THE EFFECTS OF TRANSFORMATIONAL LEADERSHIP ON TEACHERS' ORGANIZATIONAL JUSTICE AND JOB SATISFACTION IN PRIVATE UNIVERSITIES IN SHANDONG PROVINCE, CHINA

ZUO CHANGLONG

A dissertation submitted in partial fulfillment of the requirements for

the degree of Doctor of Philosophy in Management
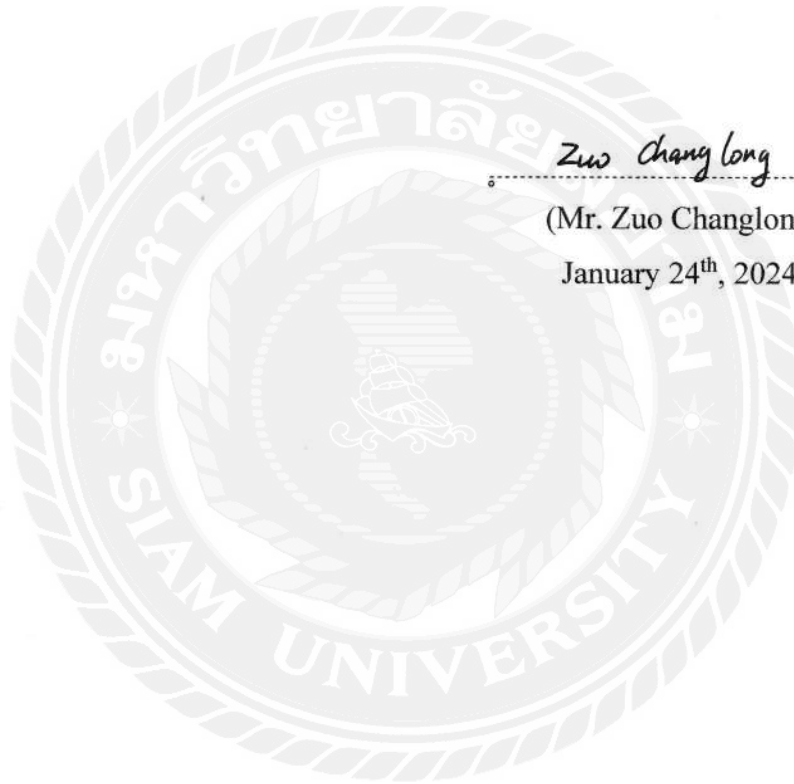
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Declaration

I, Zuo Changlong (Student ID# 6319200024), hereby certify that the work embodied in this dissertation entitled " The Effects of Transformational Leadership on Teachers' Organizational Justice and Job Satisfaction in Private Universities in Shandong Province, China" is result of original research and has not been submitted for a higher degree to any other university or institution.

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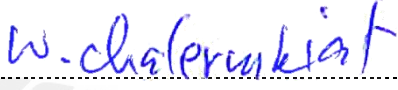
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Abstract

Title	:	The Effects of Transformational Leadership on Teachers' Organizational Justice and Job Satisfaction in Private Universities in Shandong Province, China
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The objectives of this study are to analyze how transformational leadership affects job satisfaction and to explore the relationship between transformational leadership and teachers' satisfaction through organizational justice and psychological capital in private universities in Shandong Province.

A total of 425 samples of data from private universities in Shandong Province were collected in this study. The data was analyzed by using the quantitative research approach, a structural equation model was developed, and confirmatory factor analysis (CFA) was utilized to test the hypotheses.

The results show that there is a relationship between the research variables. There are significant direct effects of transformational leadership on psychological capital, organizational justice, and job satisfaction. Meanwhile, psychological capital and organizational justice mediate between transformational leadership and teachers' job satisfaction. Transformational leadership enhances employees' sense of organizational justice and psychological capital. Transformational leadership motivates employees to have good job satisfaction.

Keywords: transformational leadership, organizational justice, job satisfaction

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Finally, I would love to thank my family, especially my wife and lovely daughter. I feel indebted for their unconditional love, guidance, and support throughout my life. I would like to express my gratitude once again to everyone, who helped me to overcome my doubts in doing this dissertation.

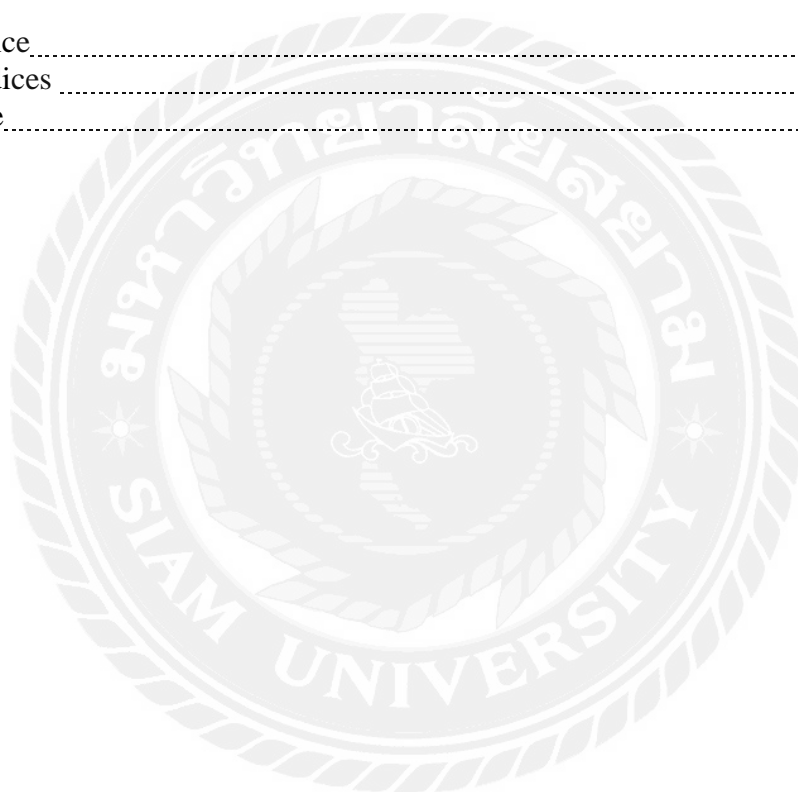Zuo Changlong

January 24, 2024

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Chapter 1

Introduction

1.1 Background of the Study

With the background of economic globalization, world multi-polarization, and the rapid development of science and technology, the talent competition is intensifying. To adapt to the development pattern of accelerated economic transformation, China's socialist modernization has put forward more urgent mission requirements for promoting the overall development of human beings and cultivating high-quality talents. The critical role and status of education have become increasingly prominent (Wang, 2020). To meet the needs of social and economic development, the Chinese government insists on giving priority to the development of education, adheres to the strategy of strengthening the country with talents, promotes the transition from a large human resource country to a strong talent country, emphasizes the importance of educating people, and insists on placing education as a strategic priority for development.

The private higher education system was first established in China in 1982 when the constitution was promulgated to encourage collective economic organizations, international business organizations, and other social forces to organize various educational undertakings by the provisions of the law. In 1985, the Chinese government promulgated the decision on the reform of the education system, which pointed out the direction for developing private higher education. Private universities have become an essential part of Chinese higher education.

In education development, teachers bear a heavy responsibility in improving the quality of education and promoting educational equity and are an essential grip for achieving high-quality development of education. The result of a highly qualified and professional teaching force is an important task. In the process of building a high-quality skilled teaching force, attention to teachers' job satisfaction is an essential part

of the development process and determines teachers' attitudes and behaviors. This is directly linked to the quality of teaching and learning and is the key to running an excellent education to the satisfaction of the people. The Chinese government has strategically emphasized developing the teaching force, caring for teachers, and ensuring job satisfaction to become a desirable profession. Improving teachers' job satisfaction is the key to the stability and progress of their team building, which is strongly guided by policies and needs more attention in the context of the new era (Wang, 2020).

According to the Programme for International Student Assessment (PISA) survey 2019 (Bautheney, 2019) about the satisfaction of teachers in private universities in China, the satisfaction rate of teachers in private universities in Beijing, Shanghai, Jiangsu, and Shandong reached 79%. The proportion of responses with "satisfied" and "very satisfied" with their current jobs was 89%. In comparison, teachers in developed continents such as Europe and the United States gave 95% of the total "satisfaction" rating for their work. With the development of market-oriented performance evaluation mechanisms and modern information technology, teachers in private universities in China are prone to accumulate pressure when adapting to the changing working environment based on the background of education reform, resulting in low motivation and depression in general. Therefore, it is still necessary to focus on analyzing the factors that affect teachers' satisfaction in their positions and the mechanism of their role in improving the current situation of teachers' job satisfaction and organizational justice and to put into practice the effectiveness of building the teaching force.

The development and success of an organization depend on the leadership style of its leaders and their commitment to the organization's management. Leaders' attitudes and behaviors toward faculty in private universities will impact faculty job satisfaction and organizational justice. According to the research, teachers' job satisfaction and organizational justice are closely related to leaders. For example, performance appraisal, title evaluation, and salary have become stressful in teachers' daily work. At the same time, some scholars' studies in compensation and others to meet teachers' needs with tangible benefits to enhance teachers' satisfaction can play a

specific leverage role in the early stage of education reform, but at present, relying solely on performance rewards and punishments as well cannot enhance teachers in job satisfaction and organizational justice at work (Tabancel, 2016). Therefore, to improve teachers' job satisfaction and current understanding is necessary to break through the traditional leadership style for teachers. This creates requirements for a change in leadership style in private universities.

Shandong province has 22 universities, which is the highest proportion of private universities in China. And Shandong province is rich in educational resources. According to the information published on the website of the Chinese Ministry of Education from 2019 to 2021, the faculty satisfaction of private universities in Shanghai, Beijing, Jiangsu province, Henan province, and Shandong province were compared, and it was found that the faculty satisfaction of private universities in Shandong province, a region rich in educational resources, is currently the lowest, at 74.3%, 78.4%, and 79.6% from 2019 to 2021, respectively. Therefore, it is important to improve the satisfaction of teachers in private universities in Shandong province.
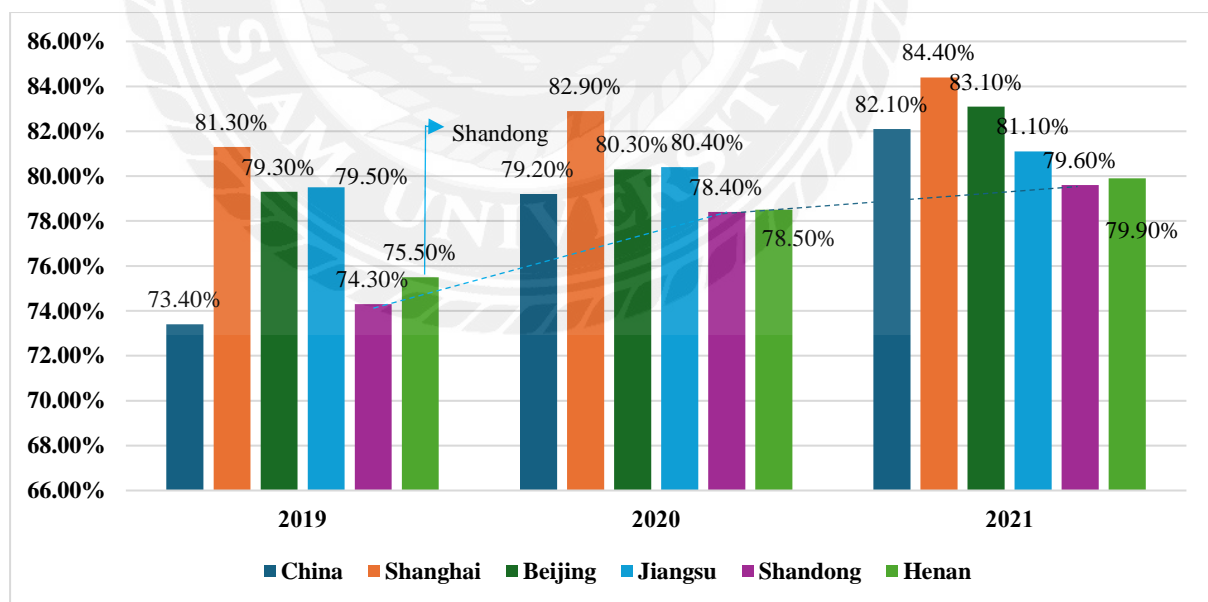
Figure 1.1 The Satisfaction of Teachers in Private Universities in China
(Source: Chinese government, 2023)

The following problems exist in comparing the employment status of teachers in China's private universities with those of public universities. First, the salaries of private university teachers are noticeably low. Job security is worse than at public universities and retirement pensions are still lower than those of retired teachers in public schools. Second, the professional development space for teachers in private universities is limited, and lack of career motivation and opportunities for promotion and further training. Third, management at private universities is low and teachers lack a sense of ownership. There is a conflict between the management philosophy and the educational philosophy of private university leaders. Teachers have high work pressure. Unstable career Lack of stability Lack of voice in school management Lack of sense of belonging and belonging to the school and strong feelings of occupational risks (Wu, 2021). As an important model region of Chinese education, the problems encountered in the satisfaction of teachers in private universities in Shandong province are therefore representative and universal. It is important for improving teacher satisfaction in private universities (Cui, 2016).

