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# Organizational Justice, Psychological Contract Fulfillment and Employee Engagement -- A Study of Teachers in Privately-Run Higher Institutions in Fujian, China

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## Abstract:

This study provides an in-depth exploration of the relationships among procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment, and employee engagement in privately-run higher institutions in Fujian, China. Adopting a management perspective, a quantitative research approach was employed, rigorously testing the original data using the Bootstrapping algorithm with a resampling sample size of 5000. The results of path analysis in the structural equation model reveal the interconnections among various dimensions of organizational justice and their impacts on psychological contract fulfillment and employee engagement. A key finding is the positive correlation between organizational justice dimensions, especially procedural justice, distributive justice, interpersonal justice, and information justice, with psychological contract fulfillment. Teachers' perceptions of fair and transparent procedures, equitable resource distribution, positive interpersonal relationships, and effective communication significantly contribute to their sense of psychological contract fulfillment. This underscores the importance of cultivating a fair and transparent organizational environment to enhance teachers' psychological well-being. Beyond organizational justice dimensions, the study explores the relationship between psychological contract fulfillment and employee engagement. The results show a significant positive correlation, emphasizing that teachers with higher levels of psychological contract fulfillment are more likely to demonstrate increased engagement in their roles. This aligns with existing literature emphasizing the critical role of psychological contract fulfillment in fostering employees' commitment, satisfaction, and motivation. Additionally, the confirmed positive correlation between psychological contract fulfillment and employee engagement underscores the importance of attending to teachers' perceptions of their psychological contracts. Organizations that prioritize cultivating a positive psychological contract are likely to experience higher levels of employee engagement, contributing to increased productivity and organizational success. The mediation analysis emphasizes the crucial role of psychological contract fulfillment in translating the positive effects of organizational justice dimensions into enhanced employee engagement. This mediating mechanism serves as a pathway through which fair and just organizational practices positively influence teachers' active involvement in their roles. In conclusion, this study not only advances academic understanding but also provides practical implications for the management of privately-run higher institutions in Fujian, China.

**Keywords:** Organizational Justice, Psychological Contract Fulfillment, Employee Engagement, Privately-Run Higher Institutions

## 1. Introduction

This study is framed around Organizational Justice, Psychological Contract Fulfillment, and Employee Engagement, aiming to gain in-depth insights into the current situation of privately-run higher institutions in Fujian province, China. According to the research findings of scholars such as Gong (2013), Zou (2012), Tan (2016), and Lai (2023), Fujian currently has 36 privately-run higher institutions. Despite the continuous expansion of private higher education, it faces various challenges. Firstly, the issue of policy and institutional support is not only crucial for the fair development of higher education institutions but also relates to society's expectations for educational equity. To address this, strengthening governmental policy support for private institutions is necessary to ensure they receive equal resources and rights within the legal framework compared to public institutions. Additionally, establishing more comprehensive policies and regulations to clarify the status of private institutions in the education system is an urgent matter. Secondly, the shortage of funds in privately-run institutions and issues related to faculty rights extend beyond internal economic operations and impact the overall health of the higher education system. Diversifying funding sources, such as expanding external collaborations and social resources, can mitigate overreliance on tuition fees. Improving faculty treatment and ensuring their rights will enhance job satisfaction and loyalty, promoting the stable development of the teaching staff. Addressing the high turnover rate can be achieved by enhancing internal management mechanisms, providing teacher training and career development support, and elevating their social status and remuneration levels. Establishing effective incentive mechanisms to encourage active participation in academic research and teaching innovation will enhance the overall quality and stability of the teaching staff. In summary, addressing issues related to organizational justice, psychological contract fulfillment, and employee engagement is essential for the development of teachers

in privately-run higher institutions in Fujian province. Targeted policy support and internal optimization can help these institutions better navigate the challenges they currently face, fostering sustainable, healthy, and balanced development.

