teachers' inner enthusiasm for their profession and identity, and at the same time increase the number of budgeted posts for teachers or improve the social security system for teachers of off-budget posts, to enhance the social value of the teaching profession and its attractiveness. Whether for subjective reasons or objective reasons, teachers' professional accomplishment can only emerge when they actively choose the teaching profession out of their internal needs.

Second, teachers themselves actively improve their professional development and strengthen their emotional management ability. Firstly, teachers' professional development is an important basis for teachers' professional accomplishment. Therefore, to obtain higher professional accomplishment, teachers must ensure that they have excellent professional knowledge and skills. Secondly, emotion management is one of the abilities that primary and secondary school teachers must have.

A stable mood can ensure that teachers are able to carry out their daily work in an efficient and high-quality manner. In turn, successful completion of the work is conducive to the physical and mental development of teachers, thus can continuously enhancing teachers' professional accomplishment and promoting the healthy development of the teaching profession.

6.3. Improving Work Engagement of Teachers

First, improve teachers' salaries and enhance teachers' professional competitiveness. Significant differences were observed in teachers' work engagement and professional accomplishment based on their salaries, indicating that salary is a crucial determinant of teachers' work motivation. Although our country has attached great importance to the issue of teachers' salaries and has proposed corresponding measures, teachers' salaries still have no advantage in the actual salary rankings. Salary is significantly related to teachers' work engagement. Improving teachers' salaries, social status, and professional competition will naturally lead to an increase in teachers' work engagement. At the same time, enhancing teachers' professional competitiveness can attract more male teachers to teaching profession. It is recommended that the education department conduct a large-scale survey of primary and secondary school teachers to understand their current work situation and expected salaries and combine international teacher salary standards to improve the stability of teaching profession and teachers' salaries.

Secondly, it is imperative to focus on the work engagement of female teachers and work towards reducing the gender gap in work engagement. The work engagement of the teachers was at an upper-middle level, but significant gender differences were found in work dedication and work engagement. Men outperformed women significantly in terms of general vigor, dedication, and participation. Education departments and school organizations should attach importance to the work engagement status of female teachers, and actively take measures to help female teachers find a balance between work and family. For example, they should pay close attention to the family situation of female teachers when arranging classes. When female teachers are given enough time and space to deal with their family matters, they can be more committed to the teaching tasks during working hours.

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