When compared to employees in the organization teachers work with more freedom in teaching and administration. Therefore, in a loosely structured but culturally cohesive school environment. Even the use of top-down contractual exchanges cannot change teachers' attitudes on a deeper level and earn their heartfelt approval. The only way for private university leaders to change their leadership style is to use value addition to create a commonly negotiated vision with teachers. Encourage identification with organizational goals and make a real commitment to creating potential capabilities and sincere satisfaction from a value perspective. This is when transformational leadership has a purpose (Choi & Park, 2022) as leadership theory continues to develop. Humanistic approaches to leadership are gaining more and more attention from academics. Including a new paradigm of transformational leadership. It is characterized by the creation of a shared vision and a humanistic development strategy to lead subordinates. Therefore, it seems that studying the effectiveness of transformational leadership is relevant to the current educational development. Especially its humanistic nature is worthy of further discussion and attention for teachers of private universities under the background of educational reform (Akhtar et al., 2022), where work stress

and burnout are high. The leadership style of transformational leadership helps break the shackles of traditional leadership styles. Increase employee acceptance of their work and at the same time increase teachers' job satisfaction and organizational justice through such a leadership style. Improves collaboration of the entire organization and is a guarantee for organizational development. Organization's internal and external environments are more complex and indistinguishable, and there are more and more uncertainties, especially the uncertainty of people, which has become a significant obstacle to managing most contemporary organizations more prominently. Facing the fate of people in the organization, especially employees, the traditional management style needs to meet the needs of reality. How we should choose a more effective leadership style and behavior to enhance workers' organizational justice and satisfaction is a question that every organization leader must carefully ponder. Organizational members' organizational justice and satisfaction are key to the development and operation of organizations, and this situation is particularly evident among faculty members of private universities in China.

The non-instrumental rational characteristics of transformational leadership are more in line with the development of China's private universities today than traditional contractual leadership. Although many studies in the organizational field confirm their positive effect on job satisfaction (Drori & Honig, 2013), the influence mechanism between the two still requires further in-depth investigation. If the relationship between the two is only verified, the inquiry is still superficial in exploring the results of the relationship. Recent studies have compared transformational leadership mechanisms and outcome variables to a "black box." They are studying possible mediating variables in the path of influence, which makes the "black box" a frontier of research.

Evaluating work performance and other job pressures brings teachers to negative psychological states. This negatively affects their job satisfaction. Therefore, private university leaders must focus on cultivating the good mental state of teachers, such as developing their level of psychological capital to increase job satisfaction. It is critical to explore the role of teachers' internal resources in the relationship between private university leadership and job satisfaction and organizational justice, all for

revealing the theoretical "black box" and for the actual leadership work of private university leaders.

In recent years, the Chinese government has placed new emphasis on teachers' job satisfaction in private universities. However, the current situation still needs to be further improved, so the in-depth study of its mechanism of action is appropriate to the actual problem and has vital practical significance (Lewin et al., 2011). Therefore, through real investigation, the impact of transformational leadership of private university leaders on teachers' satisfaction and organizational justice in their jobs and the mechanism of the two can be profoundly significant to stimulate positive energy in teachers' work, change their working attitude and transform the leadership style of private university leaders, to promote private universities to a more humanistic pattern and higher value orientation. This will encourage private universities to pursue a more humanistic design and higher values.

1.2 Significant of the Study

First, deepen the research on the mechanism of the role of transformational leadership. Transformational leadership, a leadership style that has emerged in recent years, has received increasing attention from scholars. It has enriched the relationship between transformational leadership and teachers' job satisfaction and organizational justice among leaders of private universities in China in management science. According to the relevant literature, most studies on teachers' job satisfaction and organizational justice have focused on assessing the satisfaction status of teachers in different regions and stages. There needs to be more research on the relationship between teachers' satisfaction and organizational justice and other variables. The research on transformational leadership and teachers' satisfaction and sense of justice needs to be revised (Anderson, 2018).

On the other hand, the transformational leadership style of school leaders is essential for school organizational development and teacher workforce development, which has received extensive attention from scholars. Relevant studies have focused on variables such as teachers' job commitment, organizational commitment, performance

appraisal, and quality systems (Duygulu & Kublay, 2010). There are fewer studies on teachers' job satisfaction and feelings of equality. The research process lacks comprehensiveness and depth. The relationship between transformational leadership and employee satisfaction is unclear and the research system is not very good. The development of private universities in Shandong province is rapid, and there are many private universities. Private universities are an important part of Shandong's higher education. Therefore, it is more necessary and feasible to study the relationship between teacher satisfaction organizational justice, and transformational leadership in private universities (Hamad, 2020). It is essential to guide the development of private universities in Shandong province by studying the mechanism for deepening the role of transformational leaders. which is necessary for the development of higher education.

Therefore, based on related research results, this study first constructs how transformational leaders influence teachers through their leadership in private universities in Shandong province. It also analyzed the relationship between transformational leadership and teachers' satisfaction, teachers' sense of organizational justice, and teachers' psychological capital, and proposed a theoretical model of teachers' job satisfaction in private universities, based on this, it proposed a research hypothesis to explore the relationship between transformational leadership and teachers' satisfaction, the relationship between transformational leadership and teachers' sense of organizational justice (Hutchinson & Jackson, 2012), and the relationship between transformational leadership and teachers' psychological capital. Compared with previous studies, this dissertation establishes a model and quantitative analysis instead of generalizing, which improves the depth of the research and thus deepens the study of the mechanisms of transformational leadership (Karakitapoğlu-Aygün & Gumusluoglu, 2013).

Second, to provide theoretical guidance and a basis for improving leadership in private universities. This dissertation uses transformational leadership theory, job satisfaction theory, organizational justice theory, psychological capital theory, social exchange theory, social cognitive theory, and structural equation modeling in the

research process (Cho & Dansereau, 2010). Transformational leadership theory fully reveals the connotation of different transformational leadership, the influencing factors of leadership, the operation mechanism, and the cultivation of transformational leadership will be applied to the study to explain transformational leadership fully. Leadership identity theory and social cognitive theory are critical theoretical bases for organizations to manage their employees (Aponte-Moreno, 2018). The identity theory is used to enhance employees' identification with the organization and the recognition of private university teachers in the school. Structural equation modeling is essential for quantitative research in current management science. The article combines structural equation modeling with research scales in the study to quantitatively analyze the impact of transformational leadership on teachers' satisfaction and organizational justice in private universities in Shandong province. The investigation is innovative and forward-looking. From the literature, there are relatively few studies on university leadership in Shandong province, and it is creative to combine faculty satisfaction with university leadership for quantitative research.

Teaching pressure and work stress of teachers in private universities are higher than in public universities. Meanwhile, teacher salaries in private universities are also less than teachers in public universities. And there is also job insecurity. Teachers in private universities often show dissatisfaction with their work, and their teaching quality and work enthusiasm will be reduced. Therefore, it is more urgent to solve the problem of teacher satisfaction in private universities.

The purpose of the study is that private university leaders achieve transformational leadership change to enhance faculty satisfaction and equity. Transformation of transformational leadership requires theory to guide practice. Guiding the improvement and modification of administration in private universities needs relevant theoretical support. In contrast, exploring the influencing factors of teachers' satisfaction and organizational justice must be combined with the identity theory and satisfaction model (Vanhala et al., 2016). Therefore, the research process of the article combines relevant theories and models with practice to enhance the scientificity and rationality of the research. Meanwhile, it realizes that approach

combines with training. Theory guiding practice Routines validate theories and reinforce perspectives.

Furthermore, the scope of adaptation of transformational leadership theory is expanded. The transformational leadership theory is proposed to improve the leadership ability of corporate managers. The main object of previous studies is the management of enterprises. Only a few studies have applied transformational leadership theory to private university organizations (Bulut & Culha, 2010). The article expands the research scope by studying transformational leadership's effects on faculty satisfaction and organizational justice in private universities. Transformational leadership theory is introduced to private university organizations to guide private university leaders to improve school management (Herachwati & Rachma, 2018). School organizations differ from corporate organizations in that they are concerned with the education of individuals. The management organization is looser and the management system is more relaxed than a corporate organization. The organizational characteristics of private universities can be better integrated with transformational leadership to improve the development of school organizations.

Lam (2011) argued that the impact of transformational leadership on teacher satisfaction and organizational justice in private universities is not limited to the leadership of teachers' values and leadership style. However, it may also indirectly affect teachers' job satisfaction and organizational justice by motivating teachers. The psychological component is the bridge. At the same time, the influence of transformational leadership on teachers' understanding of organizational justice in the workplace also influences job satisfaction. Therefore, teachers' psychological capital, which represents a positive psychological state, was used in the relationship between transformational leadership and teachers' job satisfaction as a mediating variable. Structural equation modeling was used to attempt to explain the mechanism of action for how transformational leadership drives teacher satisfaction ratings. The research analysis expands the scope of refinement of transformational leadership theory.

Finally, this study has practical implications. Numerous studies have shown that transformational leadership has a profoundly beneficial impact on achieving

organizational goals. In Chinese higher education, scholars have spent several years studying the needs, multiple roles, and importance of corporate leaders. Leadership styles in private universities in Shandong province are complex and multidimensional. It is essential to reveal how transformational leadership in private universities can be applied to higher education management in China. Meanwhile, the size of the organization, its years of establishment, the type of organization, the development stage of the organization, as well as employees with different positions and personality traits require business managers to apply additional management efforts and methods to evaluate the degree of employee motivation. From the perspective of private universities, the structure type of organizations has changed from linear-functional to matrix type (Herachwati & Rachma, 2018), from single-person to teamwork, and the previous leadership style is challenging to adapt to the changes of the times. This study can also enhance the "meaningful management" of transformational leadership, improve employees' sense of empowerment, and increase their job satisfaction.

Based on the context of China's educational change and accelerated teacher development, this study seeks to promote leadership improvement in private universities in Shandong province through empirical research and analysis. It first helps leaders of private universities in Shandong province to understand how teachers in their organizations perceive their transformational leadership, satisfaction ratings, organizational justice, and level of psychological capital about their work. Through the investigation of the mechanism of action, the leaders of private universities in Shandong province will be able to indicate the difference in the degree of influence of each dimension of their transformational leadership on teachers' satisfaction and organizational justice and analyze the role of teachers' positive psychological energy and state in the influence mentioned above relationship, to guide the leaders of private universities in Shandong province to find out the most effective leadership approach to improve teachers' satisfaction and to provide a basis for the improvement of their transformational leadership style, as well as the development of teachers' psychological capital. This will guide leaders of private universities in Shandong province to identify the most effective leadership approaches to improve teachers' satisfaction and provide a basis for enhancing their transformational leadership style and developing teachers'

psychological capital. By referring to the results of the empirical study, leaders of private universities in Shandong province can make appropriate adjustments to their leadership styles and pay more attention to the psychological capital of teachers in their organizations, both of which can help to improve their leadership skills and enhance the job satisfaction of all teachers.

1.3 Research Questions

(1) What transformational leadership factors in private universities in Shandong province affect teachers' job satisfaction?

(2) Does transformational leadership in private universities in Shandong province positively or negatively impact teachers' job satisfaction?

(3) What is the effect of transformational leadership through organizational justice and psychological capital that impacts job satisfaction in private universities in Shandong province?