Firstly, with regard to the concept of Organizational Justice, numerous scholars have conducted extensive research. In the field of organizational behavior studies, Adams (1965) introduced the concept of organizational justice, suggesting that if an individual's input is proportionally rewarded by the organization, it is considered fair; otherwise, if there is a mismatch between input and reward, the organization lacks fairness. Furthermore, Scholl et al. (1987) argued that to stimulate employee enthusiasm and maintain organizational equilibrium, organizations implement reward and punishment systems to allocate resources reasonably. Moonman (1991) identified organizational justice as a crucial factor influencing employee organizational loyalty, a variable that explains whether employees receive fair treatment in the organization, thus affecting their performance in other aspects within the organization. Byrne (2001) defined organizational justice as employees' perception of the working environment and the fairness atmosphere within the organization. In this study, organizational justice is defined as the balance between an individual's input and the rewards received from the organization. The dimensions of organizational justice lack consistency in their definitions; as research deepens, these dimensions have expanded from one dimension to four. McFadin (1992) considered organizational justice as a singledimensional structure. Greenberg (1986) introduced two dimensions: distributive justice and procedural justice, which cover different aspects and have different effects on organizational justice. Distributive justice pertains to an individual's perception of the organization rewarding individuals based on their input, especially in resource allocation. Procedural justice focuses on employees' perception of the fairness of the methods and procedures followed by the organization in resource allocation. Moonman (1991) extended Greenberg's research and divided organizational justice into three parts: distributive justice, procedural justice, and interactional justice. Interactional justice reflects dynamic development factors that maintain balance in the changing patterns of justice. It refers to employees' perception of whether the organization effectively involves them in the formulation of organizational procedures. Colquitt (2001) further added interpersonal justice to the existing research, dividing organizational justice into four dimensions: procedural justice (PJE), distributive justice (DJE), interpersonal justice (ITJ), and informational justice (IFJ). In Colquitt's (2001) framework, procedural justice refers to employees' perception of the fairness of the organization's decision-making process, including the formulation of rules, procedures, and resource allocation. Distributive justice focuses on employees' perception of how the organization treats individuals fairly, especially in resource allocation. Interpersonal justice concerns employees' perception of interpersonal relationships within the organization, involving mutual interaction and communication among employees. Informational justice refers to employees' perception of the fairness of information provided by the organization, including views on the transparency and openness of decision-making information. These four dimensions together constitute a comprehensive understanding of organizational justice. Through the construction of these dimensions, researchers can gain a more comprehensive and in-depth understanding of the current state of organizational justice in privately-run higher institutions in Fujian province, thereby proposing recommendations for improvement and development. This multidimensional analysis helps reveal different aspects of organizational justice, providing valuable insights for enhancing the overall organizational atmosphere in privately-run higher institutions.

Secondly, research on Psychological Contract Fulfillment began with MacNeil's proposition of transactional and relational psychological contract fulfillment (Tu, 2020). This viewpoint has been acknowledged by scholars like Rousseau, sparking widespread research and discussion. Scholars such as Robinson, Kraatz, and Rousseau extracted transactional and relational factors from organizational and employee responsibilities in psychological contract fulfillment (Hao, 2014). Empirical studies across different countries, enterprises, and professions have found the presence of both transactional and relational factors in psychological contract fulfillment for different research subjects, providing robust evidence for the two-dimensional structure of psychological contract fulfillment composed of transactional and relational contracts. An empirical survey conducted by Chen and Ling (2019) found that organizational and employee responsibilities in psychological contract fulfillment both include "realistic responsibilities" and "developmental responsibilities." In the research on the impact of psychological contract fulfillment on public service motivation among university teachers, Yi and Chen (2020) further proposed that university teachers' psychological contract fulfillment can be divided into transactional, relational, and developmental types. Due to the unique nature of university teachers' professions, their psychological contract structure differs somewhat from that of professionals in other industries. It is noteworthy that research on psychological contract fulfillment has evolved into a diverse and complex field. Tu (2020) classified different types of psychological contract fulfillment, emphasizing the diversity of relationships between individuals and organizations. This indicates that psychological contract fulfillment is not merely a matter of simple transactions and relationships; it involves more complex and profound dimensions. In psychological contract fulfillment research, differences in culture, industry, and profession have become a highly debated topic. This not only provides more perspectives for understanding the overall pattern of psychological contract fulfillment but also emphasizes the importance of considering cultural and professional specificity in organizational management and human resources practices. Overall, research on psychological contract fulfillment has transcended the simple categories of transactions and relationships, entering a more complex and diverse field. Through studying different dimensions of psychological contracts, researchers can more comprehensively understand their manifestations and impacts in different contexts. This will contribute to organizations better managing psychological contracts and enhancing employee engagement.

Finally, regarding "Employee Engagement," Kahn (1990) provided the initial explanation of engagement. Goffman (1961) introduced the concept of engagement, noting different perspectives on individuals' attachment and detachment from their roles. Soane et al. (2012) combined previous research theories to propose a new model comprising three aspects: role focus, activation, and positive emotions. When employees are fully engaged in their work, they feel satisfied with their achievements and actively identify with their roles in the organization, further enhancing their work efficiency and performance. Conversely, if employees lack engagement in their work, they may feel bored, dissatisfied with their current performance, and even consider leaving their current position or organization. Xiao & Duan (2014) pointed out that the dimensions for measuring employee