1.4 Research Objectives

This study examines the influence of transformational leadership of private university leaders on university teachers' job satisfaction and organizational justice. With a factor analysis of the impact of transformational leadership on job satisfaction and perceptions of justice. We propose countermeasures to improve the leadership level of private universities in Shandong province. To realize the improvement of the management level of private universities in Shandong province. and to increase satisfaction and organizational justice among teachers at private universities.

(1) To find out the factors that affect transformational leadership and job satisfaction.

(2) To explore the relationship between transformational leadership and teachers' satisfaction in private universities in Shandong province.

(3) To study mediating variables and discover the effect of transformational leadership through organizational justice and psychological capital that impact job satisfaction in private universities in Shandong province.

1.5 Scope of the Study

The topic of this study is centered on four areas: transformational leadership, job satisfaction, organizational justice and psychological capital.

(1) The main subjects of this study are teachers of private universities in Shandong province. The private universities outside Shandong province are not included in the scope of this study.

(2) This study will be conducted by randomly selecting the teachers of private universities in the survey area to fill out the questionnaire as the survey sample for testing. A formal questionnaire survey will be conducted after the completion of the test.

(3) The data collection information in this study will include teachers' personal information such as teachers' gender, age of teaching, education, title, job title, years of teaching, teaching subjects, etc. The focus will be on teachers' private universities' leadership style, job satisfaction, and organizational justice.

1.6 Research Methods

A quantitative method will be used in this study.

First, quantitative research is the most used management method to study the relationship between leadership, employee performance, and employee satisfaction. Quantitative research allows first-hand data and is simple, fast, effective, and least costly through questionnaires.

Secondly, quantitative research is more suitable for structural equation modeling, ensuring the research can be conducted effectively. Quantitative research methods are more scientific and convincing. This study used the literature review to

construct a relational model, design a questionnaire, collect data, statistically analyze the collected data, and conduct empirical analysis through SPSS and AMOS. Chinese scholar Chao-Ping Li later revised the questionnaire section measuring transformational leadership style. The transformational leadership style was divided into four dimensions: morality, vision motivation, personalized care, and leadership charisma (Li et al., 2018). This study uses the multi-factor leadership style questionnaire to measure transformational leadership.

Finally, the questionnaire will be collected using the Questionnaire Star online and off-line collection methods. The questionnaire was designed using a 5-point Likert scale to assign values to the questionnaire and provide information for subsequent data analysis.

1.7 Expected Results

(1) This research examines the effects of transformational leadership on teachers' job satisfaction and organizational justice. There is a positive relationship between transformational leadership, teachers' psychological capital, teachers' understanding of organizational justice, and teachers' job satisfaction in private universities in Shandong province. At the same time, transformational leadership not only directly affects teachers' job satisfaction but also indirectly affects teachers' job satisfaction through two factors: teachers' psychological capital and teachers' organizational justice. Therefore, teacher psychological capital and teacher organizational justice are mediating variables (Kalra, 2020).

(2) This research aims to provide management guidance for managers of private universities in Shandong province. By identifying the factors that influence transformational leadership on teachers' job satisfaction and by exploring the mechanism of action, the study indicates for leaders of private universities in Shandong province the differences in the extent to which each dimension of their transformational leadership affects teachers' satisfaction and organizational justice and analyses the role played by teachers' positive psychological capital and status in the above influence relationships (Kumar et al., 2022), to guide leaders of private universities in Shandong

province to identify the most effective leadership approach to improve teacher satisfaction and organizational justice and provide a basis and ideas for enhancing their transformational leadership style and developing teachers' psychological capital.

(3) The root causes of the effect of transformational leadership on teachers' satisfaction and organizational justice in private universities in Shandong province are investigated. By referring to the results of the empirical study, leaders of private universities in Shandong province can make appropriate and optimal adjustments to their leadership styles and optimize their management measures in a targeted manner. At the same time, the teachers of private universities in Shandong province are prompted better to understand the school's policies and development strategies.

1.8 Contribution of the Study

This study is innovative and forward-looking, and the literature collection revealed fewer related studies, the method of the analysis is primarily qualitative research, the depth of the study needs to be improved, and the relationship between transformational leadership and teacher satisfaction needs to be sorted out. Therefore, the research contributions of this study are mainly:

(1) This research provides effective measures and methods to improve the management performance of leaders in private universities in Shandong province. The management level of leaders of private universities in Shandong province will be effectively improved, which will benefit the organization's development and the implementation of relevant policies (Maheshwari, 2021). It is significant for the high-quality development of private universities.

(2) The results of this study are of generalized significance, indicating that transformational leadership has far-reaching beneficial effects on the achievement of organizational goals. Organizations can improve their management performance based on the learning outcomes. The research results are also extended to managing private universities in other regions of China.

(3) The research method is innovative and forward-looking. The quantitative research on faculty satisfaction, organizational justice, and leadership is creative. It will provide a good foundation for later researchers and scholars and directions and methods for subsequent research.

1.9 Definition of Key Terms

Term	Definition
Transformational Leadership	Transformational leadership theory is part of the new paradigm of leadership theory and has received much attention from scholars for its humanistic and value-added thrust. Transformational leadership is a style of leadership that promotes the internal commitment of employees by expressing their recognized vision and higher-level needs and makes them naturally follow and obey the leader from within.
Job Satisfaction	Job satisfaction connotation: It can be seen as the emotion that arises from the employee's evaluation of his or her personal feelings at work, and the emotional orientation towards the role played at work.
Psychological Capital	Psychological capital: It has a positive orientation, and provides teachers with more emotional support, which in turn promotes a more positive posture to perform better as individuals, thus positively affecting performance and satisfaction, and is measurable and developable.
Organizational Justice	Organizational justice: organizational justice stems from whether managers act according to organizational justice standards that state how employees expect managers to behave when making decisions, and when managers do not follow the laws of organizational justice, they are perceived as breaking the rules of organizational justice.
Social Exchange Theory	The theory suggests that we should study individuals' psychological processes and behavioral outcomes in daily work and life by drawing on the concepts of input and output in economics, in which "profit and harm avoidance" is the basic principle of people's behavior. All social activities of people can be attributed to an exchange relationship. The social relationship is also an exchange relationship, i.e., social exchange, which is also the most basic form of relationship between people.
Social Cognitive Theory	The mechanisms of human behavior are neither driven by internal forces nor automatically shaped and controlled by external stimuli but can be based on a triad of mutually beneficial interactions.

Term	Definition
Private Universities in China	Private institutions of higher education in China refer to schools of higher education and other educational institutions organized by enterprises, social organizations, other social organizations, and private citizens with non-state financial education funds, and their levels of education are divided into specialist, undergraduate, and graduate education.

1.10 Dissertation Structure

The research structure of this dissertation is divided into five chapters.

The first chapter introduces the study. The main contents included are the study's background, the study's significance, the study's objectives, the scope of the study, the research methodology, the scope of the investigation of the study, and the expected effects. The study's core concepts and key terms are defined, and the research framework is presented.

Chapter 2 Literature Review. The core content of the research topic, such as transformational leadership, job satisfaction, psychological capital, and organizational justice, are reviewed in the literature, including the connotation, structural dimensions, and measurement. Meanwhile, the social exchange theory, social cognitive theory, structural equation model, and other related theories applied in the research process are sorted out and elaborated.

Chapter 3 Research Methodology. A theoretical model with mediating effects is constructed by combining the relationships among transformational leadership, teachers' job satisfaction, and teachers' psychological capital variables of private university leaders discussed in the literature review. The research method of this dissertation is described, and then the research hypothesis is proposed, which is the premise of hypothesis testing in the subsequent empirical study.

Chapter 4 Research Result. First, based on the existing questionnaires of transformational leadership, psychological capital, and job satisfaction with good reliability and validity, the pre-research questionnaire of this study was constructed by

combining the questionnaires related to the education field, and the formal questionnaire of this study was formed by validating and revising the questionnaires of each variable through pretesting; then the data collection method and the distribution of the characteristics of the formal research sample of this study were elaborated; and then the formal questionnaire was evaluated based on the data of the formal survey. Then, the reliability analysis of the formal questionnaire was conducted based on the formal survey data. The conclusions were drawn by combining structural equation modeling with hypothesis testing to determine the correlations between transformational leadership, organizational justice, psychological capital, and job satisfaction.

Chapter 5 Discussion and Recommendations. The main findings of this study are summarized and discussed in detail about the relevant theories and practices; then, the corresponding countermeasures and suggestions are proposed to promote the leadership improvement of private university leaders in Shandong province and the optimal development of teachers' job satisfaction and organizational justice.

Chapter 2

Literature Reviews

2.1 Introduction

Transformational leadership theory is cited in many fields and is essential for improving the leadership of organizational leaders. Organizations attach importance to the application and practice of transformational leadership, and scholars at home and abroad have conducted in-depth and systematic research on transformational leadership theory. The construction of transformational leadership motivates organization members to improve their performance. Improving leadership levels in private universities in Shandong province needs transformational leadership as guidance. Therefore, an essential part of the literature review in this dissertation in the study focuses on the effect of transformational leadership on teachers' satisfaction and organizational justice (Magableh, 2020).

This chapter describes the relevant definitions, development, influencing factors, and measurement dimensions of transformational leadership theory, etc. It also includes the connotation and influencing factors of job satisfaction, the definition and influencing factors of psychological capital, etc., and the establishment, development, and definition of the sense of organizational justice. Secondly, the relevant theories, including social exchange theory and social cognitive theory, are sorted out as the support and foundation of the study. Further, evaluate the effects of transformational leadership on job satisfaction, psychological capital, and a sense of organizational justice, and clarify the mediating effects of psychological money and a sense of administrative justice. Finally, we comb through the relevant literature of previous scholars on the impact of transformational leadership on job satisfaction, construct the conceptual model of this study, clarify the relationship between variables based on literature combing, and set hypotheses (Tikoko, 2021).

Transformational leadership theory is an essential element that needs to be focused on and sorted out in this chapter. It is expected that the literature review will provide a deeper

understanding of the content of this study and lay the foundation for the subsequent research and analysis. The literature review needs to sort out the content of previous scholars' research.

2.2 Literature Reviews

2.2.1 Social Exchange Theory

At the beginning of the 20th century, social exchange became a systematic theory, which originated from sociologists' borrowing and modification of the force-libertarian assumptions of classical economics. Classical economists viewed people as rational beings who constantly seek to maximize material benefits or utility when trading or exchanging with others in a free and competitive market. Those who need help are free and have access to the information they need. They can consider all other options on this basis. Choose the course of action that rationally maximizes material benefits.

In the last two decades, social exchange theory has become the most influential theoretical framework for studying employee-organizational relationships, with research on psychological contracts, causal contribution models, and perceptions of organizational support as the basis. Much empirical research supports using social exchange theory to understand employment relationships. The social exchange theory most frequently cited in the literature on employee-organizational relations is that of Homans (1953), Gouldner (1960), and others. Among them, Homans' (1953) study addressed the social exchange between employees and organizations Homans' (1953) theory describes the social exchange between individual employees. Gouldner (1960) proposed the principle of reciprocity as a possible normative social exchange.

2.2.1.1 Social Exchange Theory Definition

A formal organization is a system that consciously coordinates the activities or forces of two or more people. An indispensable element of an organization is the willingness of people to contribute their efforts to the collaborative system (Brown et al., 2019). Inducements cause the contribution of effort by the individuals who constitute the organizational force. Regardless of the individual's origins and obligations, the inducement must be provided to him to collaborate. Otherwise, there is no collaboration. In all kinds of

organizations, the most critical task is to provide the proper inducements to be able to exist, and the organization must implement different inducements. Since all incentives for the organization are a hindrance to its survival, the balance between the organization's expenditure and income can only be achieved through savings and distribution of various incentives it must be appropriate for the desired work.

Scholars have proposed the induced contribution model to describe the social exchange between employees and organizations. In the employee-organization relationship, the organization is treated as a unified entity responsible for managing the balance of induced contributions. They argue that employees are more satisfied when the inducements provided by the organization are more significant than the employee's contribution. The inducements provided by the organization and the employee's contribution are interactive, and the employee's contribution should ensure that the organization can consistently provide the same level of inducements. The inducement contribution theory describes the employee-organization relationship concisely and thoroughly with the idea of social exchange, which is so influential that it is the originator of the social exchange theory of employees and organizations, and many subsequent studies of employee-organization relationships have drawn on their ideas and theories. Although the organization is not a natural person, according to organizational anthropomorphism theory, employees will see the organization as a person from the whole. Hence, the interpersonal social exchange theory also has interpersonal social exchange theory has some implications for employee-organizational relationships. Drawing on behavioral psychology, human behavior is treated as an exchange of rewards (or punishments) between interacting individuals. Social behavior is "an exchange of goods, including not only material things but also immaterial things, such as signs of approval or prestige." The individual strives to balance the exchange with others and seeks to maximize the exchange gain, i.e., the difference between the value of the reward obtained and the cost paid (Homans, 1953). Defining exchange behavior exchange is voluntary behavior that occurs when an individual is motivated by the possibility of receiving a reward from the other party to the exchange. This action occurs when others respond by repaying and stops when others do not (Brown et al., 2019). Also, by dividing the exchange into economic and social, economic exchange is characterized by clear clarity. The exchange is based on a formal contract to ensure that both parties fulfill specific responsibilities, while social exchange

contains unspecified responsibilities. "The support provided gives rise to future dispersed responsibilities that are not simple and detailed and clear, and the reward is characterized by the fact that it cannot be bargained for, but must be left to the rewarder to judge." Thus, at the beginning of the exchange, one party must trust that the other party will fulfill its responsibilities in the future. Fulfilling duties, as usual, enhances the trust of both parties in each other.

This is to overcome the shortcomings of past theories that do not specify the content of the exchange. The resources of peer-to-peer exchange are divided into the following six categories: First, coins, which refers to any coin, currency, or token that has a standard unit of exchange. Second, commodity, which refers to a tangible product, object, or material. Third, service is an act of labor provided in response to another person's body or property. Fourth, information means advice, opinion, guidance, and enlightenment. Fifth, status, which is a term that expresses a high or low evaluation of another person's dignity, respect, and reputation. And sixth Love that expresses care, warmth, and comfort. These resources were ranked in two dimensions, concrete or abstract and special or general. For example, love is the most specific, while money is the most general. Goods and information are more specific than money. But there is more in general than status and service. Goods and services are concrete, while information is somewhat abstract. The third dimension of resource exchange It is claimed that some resources take more time to exchange (e.g. money is exchanged quickly, but love takes longer) from empirical studies People like to exchange things between their neighbors. Supporting the idea of universal, homogeneous interests (Gouldner, 1960). Two empirical studies found the above theory useful for studying resource exchange in work situations.

2.2.1.2 Principles of Social Exchange Theory

Social exchanges both between employees in an organization and between individuals require reciprocity to function properly. The principle of reciprocity was first proposed by Gouldner. It is argued that the assumption of reciprocity is inherent in functionalist sociological theory. In this sense, the concept of reciprocity becomes an explicit basis for the principles of functional analysis. Scholars have expanded the concept of reciprocity using three dimensions to provide a new classification of reciprocity. These three

dimensions are the timeliness of rewards. This is choosing when the recipient must give the reward to fulfill his or her responsibility. When he or she can reward immediately or irregularly equal rewards the degree to which two parties exchange the same resources and interest, which is the degree to which both parties in an exchange have an interest in the exchange process. From these three dimensions divide compensation into three types: universal compensation, reciprocal balance, and return negative rewards. This is characterized by conflicting interests of both sides in the exchange by trying to maximize utility at the expense of the other party.

Further emphasis is placed on the potential interdependence of the contributions of both parties in social exchange relationships, which divides social relations into transactional exchange and productive exchange. The transactional exchange is also divided into negotiated and reciprocal transactions. In a negotiated exchange, the contributions of both parties depend on the situation: in a reciprocal exchange, both parties contribute separately, and the transaction begins with mutual dependence, and the reciprocal exchange arises as soon as mutual repayment occurs. Productive exchange, on the other hand, is like cooperation, with the most striking feature being that neither party can benefit alone. If both parties perform well, both will benefit; if one performs poorly, neither will benefit. According to the theory related to the principle of reciprocity, the social exchange between employees and the organization includes both homogeneous and heterogeneous reciprocity, and there is a wide variety of interdependencies between the two parties. The most important implication of the above theories for organizations is to maximize the value of organizational inputs to employees, to give them the inputs they need proactively, and to protect their needs as much as possible when the organization is facing difficulties to maximize the sense of responsibility of employees in return.

The social exchange theory described above suggests that individuals actively return to their benefactors and bond with others to gain the most significant personal benefit (Greenberg, 1990). Beginning with Banard's (1938) and Hong's (1998) theory of induced contribution, academics have used social exchange ideas to explain employee-organization relationships. Many later organizational theorists have argued that employee-organization relationships are established when employees exchange their hard work and loyalty for

available benefits and social rewards. Social exchange processes have existed in studies of employee organizational relationships conducted in different cultural contexts (Sweeney & McFarlin, 1993). Thus, employee-organizational relationships are social exchanges between employees and organizations.

2.2.2 Social Cognitive Theory

Social cognitive theory was developed by Albert Bandura, one of the leading exponents of neo-Western behaviorism. He focuses his research on social learning theory centered on observational learning. After the 1980s, Albert Bandura focused on environmental and intrapersonal factors that cause changes in human thinking and behavior. In his 1986 book The Social Foundations of Thought and Behavior: A Cognitive Social Theory, Albert Bandura proposed a theoretical framework for human motivation, human thoughts, and human actions based on a social cognitive perspective. It provides a comprehensive analysis of social cognition theory (Albert, 1989) based on the social cognition perspective. Human behavioral mechanisms are neither driven by internal forces nor automatically generated and controlled by external stimuli. Instead, it can be explained according to the triadic reciprocal model. Albert Bandura provided a comprehensive and systematic summary of social cognitive theory and proposed a triadic interaction determinism.

The triadic interaction deterministic model has been applied to several domains. The model is commonly used to study the relationship between cognitive factors and behavior. Early on, many scholars studied issues related to computer skills. Scholars examined the training process of computer skills, developed research models, analyzed the application of social cognitive theory, and discussed the influence of cognitive factors on behavioral performance (Portugal, 2018). Based on Bandura's social cognitive theory model, personal and performance expectations of computer cognitive factors affect user behavior, Performance expectations are significantly related to user behavior (Compeau et al., 1999). Moreover, in recent years, many studies have gradually drawn on social cognitive theory to investigate the relationship between individual cognition and the willingness to use and behave online.

Using social cognitive theory to determine the determinants of user persistence in

online knowledge communities. It turns out that the cognitive factors of expectations and the environmental factors of system quality and knowledge quality have a strong influence on users' willingness to continue using them and therefore continue to use this behavior (Lin & Hsu, 2013). In terms of video sharing sites Mobile application cloud computing services internet banking health care, sports activities, etc. Many scholars have applied social cognitive theory to study the effects of cognitive and environmental factors on behavioral intentions and obtained consistent results. Scholars have also attempted to study many behavioral determinants of behavioral intentions. For example, the intentions of senior students have been established and tested in pharmacy practice research. It was found that self-efficacy and outcome expectations affected students' intentions to practice research and their willingness was followed by increased self-efficacy. Behavioral factors' ability and self-efficacy may directly or indirectly influence graduate students' intentions to start a business. Developing and strengthening students' leadership skills through education or practical experience can improve graduate student entrepreneurship.

2.2.2.1 Self-efficacy

A well-developed model in social cognitive theory is the five-factor model of social cognitive theory, which contains self-efficacy, self-evaluation, goal setting, social structural factors, and goal behavior. Body efficacy can be defined by the level an individual achieves in performing a target activity or the ability demonstrated by it. In practical terms, this ability is a subjective factor rather than a definite value. However, Albert Bandura argues that it is not the individual's efficacy that impacts the individual's behavioral activities but the subject's perception of individual efficacy, i.e., self-efficacy (Fuller et al., 1982).

As the most influential subjective belief, self-efficacy influences people's thinking patterns and situational responses in many contexts. It affects people's behavior choices, efforts to accomplish goals, resilience in the face of challenges, and anxiety or confidence about the task. Self-efficacy is one of the core motivating factors of the subject's self-system. Ultimately, realizing an individual's potential depends on the degree to which self-efficacy matches and coordinates with the actual knowledge and skills. With the introduction of self-efficacy, Fuller et al., (1982) gradually developed a five-factor influence model, which does not depart from the triadic reciprocal determinism, but only explains in depth the way self-

efficacy influences behavior from the perspective of self-efficacy, i.e., self-efficacy can influence behavior directly and indirectly through goal setting, outcome expectancy, and social structural factors. It also indirectly influences behavior through goal setting, outcome expectations, and social structural factors.
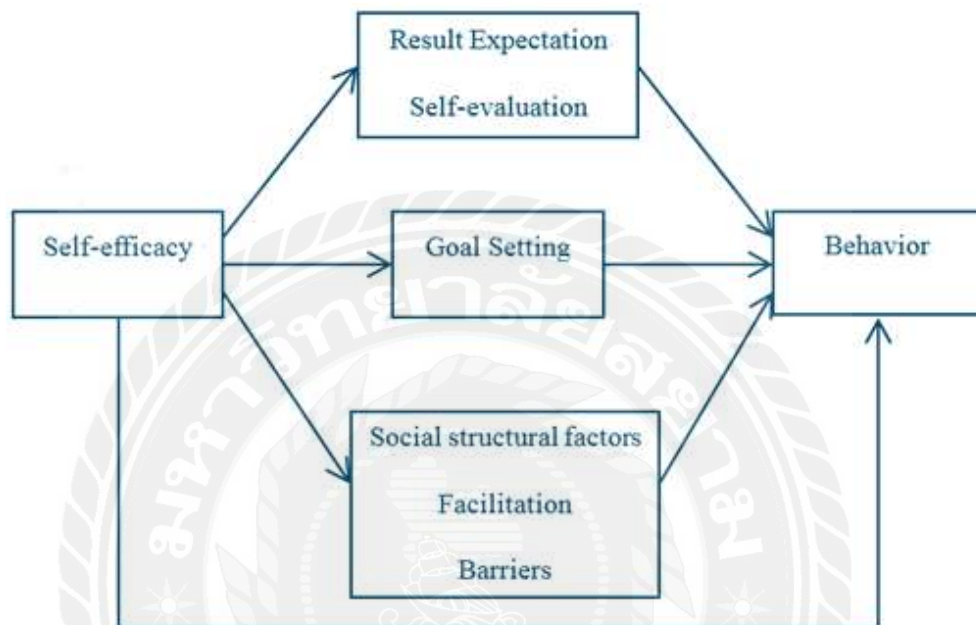
Figure 2.1 Five-factor Model of Social Cognitive Theory
(Source: Researcher, 2023)

2.2.2.2 Sources of Self-efficacy

The five-factor model of influence describes how self-efficacy acts on behavior and does not address what factors can influence self-efficacy. Individuals' perceptions of individual efficacy are based on four significant sources of information: behavioral achievement, alternative experiences, social persuasion, and physiological states. Any given influence on self-efficacy beliefs utilizes one or more sources of information, depending on the form (Wang et al., 2018).

(1) Behavioral Achievements

Behavioral achievement is personally acquired by the individual and is the most influential source of efficacy information, resulting from actual personal experience of the

activity. Success increases the evaluation of an individual's performance and failure reduces an individual's evaluation of performance. Essentially when failure can be attributed to personal factors rather than environmental factors. The weight gives information about new experiences. It depends on the nature and strength of pre-existing self-efficacy beliefs. For example, when self-efficacy beliefs are adequate through repeated success. Occasional failure may have little impact on self-efficacy beliefs, that is, self-efficacy beliefs are memetic (Goroshit & Hen, 2014).

(2) Alternative Experience

Substitute experiences, i.e., observing others' behavioral activities and outcomes, to perceive one's efficacy. Self-efficacy is susceptible to change by relevant role models, especially when individuals do not have first-hand experience evaluating their abilities. Seeing or imagining the success of other people like themselves can lead observers to increase their self-efficacy beliefs. They build confidence in their ability to achieve specific behavioral accomplishments with certain efforts through self-persuasion. In contrast, the failure of similar people to engage in behavioral activities can also cause observers' self-efficacy beliefs to decrease. The influence of alternative experiences is weaker than that of direct experiences, but their influence can lead to significant and lasting behavioral changes through them. In some contexts, the modeling effect of role models can weaken the impact of repeated failures on an individual's self-efficacy beliefs so that the individual's behavior can continue to be repeated until success is achieved.