engagement include proactivity, loyalty, effectiveness, identification, and commitment. Jie & Fu (2018) suggested that companies should deeply understand employees' needs and expectations, establish a set of humane and democratic rules and systems, create a positive cultural atmosphere within the enterprise, and provide employees with challenging and fulfilling work. Only by integrating human resources management throughout the entire process can the mental health of employees be improved. Shahrudin et al. (2018) used questionnaires to analyze whether the working environment for employees is harmonious, and aspects such as employees' satisfaction with work, sense of belonging, and sense of responsibility. Employee engagement was assessed based on whether employees were willing to promote the company, stay, and work hard. Maslach (1997) designed the Maslach Burnout Inventory (MBI) self-report questionnaire to measure work burnout, consisting of three dimensions and 22 items: emotional exhaustion, cynicism, and inefficacy. Maslach conducted further research and proposed three opposite dimensions: vigor, dedication, and absorption. Despite the good reliability and validity of this scale, it has not been widely accepted by scholars as it considers engagement as the opposite of burnout. Liu, Feng & Zheng (2016) evaluated and measured dimensions such as work enthusiasm, occupational stability, compliance with company rules and regulations among new-generation employees. Xing (2019), Zhang, Xue, et al. (2019) assessed the engagement of new-generation employees through indicators such as loyalty, recognition, and sense of responsibility. In summary, these studies indicate that employee engagement is a multidimensional, complex, and rich concept, covering various factors such as individual commitment to work, identification with the organization, and expectations for career development. In the current intense workplace competition, a deep understanding and enhancement of employee engagement are crucial for the long-term stability and development of organizations. Therefore, organizations should take active measures, including humanized management, providing challenging tasks, and establishing a positive organizational culture, to comprehensively promote employee engagement and create more sustainable success for the organization.

## 2. Literature Review

### 2.1 Research Theory

Adams (1965) proposed the Equity Theory to examine employees' perceptions of fairness within organizations. Numerous scholars have conducted extensive research on the types of organizational justice, primarily categorizing them into four main types: distributive and procedural justice, which form the basis, followed by the addition of interactional justice, and further subdivisions of interpersonal and informational justice under distributive and procedural justice. Distributive justice is crucial in current human resource management and refers to employees' perceived fairness in the outcomes of their work. It involves subjective perceptions regarding salary and rewards in comparison to reference points. The Equity Theory posits that distributive justice is not only measured by the ratio between one's inputs and outcomes but also by the comparison of one's outcomes to those of others. Significant disparities between one's own gains and those of others may lead to psychological imbalances, resulting in negative effects such as passive resistance and a lack of innovative drive. Research by Adams (1965) found that when employees perceive severe distributive injustice within an organization, it may lead to reduced work engagement, alterations in self-perceived outcomes, distorted perceptions of oneself and others, and even changes in work attitudes. Ambrose et al.'s (1991) study revealed that employees' perceptions influence their motivation. When employees compare themselves to colleagues, if their inputs and rewards are roughly consistent, they perceive the organization's compensation mechanism as fair and just. If their rewards are higher than those of colleagues, they may experience guilt or insecurity. Conversely, lower rewards compared to colleagues may lead to passive resistance, decreased work efficiency, or a tendency to resign. Procedural justice was initially introduced in the study of legal procedures and pertains to employees' perceptions of fairness in outcome procedures. Even if the outcomes are unfavorable to employees, they may still perceive procedural justice. Leventhal's (1980) research suggested that fair distribution or decision-making procedures motivate employees and encourage greater work engagement. Simultaneously, after being motivated, employees contribute to the fair implementation of the decision-making process. Interactional justice involves perceiving fair treatment within distributive and procedural procedures. Bies (1987) argued that employees perceive stronger feelings of fairness when they receive respect from others or gain relevant information in free distribution. Colquitt (2001) proposed that interactional justice comprises informational justice and interpersonal justice. When there is significant information asymmetry or concealment within the organization, employees may feel that they have not been treated fairly. In the study of organizational justice, different types of fairness perceptions have profound effects on employees' behavior and attitudes. A comprehensive understanding and improvement of organizational justice are crucial elements in promoting employees' active engagement and enhancing work efficiency.