(3) Social Persuasion

As members of society, individuals receive a wide range of words that society uses to convince them of their ability to do something. This is one of the factors that enhance their self-efficacy. Those who doubt their ability in an area of activity are more likely to invest effort in that area of activity if they are stimulated by appropriate social persuasion (Bandura, 1977).

(4) Physiological Status

People also rely on information from their physiological state to evaluate their abilities. Self-efficacy beliefs fluctuate when one is in physical fatigue, emotional loss, or excitement or arousal.

Regardless of the source of self-efficacy information, it needs to be cognitively processed by the individual before it is finally reflected in increased or decreased self-efficacy beliefs (Mathisen, 2011). Various personal, social, and environmental factors influence this cognitive processing and impact how people cognitively evaluate their experiences. For example, a conservative person may not believe that he or she has the abilities reflected in personal behavioral achievements, or a suspicious person may begin to doubt the source of social persuasion when he or she experiences failure. Personal experience of one's behavioral activities, and observation of others' behavioral activities, are the most stable sources of self-efficacy information. In contrast, adding social persuasion and changes in physiological states possess greater randomness (Fuentes-Tauber, 2018).

As a feedback system, the motivational effect of self-regulatory mechanisms on individual behavior is determined neither by self-set behavioral standards per se nor by self-observation but by self-evaluation and self-reaction to the gap between the two. Suppose the actual action performance exceeds the self-set internal standards. In that case, the individual will feel self-satisfied and maintain this behavior or set a higher If the actual behavioral performance does not meet the internal goal set by the self, the individual either feels discouraged and blames himself or corrects and improves his behavioral performance based on introspection, redefines the behavioral standard, and relaxes the self-requirement (Loeb et al., 2010). According to Bandura, the self-feedback system is the most uniquely human characteristic because it enables individuals to reflect on and evaluate their own experiences and thoughts to change their thoughts and subsequent behavior. Individuals' beliefs about their abilities and the results of their efforts largely influence how they behave in the future. In contrast, knowledge and skills generally have no predictive function.

2.2.3 Transformational Leadership

2.2.3.1 Transactional Leadership and Transformational Leadership

It has been 20 years since Burns (1978) published his seminal work introducing the concepts of transformational and transactional leadership. Whereas transformational leaders uplift the morale, motivation, and morals of their followers, transactional leaders cater to their followers' immediate self-interests. The transformational leader emphasizes what you can do for your country; the transactional leader, on what your country can do for you. A considerable amount of empirical research has been completed since then, supporting the utility of the distinction. In 1994, Wofford & Goodwin suggested that all leadership in organizations can be divided into two categories: Transactional Leadership and Transformational Leadership (Wofford & Goodwin, 1994). The transformational leader (Bass, 1999) will explain the importance of the work to the employees, thus raising the level of their needs; and the caring and charismatic leader will have a significant impact on the employees, who will respect and admire the leader and will be actively involved in the organization to achieve the development goals of the organization. Leadership behavior shows different qualities in different regions or countries. Transformational leadership has strong Chinese characteristics in that it is the organizational equivalent of a moral role model. In addition, transformational leadership in the Chinese context has certain peculiarities in that it has a greater scope for employee care, not only for their work but also for their daily life, i.e., it is more comprehensive in motivating and caring for employees than abroad.

In summary, transformational leaders can inspire employees to strive for the organization by stimulating their high-level needs, cultivating, and improving their transformational thinking, leading by example, and caring for them.

2.2.3.2 Conceptualization of Transformational Leadership from Different Perspectives

Many researchers have researched the dimensions of transformational leadership, classifying them into four dimensions: inspiration, charisma, intellectual stimulation, and personalized care, with some variation in the content of each dimension. Inspiration means that the organization's vision is vividly described to employees so that they can appreciate the

importance of their work and give full play to their values, which enhances their confidence and motivation to work; leadership charisma means that the leader's personality is reflected so that employees can develop a sense of identity; intellectual stimulation means that employees' motivation and creativity are stimulated in various ways to promote The personalized care is mainly based on the specific characteristics of employees to provide targeted care and guidance.

Many scholars have since carried out research based on this, with appropriate modifications to account for specific cultural contexts, etc. One dimension that has been proposed during research is the dimension of virtuous exemplars that exists in Chinese leaders (Li, 2005) based on organizational vision suggests that using organizational vision, transformational leaders motivate their underlings to have reasonable expectations for the future. In daily practice, the purpose of changing followers' expectations and ideas about their work through various means, such as stimulation, encouragement, and sharing, is to increase followers' sense of belonging to the company and allow them to complete their work tasks efficiently. In accomplishing organizational goals, transformational leaders do not do so by exchanging benefits with their subordinates but by getting them to endorse the organizational vision and their leadership efforts. Transformational leaders inspire employees to follow the organizational vision they propose and construct and voluntarily participate in achieving that vision. The following definition of a transformational leader is the ability to present a solid organizational vision and inspire employee creativity (Bass, 1999).

From the perspective of organizational culture, transformational leaders improve the work attitudes of their subordinate employees by generating a management strategy to match the culture, helping them to establish an excellent corporate mission, goals, and vision, and motivating them to work proactively to achieve corporate goals. Transformational leaders pay attention to the self-awareness and emotional needs of subordinates and guide them to achieve their desired goals in terms of quality and quantity by stimulating motivation and creativity. It reflects moral legitimacy and cultural connotations.

The first management strategy is to value the vision; the second is to improve understanding through communication; the third is to build trust relationships; and the fourth is self-orientation. Empowering subordinates is an essential characteristic of transformational

leadership. By granting a certain amount of power, employees are motivated to follow the organization independently and do their best to achieve the organization's goals. Transformational leaders are mainly concerned with developing the professional abilities of subordinates and empowering them to discuss countermeasures with them to better guide organizational change.

Using environmental change response as an entry point, it is proposed that in an adaptive organizational culture, transformational leaders are definers and givers who can guide corporate members to continually adapt to and anticipate environmental change. For transformational leaders, change permeates all corners of the organization, treating change as a way of doing things and developing the various environmental changes as opportunities. Change agents are leaders attributing change behaviors who often have a strong vision of the future and challenge the status quo by supporting a more significant commitment to the benefits of the business and motivating employees to invest higher efforts to exceed their tasks efficiently (Nemanich & Vera, 2009).

From the perspective of influencing followers, it is proposed that attracting and having an impact on subordinates is the main charismatic trait of transformational leaders, encouraging subordinates to put organizational interests above and beyond personal interests and to adopt strategies of intellectual stimulation and personalized care to make subordinates do their best to work for the achievement of organizational goals (Kotlar et al., 2018). In the study, it was found that followers are influenced by transformational leadership, and the three traits associated with it are shown below: firstly, respect for employees and complete trust in them so that they have some autonomy in their work; secondly, changing the motivation of employees, i.e., achieving a shift from individual to collective interests; and thirdly, motivating employees based on appropriate incentives that lead to innovation and breakthroughs (Sitkin, 2013). As a theory of positive leadership, transformational leaders can positively influence their followers by effectively identifying their needs and emphasizing their needs. Instill pride in their followers improve self-confidence inspire trust and change their vision through communication to encourage their followers to take initiative and present higher standards in their work (Senbel, 2014).

A synthesis of the above analysis reveals academic research on transformational leadership. Focusing mainly on organizational culture, vision, employee empowerment, influence on followers (employees), and environmental response, the essential elements that constitute transformational leadership have been emphasized from different perspectives. The first emphasizes the psychology of employees' identification with the organizational vision and their motivation through higher-level needs to achieve task completion beyond expectations; second, leaders and employees trust each other and cooperate in good faith. In a good atmosphere of mutual trust and commitment to meet the employees' self-fulfillment and emotional needs; third, the emphasis is on the empowerment of employees, based on which the employees' initiative is brought into play, providing them with more opportunities to demonstrate their abilities and guiding them to make autonomous decisions, to explore more possibilities for organizational change; fourth, the emphasis is on the employees' initiative to respond to environmental changes and identify opportunities to promote organizational change based on environmental changes; fifth, the emphasis is on the positive influence on employees by instilling pride in them and stimulating intelligence to enhance their capabilities and the importance they place on the collective good, making it stronger than their interests.

2.2.3.3 Dimensions of Transformational Leadership

(1) The Transformational Leadership Dimensions Proposed by Bass in 1995

The construct of transformational leadership has multiple dimensions and is widely recognized as having four main dimensions: leadership, intellectual stimulation, personalized care, and motivation. The first behavioral characteristics were described. A multi-factor guided questionnaire was developed to measure transformational leadership, which consisted of three main dimensions: charismatic leadership, intellectual stimulation, and personalized care (Bass, 1995). Bass and Avolio subdivided the "charismatic leadership" dimension of transformational leadership into two dimensions, namely, influence and motivation. As a result, transformational leadership involves four dimensions: idealized influence; motivation; intellectual stimulation; and personalized care (Bass & Avolio, 1990).

Leaders are respected, trusted, and admired by their employees, which is idealized influence. Employees identify with the leader and follow the leader's example. Leaders consider the needs of their followers, not their own, first and foremost to earn their trust. The leader and followers share risks, and the underlying ethics, values, and principles are fully aligned in action; subordinates are motivated by providing meaning and challenge to their work, i.e., the leader's motivation. Motivate employees to be more optimistic and enthusiastic about their work through individual and team spirit. Encourage employees to have reasonable expectations for the future and ultimately plan for themselves. Adopting a new approach to old problems, redefining them by questioning assumptions, stimulates creativity and innovation without overtly criticizing or ridiculing individual employees for mistakes they have made on the job. Get creative solutions and innovative ideas from followers while finding solutions to problems. By playing the role of a mentor or coach, the leader pays attention to all employees' growth needs and achievements so that higher levels of potential can be stimulated, creating a better environment for growth or new learning opportunities. Recognize the differences in the desires and needs of individual employees.

Although Bass (1995) transformational leadership measurement model is commonly applied, Avolio suggests that these dimensions can be separated in empirical studies. However, the content and structural validity of the Multifactor Leadership Questionnaire (MLQ) have yet to be agreed upon but are somewhat fraught. The most effective of the empirical studies is the idealized influence, closely related to the outcome. Moreover, in practice, it is often verified that there is a solid linking relationship between motivational incentives and idealized influence, and the two are difficult to distinguish theoretically. In view, scholars have combined these two dimensions and the merged dimension of leader charisma (Knippenberg & Sitkin, 2013).

(2) The Transformational Leadership Dimensions

The model proposed by Rafferty and Griffin was revisited, and five dimensions were proposed: vision, motivational communication, supportive leadership, intellectual motivation, and personal perception (Rafferty & Griffin, 2004). Among them, expressing the organization's aspirations for the future based on organizational values is called vision; positive and motivating messages within the organization can help employees build

confidence and inspire communication or motivational communication. Caring for followers and giving due consideration to their needs is supportive leadership; increasing employees' ability, awareness, and interest in thinking in new ways, i.e., intellectual motivation; and praising and recognizing efforts to achieve set goals, i.e., personal recognition, including setting reward conditions. Comparing Rafferty and Griffin's (2004) and Bass and Avoli's (1990) dimensions, vision, motivational communication, supportive leadership, and intellectual motivation correspond to idealized influence, motivation, personalized care, and MLQ, while Rafferty and Griffin's newly proposed dimension is only personal perception. The differences are not significant, but they are comparable (Bass & Avolio, 1990). Although the differences are insignificant, Rafferty and Griffin's (2004) dimensions and conceptualizations of these dimensions are more apparent and have better discriminant validity.

Both Rafferty and Griffin's (2004) and Bass and Avoli's (1990) studies focus on leadership behavior and its impact on teams. In terms of idealized influence, both agree that the positive example of a leader has a profound effect on employee behavior and attitudes. In terms of motivation, Bass and Avoli emphasized leaders' intrinsic motivation of team members through inspirational communication, whereas Rafferty and Griffin focused more on intellectual motivation, i.e., stimulating the intellectual abilities of team members by providing challenging tasks. These two studies are identical in terms of idealized influence, motivational communication, and supportive leadership, but Bass and Avoli's study is more comprehensive and covers more dimensions of leadership behavior.

(3) The Transformational Leadership Dimensions

The transformational leadership model encompasses six dimensions: high-performance expectations, personalized support, appropriate modeling, intellectual stimulation, vision articulation, and acceptance of team goals (Whiting et al., 2012). A leader's expectation of superior, high-quality performance from his or her followers is called high-performance expectation; a leader's concern and respect for the personal needs and feelings of his or her subordinates is called individualized support. The leader motivates his followers by asking them to re-examine their work, formulate hypotheses, and think about how to do their jobs efficiently, i.e., intellectual stimulation; the leader motivates them

through a vision of the organization's future, including the identification of new opportunities, i.e., vision articulation; and the leader sets an example for his subordinate employees and guides them to values that are consistent with his own, i.e., moderate exemplary provision. The leader's behavior is aimed at promoting employee cooperation to unify the organization's goals and continuous efforts to promote the acceptance of team goals.

In the empty empirical study, highly correlated dimensions of appropriate exemplar provision, vision articulation, and team goal acceptance were higher; through in-depth analysis, they can be merged and reconstituted into core change dimensions, resulting in four dimensions: high-performance expectations, personalized support, intellectual motivation, and core change behaviors. This redefined dimension has been empirically studied for good validity distinction and a firm fit. Comparing with the leader dimensions proposed by Bass and Avolio, it was found that personalized support, high-performance expectations, intellectual motivation, and motivation correspond to each other in terms of connotation (Bass & Avolio, 1990). At the same time, core change is covered by the appropriate model provision, vision articulation, and team goal acceptance. In essence, these two dimensions are the same.

(4) The Transformational Leadership

Li (2018) studied several dimensions of transformational leadership in China and used them as the basis for a scale. Bass (1995) defined the concept of transformational leadership, executives were asked to list the relevant characteristics, summarize the answers, and divide them into eight categories: academic motivation, leadership charisma, personalized care, intellectual stimulation, dedication, role model, high moral character, and high expectations (Li et al., 2018). After further statistical analysis, through certain combinations and decompositions, transformational leadership was classified into four dimensions: academic motivation; leadership charisma; personalized care; and exemplary virtue. By comparing Chao-Ping Li's and Bass and Avolio's two dimensions, we found that the first three dimensions are consistent in terms of connotation. The fourth dimension is a new dimension of virtuous example based on Chinese ideology and culture (Li et al., 2018). Avolio's (1990) model for decomposing the significant dimensions of transformational

leadership. The comparative study above revealed that in essence (Bass & Avolio, 1990)., there is no difference between these dimensional divisions, as shown in Table 2.1.

Table 2.1 Transformational Leadership Dimension Classification.

Scholars	Dimensional Content
Bass & Avolio (1990)	Idealized Leadership
	Motivation
	Intellectual Stimulation
	Personalized Care
Podsakoff (1990)	High-Performance Expectations
	Personalized Support
	Intellectual Motivation
	Core Change Behaviors
Rafferty (2004)	Vision
	Motivational Communication
	Supportive Leadership
	Intellectual Motivation
	Personal Perception
Chao-Ping Li (2018)	Morality
	Leadership Charisma
	Vision Motivation
	Personalized Care

2.2.3.4 The Impact of Transformational Leadership

(1) Transformational Leadership and Organizational Performance

Transformational leaders can create a high level of acceptance of the organizational vision among their followers, encouraging them to work to their potential and to pursue the collective good above all else to exceed all work goals and improve performance (Bass, 1995). Transformational leadership contributes to individual, team, or organizational performance (Nielsen & Cleal, 2011). At the individual level, by linking individual employees' work tasks to the organizational vision and instilling in employees the belief in achieving the organizational vision to effectively support followers in accomplishing their work goals, leaders play the role of mentors and coaches. Therefore, it is evident that transformational leadership facilitates performance. By motivating employees' work goals and the

organization's vision. Leaders set an example for employees. Increases the sense of belonging and identity of the organization. and make them willing to work for the organization from the bottom of their hearts. Therefore, transformational leadership facilitates performance according to the situation. Motivating employees to challenge the status quo, and question assumptions and innovative ideas, so transformational leadership facilitates creative performance. At the team level, transformational leadership empowers complete trust in the team. It motivates members to have a high collective vision and work for it, thus strengthening team cohesion, which significantly promotes sincere cooperation among team members.

At the organizational level based on effective communication, employees will be motivated by the vision and supported to work efficiently. The alignment of organizational goals and motivations is increased through direct leadership of the organization's top management team, and team cohesion is improved (Fama, 2021). Besides, organizational strategy and organizational climate are directly influenced by transformational leadership to facilitate the achievement of organizational goals. Braun studied the role of cross-level transformational leadership in organizational performance and related satisfaction and found that it positively influenced individual employee job satisfaction and team performance, with a positive relationship between them. Meanwhile, two indicators, manager, and team trust, were selected separately and used as mediating variables. However, it has yet to be verified whether there is a mediating role of team trust between team performance and transformational leadership.

(2) Transformational Leadership and Creativity

Creative leaders drive the creativity of their followers. This form of leadership, transformational leadership, is quite intricate and has more levels at which it functions. In contrast, individual-based transformational leadership focuses more on stimulating employees' capabilities and skills (Li et al., 2018); team-based transformational leadership focuses more on knowledge sharing and dissemination and prefers to guide members to provide information that is beneficial to the collective (Knippenberg & Sitkin, 2013). Several scholars have focused on individual perspectives and studied the relationship between employee creativity and transformational leadership. The results of this empirical

study, in which employee creativity is influenced by transformational leadership in the hospitality industry, proved that acting on employee creativity is achieved through creative self-efficiency and role identity (Nielsen & Cleal, 2011). Employee creativity is facilitated by transformational leadership and employee creative self-efficacy mediates between transformational leadership and creativity. (Senbel, 2014). Employee creativity at the individual level is positively influenced by transformational leadership, and the relationship between the two is positively correlated. At the same time, the psychological empowerment of followers that mediates between them is verified (Gumusluoglu, 2009). Additionally, some studies are based on the team level. Where transformational leadership has a significant positive impact on team creativity, it is mediated by team learning and influenced by external social capital. where higher levels of social capital indicate a more important mediating role. But there is no verification. The existence of mediating actions in the creative environment of the team. A multi-level model of creativity is constructed and the model is predicted to find out whether the paths created at the individual and team levels differ in their roles. At the individual level, the focus is on enhancing individual creativity and developing personal skills. The team level focuses on enhancing team creativity and achieving team knowledge sharing.

(3) Transformational Leadership and Dual Innovation

Leadership style is a critical influence on organizational innovation. The transformational leadership style has a high quest for self-transcendence and further enhances adaptability and innovation through individual, team, and corporate change (Bass, 1995) As previously stated, the dual nature of strategic leadership and leadership style has profound effects on innovation. It has been suggested that transformational leadership positively impacts dual innovation and contributes to better dual innovation in organizations. However, it creates a heterogeneous effect on exploratory and exploitative innovation. Transformational leaders have different characteristics. They are willing to take risks and accept new challenges to provide sufficient support for exploratory innovation. On the other hand, they also promote exploitative innovation based on incremental change. However, if the level of transformational leadership behavior is too high, it may also have the effect of inhibiting innovation that is currently exploitative (Senbel, 2014). As a result, when

combined with previous research, transformational leadership has the potential to significantly facilitate exploratory innovation. The impact of exploitative innovation requires verification, necessitating more in-depth research.

(4) The Moderating Role of Transformational Leadership

In regular strategic management decisions on regular basis senior leaders often have the highest voice. It has a decisive influence on organizational decisions (Bass, 1999) and decides whether to innovate or how to create innovation. As mentioned above, transformational leadership positively influences dual innovation and organizational learning. In contrast, organizational learning positively influences dual innovation to some extent, but little research has been conducted on whether there is a moderating effect between the two. Transformational leaders' moderate dual learning and dual innovation to some extent by articulating a vision of the future organization; transformational leaders promote innovation and reform, encourage their followers to break the rules, push the boundaries, actively explore, and create an excellent dual climate to enhance dual learning to improve the level of dual collaboration. This implies that the higher the level of transformational leadership, the stronger the role of dual learning in terms of complementarity and balance. Empirical studies have shown that transformational leadership can regulate the coordination and balance between dual learning and dual innovation. However, the moderating role regarding the complementarity between the two has yet to be verified.

2.2.4 Job Satisfaction
2.2.4.1 The Concept and Meaning of Job Satisfaction

Job satisfaction was proposed in the 1980s by American psychologists such as Tosi et al. (1980), whose leading psychological research is that good employees, after working hard in an organization to complete their work, will actively compare the social resources they are expected to invest—the economic benefits they are expected to receive from the organization in return (Tosi et al., 1980). If the total amount of resources and economic benefits returned by the organization is lower than the resources and personal economic benefits expected by the employees, the employees will quickly become dissatisfied or rebellious to the organization.

Organizations can accurately assess the work achievements expected to be achieved by outstanding organizational employees and employees receive such positive feedback in the organization. Their mental and emotional state is further improved by this. Then successfully raises employee productivity and the emotional well-being of the organization. Stated differently, all an employee's emotional views of their life and job are included in their emotional contentment with life and work. Employee satisfaction is determined by how they feel about their employment. (Eliyana et al., 2018). Some researchers have also classified the definition of job satisfaction as a comprehensive definition. Expectation gap and reference structure definitions A comprehensive definition treats job satisfaction as a single concept. which attitude towards work and environment. The expectation gap definition considers that job satisfaction depends on the gap between what employees get, what they want, and what they are. On the referrer hand, considers the reference structure definition of job satisfaction as a structure that one obtains by interpreting reference structures based on comparisons of the work environment, past experiences, personal abilities, and others.

In this study, job satisfaction is the positive feeling of employees towards their jobs due to their assessment of job characteristics. This assessment is the result of the synthesis of many job elements. For example, how is the nature of the job, how good is the work environment, how good is the interpersonal relationship, and whether the rules and regulations are fair. When employees form a satisfactory or unsatisfactory attitude towards their work, they produce specific behaviors accordingly. These behaviors are closely related to the organization's work performance. For example, when employees are dissatisfied with their jobs, they may take actions such as quitting, neglecting their jobs, being absent from work, being late, increasing the rate of work errors, and making suggestions to management. Commonly used performance measures related to job satisfaction include productivity, turnover, absenteeism, customer satisfaction, and organizational citizenship behavior.

2.2.4.2 Factors Influencing Job Satisfaction

(1) External Factors

Many scholars have expanded their studies on the factors influencing leaders' work environment and employee satisfaction. Specifically, the main influencing factors of the

social work environment and employee satisfaction are psychological and material factors and attributes. Therefore, the influential factors that directly affect the leader's work environment and employee satisfaction. It refers mainly to psychological and material factors. including the working environment, leadership style, job content, and social factors such as leader salary and compensation (Hoppock, 193). In addition, the relationship between various psychological work motivations of employees and various interactive influences with the social work environment. Many researchers have also found that job satisfaction includes not only the above factors, but there are also psychological factors, such as respect factor, social interaction factors, and the self-awareness factor. Finally, the essential factors of work working environment and the psychology of employees and managers have been further substantiated from the perspectives of material, environmental, and employee psychology.

In the 1970s, Lawler and Porter examined the variables of effort, performance, ability, environment, awareness, reward, and satisfaction and their interrelationships (Miner, 2002). They concluded that employee job satisfaction is a fair and just objective reward from job performance and that another performance brings different rewards, thus generating different satisfaction. They proposed that "performance leads to job satisfaction". The idea of "performance leads to job satisfaction" (Alessandri et al., 2016). A wide range of scholars in practice has supported this view. Job satisfaction arises from performance as a function of the employee's behavioral goals and the value they achieve. The inherent motivational properties of performance itself can also increase job satisfaction. In self-determination theory, it is stated that job satisfaction is derived from the rewards of work behavior. Since then, several empirical studies have come to the same conclusion. However, some studies have also concluded that performance has no significant effect on job satisfaction.

Organizational environment theory has a significant positive impact on organizational support. The organization examined the relationship between employee support and worked as a criterion from the range of organizational support. Organizational support has a significant impact on the motivation of employees at work and influences the positive development of employees (Kalra, 2020). In addition, the support in the form of individual organizations and the social security department may affect the mood of employees. The organization's commitment to the employee and the employee's job

satisfaction has a critical role and plays a mediating role; the impact of this role is more favorable than the direct impact (Li et al., 2018). From the division of perceptions of organizational support and satisfaction of managers and employees. It is expressed in two main dimensions: perceived organizational emotional support for employees; and recognized support for organizational tools which can be analyzed to effectively quantify the direct impact of organizational support on manager and employee satisfaction. Their findings found that an organization's sense of support may affect the actual job satisfaction of managers and employees through the analysis, which directly affects the actual productivity of managers and employees. Therefore, job satisfaction is a mediating variable for both. Scholars have presented findings on four aspects of job satisfaction research. The first aspect is that the emotional commitment of employees increases significantly, then the commitment aspect gradually decreases. The second aspect is that employees' satisfaction with their jobs increases gradually. The third aspect is that the level of seriousness of employees towards their work has greatly increased. The fourth aspect, companies should improve employee performance evaluations to reduce turnover rates.