### 2.2 Research Hypotheses

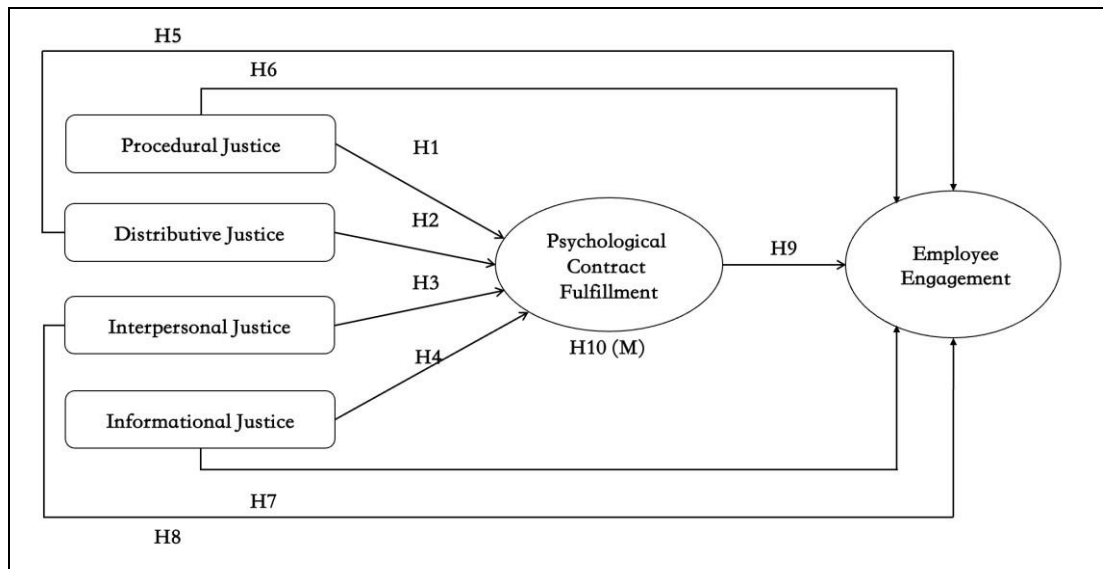
According to Colquitt (2001), (Tu, 2020), (Hao, 2014), Soane et al. (2012), Xiao & Duan (2014), and Zhang, Xue et al. (2019), researchers have identified a positive correlation between procedural justice (PJE) and psychological contract fulfillment (PCF), attributed to the perception of fairness and transparent procedures within the organizational framework. In private colleges in Fujian Province, when teachers perceive the fairness of decision-making processes and policy implementation, it fosters a sense of trust and commitment. The perception of procedural fairness enhances psychological contract fulfillment as it ensures that their contributions are rewarded justly and reasonably. The positive correlation between distributive justice (DJE) and psychological contract fulfillment (PCF) is based on the fair allocation of rewards and resources. In private colleges in Fujian Province, when teachers perceive that their efforts are fairly rewarded in terms of salary, benefits, and opportunities, it strengthens their perception of psychological contract fulfillment. Fair distribution of outcomes enhances positive psychological contracts between teachers and the organization, increasing job satisfaction and commitment. Interpersonal justice (IJ) and psychological contract fulfillment (PCF) are positively correlated, rooted in the quality of interpersonal relationships within the organization. In private colleges in Fujian Province, when teachers experience respect, support, and courtesy in interactions with colleagues and superiors, it positively influences their perception of psychological contract

fulfillment. An environment conducive to positive interpersonal relationships helps teachers feel valued, thereby enhancing the sense of psychological contract fulfillment. The positive correlation between informational justice (IFJ) and psychological contract fulfillment (PCF) arises from transparent communication and information sharing. In private colleges in Fujian Province, when teachers receive accurate and timely information about decisions, policies, and organizational changes, it enhances their sense of trust and involvement. Teachers are more likely to experience enhanced psychological contract fulfillment because they feel fully informed and involved in the decisionmaking process. The positive correlation between procedural justice (PJE) and employee engagement (EET) stems from the belief in the impact of fair procedures on a positive work environment. In private colleges in Fujian Province, when teachers perceive the fair application of organizational procedures, it enhances their trust in the institution. This trust, coupled with a sense of justice, promotes teachers to be more actively involved in their roles, investing more time and effort. The positive correlation between distributive justice (DJE) and employee engagement (EET) originates from the impact of just resource distribution on overall job satisfaction. In private colleges in Fujian Province, when teachers feel that the distribution of rewards and resources is fair, it creates a positive perception of the workplace. This perception, in turn, fosters higher levels of employee engagement, as teachers are more motivated and committed to contribute actively. The positive correlation between interpersonal justice (ITJ) and employee engagement (EET) is rooted in the importance of positive interpersonal relationships in the workplace. In private colleges in Fujian Province, when teachers perceive fair, respectful, and supportive interactions with colleagues and superiors, it positively influences their overall job satisfaction. In a positive interpersonal environment, teachers are more likely to be engaged and feel valued. The positive correlation between informational justice (IFJ) and employee engagement (EET) arises from the impact of transparent communication on overall job satisfaction. In private colleges in Fujian Province, when teachers have clear and timely access to relevant information about organizational decisions and changes, it enhances their sense of inclusion and trust. When teachers feel well-informed and perceive organizational communication as open and honest, they are more likely to be engaged and maintain a positive attitude toward their work. The positive correlation between psychological contract fulfillment (PCF) and employee engagement (EET) indicates that when teachers feel that their psychological contract is fulfilled, they are more likely to be engaged in their work. In private colleges in Fujian Province, when teachers perceive that the organization fulfills their expectations and commitments, they are more likely to establish emotional connections, commitment, and active participation, thereby enhancing overall employee engagement. The mediating role of psychological contract fulfillment (PCF) in the relationships between procedural justice (PJE), distributive justice (DJE), interpersonal justice (ITJ), informational justice (IFJ), and employee engagement (EET) emphasizes the importance of psychological contract fulfillment in translating perceived fairness into increased engagement. In private colleges in Fujian Province, when teachers perceive procedural justice, distributive justice, interpersonal justice, and informational justice (Procedural Justice (PJE), Distributive Justice (DJE), Interpersonal Justice (ITJ), and Informational Justice (IFJ)), it positively influences their perception of psychological contract fulfillment, catalyzing more active participation by employees. Psychological contract fulfillment, acting as a bridge, strengthens the positive impact of organizational justice on employee engagement. Therefore, the researcher has formulated the following hypotheses:

- H1: Procedural justice (PJE) is positively correlated with psychological contract fulfillment (PCF) among teachers in privately-run higher institutions in Fujian, China.
- H2: Distributive justice (DJE) is positively correlated with psychological contract fulfillment (PCF) among teachers in privately-run higher institutions in Fujian, China.
- H3: Interpersonal justice (ITJ) is positively correlated with psychological contract fulfillment (PCF) among teachers in privately-run higher institutions in Fujian, China.
- H4: Informational justice (IFJ) is positively correlated with psychological contract fulfillment (PCF) among teachers in privately-run higher institutions in Fujian, China.
- H5: Procedural justice (PJE) is positively correlated with employee engagement (EET) among teachers in privately-run higher institutions in Fujian, China.
- H6: Distributive justice (DJE) is positively correlated with employee engagement (EET) among teachers in privately-run higher institutions in Fujian, China.
- H7: Interpersonal justice (ITJ) is positively correlated with employee engagement (EET) among teachers in privately-run higher institutions in Fujian, China.
- H8: Informational justice (IFJ) is positively correlated with employee engagement (EET) among teachers in privatelyrun higher institutions in Fujian, China.
- H9: Psychological contract fulfillment (PCF) is positively correlated with employee engagement (EET).
- H10: Psychological contract fulfillment (PCF) has a mediating effect between procedural Justice (PJE), Distributive Justice (DJE), Interpersonal Justice (ITJ), Informational Justice (IFJ) and employee engagement (EET).

### 2.3 Conceptual Framework

Figure 1 Conceptual Framework



Source: Design by the researcher (2023)

### 3. Research Methodology

#### 3.1 Research Methods

This study adopts a quantitative research approach to examine research hypotheses by systematically collecting and analyzing data. The strength of quantitative research lies in its ability to provide quantitative and specific data, facilitating an objective and statistical analysis of research questions. Through a carefully designed survey questionnaire, the researcher will gather a substantial number of opinions and perspectives from teachers. These insights will be transformed into quantifiable indicators to validate the relationships between different dimensions of fairness, psychological contract fulfillment, and employee engagement. Through quantitative analysis, the researcher draws general conclusions, providing a scientific basis for a deeper understanding of the impact of organizational fairness on the work experience of teachers in private universities in Fujian Province. Additionally, statistical software will be employed for data analysis to ensure the scientific validity and reliability of the results.

#### 3.2 Research Design

To ensure the validity and representativeness of the research results, this study chooses to conduct surveys in private universities in Fujian Province. While the overall standard of private higher education in this region of China may be relatively lower, it precisely addresses the issues the researcher aims to deeply understand. By focusing on this specific region, the researcher can gain a more accurate understanding of the organizational fairness issues faced by teachers in private universities in Fujian Province and the practical impact on their work experience. The research design includes a comprehensive survey plan, ensuring coverage of various types of private universities and cities within the province. This approach aims to obtain diverse and comprehensive data, making the research results more universally applicable. By comparing different cities and types of universities, the researcher is able to analyze the differential impact of organizational fairness on teachers in a more nuanced manner.

#### 3.3 Research Sampling

The selection of research samples covers various types of private higher education institutions in Fujian Province, including undergraduate and vocational colleges, ensuring the broad applicability of the research results. In the five cities of Fujian Province, there are a total of 36 private higher education institutions, covering different regions of the entire province. The total number of teachers is 15,336. To ensure the representativeness of the sample, according to the Yamane formula, the minimum sample size for this study is calculated to be 390 people. Therefore, the researcher distributed 600 questionnaires to ensure obtaining a sufficient amount of valid data, making the research results more persuasive and reliable. Through extensive and in-depth sample coverage, the researcher aims to reveal the real experiences and perceptions of teachers in private universities in Fujian Province regarding organizational fairness. This multidimensional sample selection strategy will contribute to a more comprehensive understanding of the commonalities and differences among teachers at different levels and backgrounds concerning organizational fairness issues.

### 4. Data Analysis

#### 4.1 Descriptive analysis

A total of 600 questionnaires were distributed and 549 were recovered, with 507 valid. In summary, the basic characteristics of the valid samples of teacher participants at private higher colleges and universities in Fujian Province demonstrated the following characteristics: the ratios of male and female participants are close; their age distribution is relatively uniform; most participants have an educational background of Ph.D. and post doctorate, and most of their job titles are associate professors and professors.

**Table 1 Basic information**

Gender	Male	252	49.7
	Female	255	50.3
Age	30 and younger	110	21.7
	31-39	144	28.4
	40-49	148	29.2
	50 and older	105	20.7
Educational background	Bachelor's degree	123	24.3
	Master's degree	119	23.5
	Ph.D.	129	25.4
	Post Doctorate	136	26.8
Job title	Lecturer	129	25.4
	Associate Professor	133	26.2
	Professor	127	25.0
	Assistant Teacher	118	23.3
	Total	507	100.0

#### 4.2 Descriptive analysis of variables

According to the analysis of the measurement items under each variable, it can be seen that participants rated procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment and employee engagement medium to high, and the rating of the question items generally conformed with normal distribution, laying the foundation for subsequent research, which is helpful to further study the situation of teachers at private higher colleges and universities in Fujian Province, as well as the correlation among variables and influences on target variables.

**Table 2 Descriptive analysis result**

Procedural justice	A1	3.71	0.975	-0.596	0.113
	A2	3.70	1.080	-0.492	-0.540
	A3	3.82	1.065	-0.567	-0.377
	A4	3.67	1.123	-0.407	-0.730
	A5	3.79	1.102	-0.584	-0.497
	A6	3.78	1.029	-0.516	-0.208
	A7	3.78	1.074	-0.744	0.128
Distributive justice	B1	3.81	0.914	-0.483	-0.166
	B2	3.97	0.838	-0.817	0.495
	B3	3.84	0.999	-1.082	1.125
	B4	3.79	0.842	-0.676	0.231
Interpersonal justice	C1	3.82	0.971	-0.994	1.157
	C2	3.60	0.850	-1.231	2.247
	C3	3.75	0.904	-1.268	2.190
	C4	3.78	1.031	-0.814	0.616
Information justice	D1	4.10	0.952	-1.103	1.236
	D2	4.17	0.993	-1.266	1.439
	D3	4.16	0.985	-1.291	1.624
	D4	4.13	0.959	-1.356	2.108
	D5	4.17	0.960	-1.103	0.922
Psychological contract fulfillment	E1	3.53	1.029	-0.377	-0.410
	E2	3.59	1.155	-0.735	-0.313
	E3	3.75	1.024	-0.707	0.050
	E4	3.58	1.162	-0.584	-0.440
	E5	3.68	1.086	-0.586	-0.410
Employee engagement	F1	3.98	1.035	-0.949	0.657
	F2	3.91	1.016	-0.981	1.000
	F3	3.81	1.015	-0.676	0.383
	F4	3.98	1.039	-0.962	0.697
	F5	3.86	1.054	-0.701	0.203
	F6	3.74	1.088	-0.822	0.450

#### 4.3 Reliability analysis

The reliability analysis result of the questionnaire demonstrated that the data are of a high intrinsic consistency and reliability, laying a foundation for subsequent research. The result supported the conclusions of sample characteristics analysis and descriptive statistical analysis, providing strong support for further data analysis and model construction, deepening the understanding of characteristics, attitudes, and behaviors of teachers at private higher colleges and universities in Fujian Province.

**Table 3 Reliability analysis result**

Variable	Items	Cronbach's $\alpha$
Procedural justice	7	0.895

Distributive justice	4	0.882
Interpersonal justice	4	0.839
Information justice	5	0.936
Psychological contract fulfillment	5	0.890
Employee engagement	6	0.861

#### 4.4 Validity analysis

##### 1) Convergent validity

According to the convergent validity analysis result, the measurement tool used in this study is of a good convergent validity, a high reliability and stability, ensuring the further data analysis and research to deeply explore the attitudes, views and behaviors of teachers at private higher colleges and universities in Fujian Province in procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment and employee engagement with these tools. The result has laid a foundation for this study, increasing the reliability and validity of this study.

**Table 4 Convergent validity analysis result**

Variable	n	Factor loading	CR	AVE
Procedural justice	A1	3.71	0.918	0.615
	A2	3.70		
	A3	3.82		
	A4	3.67		
	A5	3.79		
	A6	3.78		
	A7	3.78		
Distributive justice	B1	3.81	0.920	0.741
	B2	3.97		
	B3	3.84		
	B4	3.79		
Interpersonal justice	C1	3.82	0.894	0.679
	C2	3.60		
	C3	3.75		
	C4	3.78		
Information justice	D1	4.10	0.951	0.795
	D2	4.17		
	D3	4.16		
	D4	4.13		
	D5	4.17		
Psychological contract fulfillment	E1	3.53	0.921	0.699
	E2	3.59		
	E3	3.75		
	E4	3.58		
	E5	3.68		
Employee engagement	F1	3.98	0.897	0.592
	F2	3.91		
	F3	3.81		
	F4	3.98		
	F5	3.86		
	F6	3.74		

##### 2) Discriminant validity

According to the Fornell & Larcker Criterion test result, each variable is of good discriminant validity in the model, that is, variables can be accurately and reliably separated, laying a foundation for a credible and reliable subsequent data analysis and research to more accurately understand the perception and behavior of teachers at private higher colleges and universities in Fujian Province in procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment and employee engagement. The result increased the reliability and validity of this study.