(2) Internal Factors

Researchers refer to relatively stable emotional patterns as temperamental emotions, and positive and negative emotions are the main dimensions that reflect temperamental emotions. Affective patterns vary across individuals and reflect personality differences between individuals. Positive and negative effects play a vital role in predicting job satisfaction. They were significantly related to job satisfaction, even after controlling for characteristics such as job autonomy and skill variety. In terms of the characteristics of factors influencing own job satisfaction, the results of the study found that employees' job satisfaction was associated with their optimistic personality traits, which in turn had some degree of similarity, and the relationship between this association of influencing factors was also stable to a certain extent.

Specifically, if the individual personality traits of the employees in that period are optimistic individual personality traits, or if the individual personality optimistic traits of the employees in that period have been in an optimistic stage of development. It will make it easier for employees, as well as other people. during that time to improve their work situation

and satisfaction. In any case, it will significantly reduce the satisfaction of employees and other individuals in their work situation in the same period. This factor influencing the relationship and satisfaction has a high specific stability, moreover, in terms of specific quantitative testing level of the influence factor relationship between the two. It was found from the test results that 40% to 60% of the ratio of the main influence factors on employee job satisfaction (Rad & Yarmohammadian, 2006) is determined mainly by the influence of work situation factors, with 10 % to 30% of the ratio of influence factors is determined mainly by the influence of other people's factors. The remaining 10% to 20% of the main influencing factors (Li et al., 2018) result from the interaction between the above two influential variables. And further by studying the effects of various personality factors that affect employee motivation. The study found that many different job characteristics affect the emotional factors of employees in organizations. This includes factors such as the employee's self-orientation at work and confusion about work. Employees' negative affect significantly reduces their job satisfaction, while factors such as lack of self-orientation and job confusion also significantly reduce employees' satisfaction and sense of belonging at work.

Core self-evaluation refers to the essential assessment of individual abilities and values and is a broad personality construct consisting of four specific traits: self-esteem, general self-efficacy, neuroticism, and locus of control. Research has confirmed that core self-evaluations are excellent predictors of job satisfaction (Connolly et al., 2020). The personality model classifies the five significant factors that make up personality as extraversion, easygoingness, responsibility, emotional stability, and openness to experience. All five significant types affect individuals' job satisfaction through positive and negative affect.

2.2.5 Psychological Capital
2.2.5.1 The Connotation of Psychological Capital

In the process of innovation, organizations face many challenging tasks and setbacks, and if they are not psychologically intense, they are easily defeated. Luthans, an American psychologist, introduced the concept of psychological capital, which is believed to enhance employees' enthusiasm to work and motivate them to work at their best, in addition to strengthening their confidence in self-efficacy (Luthans et al., 2000), their perception of

hope for the future and their optimism that all obstacles will be solved eventually. Therefore, employees' psychological capital is a crucial factor in the innovation process and is considered a vital tool for companies to gain competitive advantage (Rad & Yarmohammadian, 2006), so it is included as one of the variables in this study.

Psychological capital is a part of positive psychology theory. Psychological resources are things people value in their hearts, such as personal self-esteem, physical and mental health, peace, etc. They also include things people need to achieve their personal goals, such as social support, credibility, and others. Psychological resources can help people move toward their goals and achieve success and are therefore considered personal resources that individuals can easily succeed in their daily lives. Therefore, it is considered a personal resource that individuals can easily succeed in their daily lives and engage in various activities. Individual employee psychological capital refers to a positive, developmental psychological state that individuals exhibit at work. The integration of individual employees feeling optimism, hope, adaptability, and self-efficacy characterizes its outward appearance. The difference between psychological resources and psychological capital is that the latter focuses on believing in an individual's internal growth and future goals. Therefore, it can be a psychological resource that allows individuals to grow and improve their performance. Psychological capital is the individual's confidence to face challenging tasks and make positive attributions about present and future success. As the individual strives for the goal, he or she will rethink the approach if necessary to obtain a path to success. Finally, the ability to demonstrate resilience when faced with adversity (Youssef-Morgan & Luthans, 2013).

Psychological capital enables individuals to generate confidence to perform challenging tasks and to persevere in performing them. In contrast, when necessary, individuals change the direction of their efforts, make attributions for present and future successes, and show resilience after failures. It is thus clear that psychological capital belongs to the individual's ability to generate optimistic psychological states that help to challenge difficult things. Psychological capital is a positive psychological state a person exhibits during growth and development. They are reflected in one's performance in addition to one's growth. In addition, people with high psychological capital are more open and accepting and

are willing to make efforts to change. The following table 2.2 is a compilation of previous views on the meaning of psychological capital.

Table 2.2 Psychological Capital Connotations and Perspectives.

Scholars	Connotation and Viewpoint
Luthans et al. (2000)	It refers to the positive, developmental psychological state individuals exhibit at work. Its outward appearance is characterized by the integration of individual employees' feelings of optimism, hope, resilience, and self-efficacy. The level of psychological capital has a significant positive impact on employees' attitudes and behaviors.
Rad & Yarmohammadian (2006)	Psychological capital refers to a person's psychological state in which individuals can exhibit positive organizational behavior and demonstrate effective job performance.
Youssef-Morgan & Luthans (2013)	Psychological capital is a state of being psychologically optimistic and is characterized by having the self-confidence to be able to accomplish positive things in the present and the future; having hope for difficult things; and being able to persevere and recover when faced with problems and adversity, and even rise above the difficulties to achieve success.
Li et al. (2018)	Psychological capital is a positive state of mind exhibited by an individual, which can be reflected in one's performance, and contribute to growth.
Connolly et al. (2020)	Psychological capital gives people the self-confidence to perform challenging work with confidence. Even if they encounter difficulties or things that are not easy to succeed in, they can work hard until they complete their tasks. When faced with the setback of failure, they can also try to stand up under challenging circumstances and show perseverance.

As the above literature shows, psychological capital is a positive psychological state that gives people the self-confidence to accept challenging work projects and persevere until the task is completed, even if they encounter many obstacles in the process, and to respond to different situations in different ways. When faced with failure, they can fight again and show perseverance, so those with higher psychological capital will perform better at work. Therefore, this study chose psychological capital as the independent variable to predict employees' innovative behavior.

2.2.5.2 Dimensional Division of Psychological Capital

Using many measures, scholars have identified four main psychological resource traits that constitute psychological capital from the higher-level structure of the positive psychology literature, including self-efficacy, optimism, hope, and resilience, so that psychological capital is a second-order variable consisting of many different dimensions (Luthans et al., 2000). Self-efficacy refers to the individual's confidence to accomplish challenging tasks; optimism refers to the individual's ability to attribute past successes; and hope refers to a belief in the ability to succeed in the future, where hope is composed of two factors: mechanism and pathway. Mechanism refers to an individual's motivation to accomplish a specific task in a specific context; pathway refers to a feasible way to achieve a plan to reach a goal. Scholars have noted that mechanisms and pathways influence each other; when people encounter obstacles, mechanisms motivate them to use pathways, while hopeful people will show vital energy to reach their goals and develop alternative pathways to achieve them (Barrett et al., 2004). Finally, resilience refers to an individual's ability to adapt to difficulties and then bounce back from these risks or stresses when plagued by uncertainties such as problems and adversity. When faced with stress or significant changes in the external environment, highly resilient individuals tend to be highly resilient and better at adapting to adverse circumstances.

In past studies, Luthans et al. (2000) used the classification of self-efficacy, optimism, hope, and resilience to measure psychological capital. After analyzing and synthesizing the dimensions of psychological capital in all domestic and international primary journals, scholars also concluded that the psychological capital of intellectual employees should include four dimensions, such as self-efficacy, hope, optimism, and resilience, which shows that the measurement methods and characteristics of psychological capital have been quite mature and stable. Psychological capital has become a reliable predictor of job performance and job satisfaction, and past studies have pointed out that all four traits of psychological capital have significant relationships with positive employee behaviors or attitudes; for example, employees with higher psychological capital have higher levels of job satisfaction, organizational commitment, and lower turnover rates, and these attitudinal behaviors can bring good performance to the organization. Psychological capital can be a way for

individuals to generate positive behaviors and attitudes and to reflect superior performance at work, so most scholars use a combination of these four characteristics to assess psychological capital. These could be the new direction for future managers to run their businesses.

In addition to the above measures of psychological capital, other scholars have tried to classify psychological capital into different dimensions with different perspectives; for example, psychological capital is divided into control points and self-esteem. Optimism, self-efficacy, and hope are three dimensions to explain psychological capital. Chinese scholars have studied past research on psychological capital in the west and come up with psychological capital connotations consistent with Chinese cultural characteristics. The content of transactional psychological capital is characterized by self-confidence and courage, motivation, optimism, hope, and perseverance. In contrast, interpersonal psychological capital includes humility and sincerity, tolerance and forgiveness, respect and courtesy, and gratitude and devotion. It is believed that interpersonal psychological capital better reflects the relationship between individual behavior and others in traditional Chinese culture to maintain the harmony of social relationships. The Chinese cultural elements, concerning the research literature on psychological capital of domestic and foreign scholars, construct a psychological capital scale suitable for knowledge employees with respect to their definition and requirements and other characteristics and finally divide it into four psychological capital dimensions: task-oriented psychological capital includes characteristics such as positive emotion and resilience, relationship-oriented psychological capital includes characteristics such as emotional intelligence and gratitude, task-oriented psychological capital includes characteristics such as positive emotion and perseverance, relational psychological capital includes characteristics such as emotional intelligence and gratitude, learning psychological capital includes characteristics such as learning efficacy and willingness to share knowledge, and innovative psychological capital includes characteristics such as innovation self-efficacy and ambiguity tolerance, which are more relevant to employees (Hou, 2013).

Table 2.3 Main Perspectives on the Psychological Capital Dimension.

Scholars	Dimensionality
Luthans et al. (2000)	Self-efficacy, hope, optimism, and resilience.
Khliefat et al. (2021)	Interpersonal psychological capital: gratitude and devotion, respect and courtesy, tolerance, and forgiveness, etc. Business-oriented psychological capital: optimism and hope, self-confidence and courage, resilience, and tenacity, etc.
Hou (2013)	Task-based, relational, learning, innovative.
Cavus & Gokcen (2015)	Self-efficacy, expectations, optimism, resilience.

In summary, the existing literature has focused more on the higher-level characteristics of psychological capital, such as resilience, self-efficacy, hope, and optimism. Chinese scholars have explored psychological capital with the classification of self-efficacy, optimism, hope, and resilience, but in. However, the classification of psychological capital dimensions has been revised into the cultural characteristics of Chinese people and with knowledge-based employees as the main object of research. Classifications of task-based, relationship-based, learning-based, and innovation-based have been proposed. However, the classification of the dimensions of psychological capital was modified to propose four classifications: task-oriented, relationship-oriented, learning-oriented, and innovation-oriented, as this classification fits better with the concept of dimensional classification of employees' innovative behaviors, but it has yet to be validated by this study. This study argues that there are bound to be many setbacks on the road to innovation. Hence, an individual's sense of self-confidence enables him or her not to be afraid of challenges, to solve setbacks, and to face the rough road ahead with a positive attitude of hope and optimism. However, this study aims to investigate the innovation behavior of employees in high-tech enterprises. In addition to the original four dimensions of psychological capital, employees' emotional intelligence and learning effectiveness are also significant.