**Table 5 Fornell & Larcker Criterion**

Variable	PJE	DJE	ITJ	IFJ	PCF	EET
PJE	0.784					
DJE	0.349 ***	0.861				
ITJ	0.459 ***	0.416 ***	0.824			
IFJ	0.480 ***	0.471 ***	0.696***	0.892		
PCF	0.412 ***	0.396 ***	0.516 ***	0.516 ***	0.836	
EET	0.457 ***	0.494 ***	0.582 ***	0.581 ***	0.497 ***	0.769

**4.5 Common method biases**

According to the Harman’s single-factor test result, it can be confirmed that the influence of common method biases is not significant in the valid sample data in this study, laying a foundation for reliable subsequent data analysis and conclusions.

**Table 6 Common method biases**

Component	Initial Eigenvalue	% of variance	Cumulative %	Extraction loadings	sums of squared	Rotatio n sums of square d loading s	Component	Initial Eigenvalue	Extraction loadings	sums of squared	Rotatio n sums of square d loading					
Total						Total					Total					
6	1.062	3.425	68.792	1.062	3.425	68.792	2.234	7.206	68.792	65.368	1.602	5.166	65.368	3.092	9.974	61.587

**4.6 Structural equation model**

**1) Model fitting**

**Table 7 Model fitting**

Construct	R <sup>2</sup>	adj-R <sup>2</sup>	Q <sup>2</sup>
Psychological contract fulfillment	0.351	0.346	0.239
Employee engagement	0.477	0.472	0.277

**2) Direct effect test**

This study selected a resampling sample with a size of 5000 with Bootstrapping algorithm in software to test the original data. Then this study analyzed the path test result of the model, so as to obtain the path coefficient and CR of the structural equation model. The critical proportion, T-value, can determine whether the regression coefficient is significant or not. It is generally believed that a T-value greater than or equal to 1.96 indicates there is a significant difference at the significant level of 0.05 (or P<0.05). The model path test result and the hypothesis test result are shown in Table 8.

**Table 8 Direct effect test result**

Path correlation	β	SE	T	P
PJE -> PCF	0.151	0.045	3.360	0.001
DJE -> PCF	0.145	0.045	3.249	0.001
ITJ -> PCF	0.242	0.061	3.983	0.000
IFJ -> PCF	0.206	0.059	3.509	0.000
PJE -> EET	0.129	0.041	3.130	0.002
DJE -> EET	0.208	0.040	5.159	0.000
ITJ -> EET	0.233	0.057	4.088	0.000
IFJ -> EET	0.183	0.046	3.950	0.000
PCF -> EET	0.147	0.046	3.190	0.001



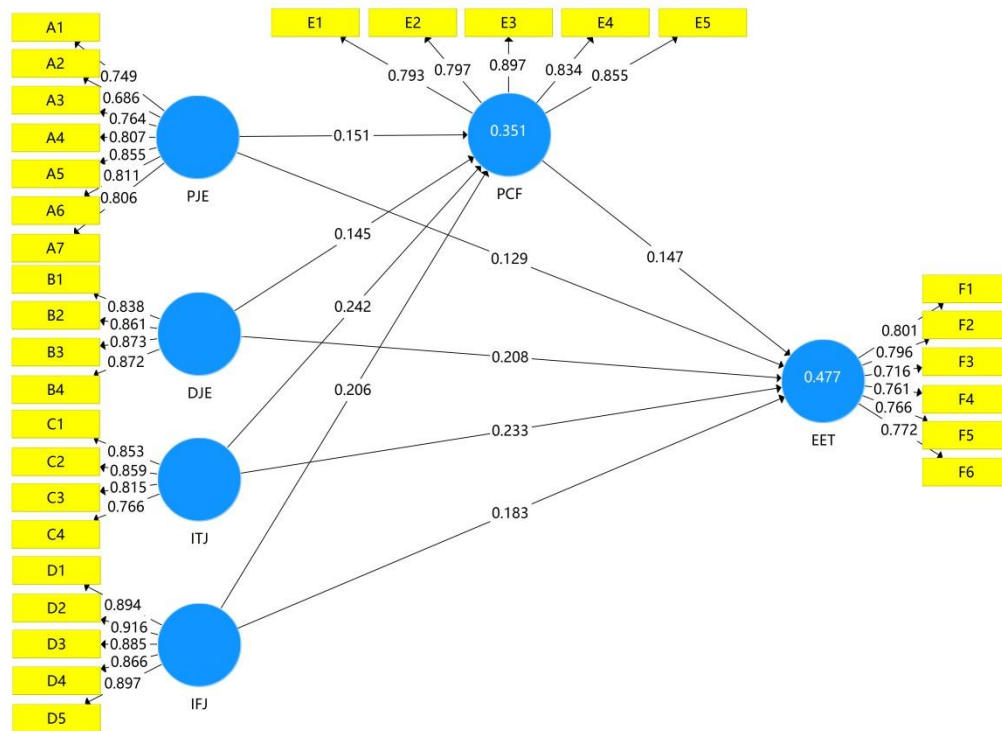


Figure 1 Path coefficient

3) Mediating effect test

This study then verified the mediating effect of psychological contract fulfillment, and the test result is shown in Table 9. It can be seen from Table 9 that procedural justice, distributive justice, interpersonal justice, information justice and psychological contract fulfillment have significant positive and indirect effect on employee engagement, with a confidence interval not containing 0.

Table 9 Mediating effect test result

Indirect path	$\beta$	SE	T value	LLCI	ULCI	P
DJE -> PCF -> EET	0.021	0.010	2.040	0.005	0.046	0.041
PJE -> PCF -> EET	0.022	0.010	2.318	0.006	0.043	0.020
ITJ -> PCF -> EET	0.036	0.014	2.638	0.012	0.064	0.008
IFJ -> PCF -> EET	0.030	0.013	2.318	0.008	0.059	0.021

5. Discussion and Conclusion

5.1 Discussion

In this study, the researcher delved into the key findings and implications derived from the comprehensive exploration of organizational justice, psychological contract fulfillment, and employee engagement among teachers in privately-run higher institutions in Fujian, China. The study employed a quantitative research approach, leveraging a resampling sample with a size of 5000 through the Bootstrapping algorithm to rigorously test the original data. The results of the path analysis of the structural equation model provide insights into the interconnections among procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment, and employee engagement. One of the pivotal findings of this study is the positive correlation between various dimensions of organizational justice, particularly procedural justice, distributive justice, interpersonal justice, and information justice, with psychological contract fulfillment. The teachers' perceptions of fair and transparent procedures, just distribution of resources, positive interpersonal relationships, and effective communication within the organization contribute significantly to their sense of psychological contract fulfillment. This discovery underscores the importance of cultivating a fair and transparent organizational environment to enhance teachers' psychological well-being. Moving beyond the dimensions of organizational justice, the study further explores the relationship between psychological contract fulfillment and employee engagement. The findings reveal a significant positive correlation, highlighting that teachers who experience higher levels of psychological contract fulfillment are more likely to demonstrate increased engagement in their roles. This aligns with existing literature emphasizing the critical role of psychological contract fulfillment in fostering employees' commitment, satisfaction, and motivation. Additionally, the mediating effect of psychological contract fulfillment on the relationship between organizational justice dimensions and employee engagement is confirmed. Procedural justice, distributive justice, interpersonal justice, and information justice not only directly impact psychological contract fulfillment but also indirectly influence employee engagement through this mediating mechanism. This mediation underscores the pivotal role of psychological contract fulfillment as a bridge connecting organizational justice perceptions with the active engagement of teachers in their work. In conclusion, the findings of this study contribute valuable insights to the understanding of the intricate dynamics between organizational justice, psychological

contract fulfillment, and employee engagement within the context of privately-run higher institutions in Fujian, China. The identified correlations emphasize the importance of fair and transparent organizational practices in promoting teachers' psychological well-being and active engagement.

## 5.2 Conclusion

In conclusion, this study has provided a nuanced examination of the relationships among procedural justice, distributive justice, interpersonal justice, information justice, psychological contract fulfillment, and employee engagement in privately-run higher institutions in Fujian, China. The comprehensive analysis of data revealed substantial evidence supporting the hypotheses posited at the beginning of the study. The positive correlations found between organizational justice dimensions and psychological contract fulfillment underline the significance of fostering a workplace environment characterized by fairness, transparency, and positive interpersonal relationships. These aspects collectively contribute to teachers' fulfillment of their psychological contracts, enhancing their overall job satisfaction and commitment. Furthermore, the confirmed positive correlation between psychological contract fulfillment and employee engagement accentuates the importance of attending to teachers' perceptions of their psychological contracts. Organizations that prioritize cultivating a positive psychological contract are likely to experience higher levels of employee engagement, which, in turn, contributes to increased productivity and organizational success. The mediation analysis underscores the crucial role played by psychological contract fulfillment in translating the positive effects of organizational justice dimensions into enhanced employee engagement. This mediating mechanism serves as a pathway through which fair and just organizational practices positively influence teachers' active involvement in their roles. In conclusion, this study not only advances academic understanding but also provides practical implications for the management of privately-run higher institutions in Fujian, China. As these institutions strive to create environments conducive to both organizational justice and psychological contract fulfillment, they are likely to witness heightened levels of employee engagement and, consequently, overall organizational success.

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