2.2.5.3 Factors Influencing Psychological Capital

In this study, past research related to psychological capital is sorted out from two different perspectives, such as the individual factor perspective and the organizational factor perspective, as follows:

(1) Personal Perspective

First, research on the individual perspective of psychological capital has been correlated with factors such as interpersonal relationships, job performance, and job performance. The relationship between employees affects psychological capital and learning outcomes (Mcmurray et al., 2010). Workplace exclusion will impact employees' counterproductive and interpersonal counterproductive behaviors, meaning that exclusionary behaviors are detrimental to employee performance and worse for interpersonal relationships. A review of past research from the perspective of employee performance and performance shows that psychological capital positively impacts employee behavior and is associated with employee performance and job stability (Sturman et al., 2005). Scholars' studies have the same conclusion that psychological capital significantly impacts work engagement, indicating that employees with an upbeat psychological state are more engaged in their work. In addition, psychological capital is also reflected in better performance in work performance and innovation performance. The study on the behavioral characteristics of employees shows that psychological capital is negatively related to burnout, indicating that members with higher psychological capital have lower feelings of burnout. The characteristics of psychological capital, namely confidence, hope, optimism, and resilience, can reduce the feeling of burnout. Employees with higher psychological capital can reduce their tendency to leave the company, showing that employees with a more positive psychological state have a lower tendency to leave the company. In addition, psychological capital affects the propensity to leave through role stress, indicating that although employees have high psychological capital if too much stress is given to employees, it can still affect employees' physical and mental health, thus the propensity to leave. The study of verbal offense on intention to leave is examined from the perspective of psychological capital regulation. It is pointed out that employees with high levels of psychological capital are less likely to have the intention to leave when customers verbally violate them (Wilson, 2012).

(2) Organizational Perspective

This study takes an organizational perspective and reviews past scholars' generalizations about the factors influencing psychological capital in business organizations. First, it is known from the literature that a leader's leadership style affects the overall

organizational climate and organizational performance in addition to further influencing the behavioral performance of employees, so there is a correlation between leadership style and employees' psychological capital. Psychological capital and organizational innovation climate were used as antecedent variables to investigate whether these two variables affect innovation performance. The study results showed that psychological capital has a positive effect on innovation performance, organizational innovation climate has a positive effect on innovation performance, and organizational innovation climate has a moderating effect between psychological capital and innovation performance.

In addition, transformational leaders influence employees' innovative behavior through their psychological capital, indicating that employees' innovative behavior must be influenced exclusively by their psychological capital. Leadership psychological capital helps to enhance the relationship of trust, identity, and belonging in the team, stimulates members' psychological capital, and promotes work performance and organizational citizenship behavior. In addition, the organizational climate is a critical element affecting psychological capital. The care, trust, and respect between individuals and work teams can enhance the formation of positive psychological states in teams, especially the perception of positive psychological states in terms of vision, optimism, and self-confidence, and the formation and development of positive psychological states in psychological capital at the team level also promote the sharing, combination, reengineering, and innovation of team knowledge. Scholars take high-tech enterprises as the research object and study the mechanism of psychological capital's influence on enterprise-independent innovation from three perspectives: individual, team, and organization. The research results show that individual psychological capital influences independent innovation learning and learning situations. In addition, individual psychological capital acts on individual creativity through its influence on employees' learning behavior (Yip & Schweitzer, 2019).

In this study, we summarize the different perspectives mentioned above. The psychological capital from the personal factor perspective is influenced by interpersonal relationships, which further affects job performance and performance; the psychological capital from the organizational perspective is influenced by leadership style and organizational climate. Human factors and environmental factors must shape the construction

of individual psychological capital. This study uses psychological capital as the independent variable to explore employees' work engagement, knowledge sharing, and innovation behavior in high-tech enterprises.

2.2.5.4 Evaluation of Psychological Capital Research

In summary, the study of psychological capital involves the connotation of the core concept, the content of the species included dimensions. The structure of the dimensions, the antecedent impact variables on psychological capital, the study of the impact results, and the research methods are case method, experimental method, and empirical analysis method, the previous research has formed a system, but there are still some shortcomings (Youssef-Morgan & Luthans, 2015).

(1) There Are Still Major Differences in the Connotation and Content Structure of the Concept

Researchers approach the research item from various angles and choose distinct research points, resulting in a diverse range of meanings and connotations for this idea. However, the expression of its core connotation remains consistent: psychological capital is the psychological state of the employee's mental state regarding how he or she can better complete the work, integrate into the collective and business organization, stimulate potential, and meet reasonable expectations. The keywords are "psychological condition," "stimulation," and "potential ability." We have studied more about what companies ask their employees to do in the past. However, we rarely consider what they should do from their inner potential for personal career development, team, and company. How can we do better? Moreover, it can drive their intrinsic good qualities, such as working hard, contributing to the enterprise as much as possible, increasing their work input, etc. playing their knowledge reserve knowledge, actively sharing knowledge, and trying to improve their knowledge-sharing ability and willingness, etc., from the organizational behavior micro-perspective of the individual to develop psychological capital research.

(2) The Research Object Needs to Keep Up with the Times and Follow the Personal Characteristics of Employees in the New Era

Most of the current research is limited to the enterprise's R & D staff, middle management or business leaders, the object of the study did not take into account the characteristics of the current high-tech enterprises employees and senior intellectuals such as teachers, one is with high knowledge, most employees are well educated, many high-tech companies are concentrated in the employees of university degrees or above, at the same time, because China's leading is export-oriented in previous years, so processing OEM enterprises are more, most of these enterprises are labor-intensive enterprises, the quality of personnel is not high, and most of them are migrant workers, of course, over the years the country's transformation and upgrading of manufacturing and processing service workers and other enterprises, shut down and transferred to enhance the technology research and development capabilities of most manufacturing enterprises, many enterprises in the forefront of the international, so this part of the growth of enterprises to independent technology research and development and production as one of the High-tech enterprises, so it is especially important to strengthen the research of employees of high-tech enterprises. Meanwhile, these young people have gradually become the force of these enterprises in recent years, and their new psychology and behavior need to be further explored and studied to be more suitable for the times and more relevant to the needs of enterprise managers. These people's new psychology and behavior need to be further explored and researched to be more suitable for the times and the needs of enterprise managers (Liker & Ballé, 2013).

(3) Psychological Capital Localization Studies Are Still Lacking

In the current research literature, most of the concepts, scales, and theories used in the studies are mature concepts and scales, and few scales are developed in China. There is a lack of empirical studies with scales developed in China because the requirements for developing psychological scales are high, the procedures are more complicated, and it is difficult to test the reliability of the scales, so most of the studies directly use mature foreign scales, but due to the different cultural environments and economic development levels among countries and ethnic groups, the structure is different, which makes the credibility of the findings questionable (Adams & White, 2003). Therefore, we should encourage the

development of Chinese psychological capital scales. Domestic scholars should support the development of local scales, use them more for testing, and provide more suggestions for improvement so that more scales reflecting Chinese elements can be used for research (Soni & Rastogi, 2019).

(4) Fewer Variables for Groundbreaking Research in the Context of Contemporary Issues

Current research on psychological capital focuses on the independent or mediating variables, variables that affect its results are job satisfaction, turnover rate, and others (Afshar-Jalili & Khamseh, 2020). There is less research on the behavior of individual employees at the innovation level, and in the current technological innovation competition and market competition fiercely unfolding today, the various problems and difficulties faced by enterprises ultimately fall on the employees in specific positions, such as the U.S. technology blockade the "neck", market monopoly suppression foreign market, the new crown epidemic on technology exchange and market development, and others. All bring a lot of uncertainty, especially the impact of technology dynamics and market dynamics on enterprises and individuals. Therefore, it is necessary to study the innovative behavior of employees when considering scenarios, especially when innovation is mentioned as the core productivity of national development and national advancement, and the innovative behavior of individual employees should be explored as the outcome variable of psychological capital, which is also a research topic given by the times (Sood & Puri, 2022).

2.2.6 Organizational Justice
2.2.6.1 The Meaning of Organizational Justice

A search of the relevant literature reveals that organizational justice has interested many scholars and has become a popular research topic among experts and scholars. Scholars from different disciplinary backgrounds have defined its concept differently, and many have put forward new views and perspectives.

The concept of organizational justice was first introduced by Adams in 1962, based on Festinger's theory of equity, and emphasized the importance of organizational justice. He

also stressed that the internal environment of an organization affects employees' perception of organizational justice, which determines employee motivation, and that all companies must pay attention to the degree of organizational justice to ensure employee productivity and promote the company's long-term development (Adams et al., 1962). Subsequently, the study emphasizes that employees' work attitude is influenced by the way employees' earnings are distributed under the theory of distributive justice, which plays a vital role in compensation management research, and that organizational justice is the perception of employees who compare themselves with other peers in the organization based on the payment system that they give and receive. Therefore, the inclusion of distributive justice into the category of organizational justice has essential research value (Greenberg, 1990); meanwhile, some scholars include procedural equity in the category. They believe that even if the organization's procedures are fair and reasonable, employees will be more likely to accept the erroneous results. They also introduce psychology into the perception of employees' procedural equity. They also introduced psychological research on employees' organizational justice and created a new field of organizational justice research. In addition, the original boundaries were broken in the study and extended to multiple fields, such as sociology and psychology. After that, the new element of organizational justice was information equity, and he emphasized that whether the access and manner of obtaining internal and external information are equally important for employees in the organization, information equity also has a positive impact and that if the information perceived by employees is imbalanced, the creativity and motivation of employees will be significantly hit (Greenberg, 1990). Organizational justice was studied with the same viewpoint, based on which interpersonal equity was proposed, which is employees' perception based on whether their leaders and colleagues respect them in the organization. It is considered interactive equity with information equity (Restubog et al., 2009). Organizational justice as a work context factor moderates the relationship between transformational leadership and employees' innovative behavior (Gashema & Kadhafi, 2020). The study investigated bank employees and suggested that organizational justice in the workplace stimulates positive behaviors. This perception enhances the relationship between transformational leadership and employees' innovative behaviors. The main definitions of the concept of organizational justice are summarized as follows.

Table 2.4 Organizational Justice Concepts

Scholars	Concept Definition	Theoretical Perspective
Greenberg (1990)	Organizational justice refers to employee's perceptions of the justice of how employee benefits are distributed.	Distribution Justice Theory
Gashema & Kadhafi (2020)	Organizational justice refers to the extent to which employees perceive the justice of the distribution of corporate resources.	Distribution Justice Theory
Restubog et al. (2009)	Organizational justice refers to employee's perceptions of the justice of organizational systems, policies, etc., that involve personal interests.	Social Cognitive Theory

2.2.6.2 Dimensions and Measurement of Organizational Justice

The measurement dimensions of organizational justice perception are the focus of academic debates and have been studied by related scholars, from the previous single dimension to the four dimensions.

(1) Unidimensional Studies

It was first studied by Folger, who measured the perception of organizational justice from a unidimensional perspective and combined procedural justice with distributive justice because of the high correlation between the two and the reciprocal effect between them. He also emphasized that most employees in a firm measure employee perception based on the combination of both types of justice. Distributive justice is the moderating effect that occurs through procedural justice, and due to the high correlation between the two, they are likewise studied together. Because of the risks associated with combining the two, although the combination of the two is beneficial for academic research, it can cause the distinction between organizational perceptions of justice to expand in practical sessions. Therefore, the dimension is not desirable.

(2) Two-dimensional Study

Thibaut and Walker first proposed the two-dimensional dimension of organizational justice in 1978; they argued that people would be more receptive to perceived organizational

distributional unfairness when they have a stronger sense of procedural justice (Thibaut & Walker, 1978). Conversely, employees within an organization would be more likely to complain about its distributional unfairness if it has a poor sense of procedural justice (Akhtar et al., 2022). It has been argued that combining the two dimensions will explain different variables differently when they are explained with different emphases. Therefore, the two dimensions should be treated differently (Sweeney & Mcfarlin, 1993).

(3) Three-dimensional Study

In research on two-dimensional measures, some scholars have found that the separated scale dimensions do not fully explain the organizational justice perceptions of corporate employees. Adding the sense of interpersonal justice to the scope of this study, they argue that employees focus their attention on interpersonal justice in implementing various procedures in the company. Employees pay attention to organizational procedures and distributive justice and how organizational executors treat them regarding attitude and behavior (Thibaut & Walker, 1978). Hong (1998) emphasizes that when measuring the sense of organizational justice, institutional justice should be included, constituting a three-dimensional measurement model. In addition, the actual measurement found that interaction justice should be considered a separate measurement dimension. He pointed out that interaction justice means justice in communication between employees and leaders, other colleagues, and the organization, as well as in transmitting or receiving information. For this purpose, he also developed the organizational justice perception scale.

(4) Four-Dimensional Study

Greenberg first proposed the four-dimensional measurement scale in 1993. This scholar redefined the concept of interactional justice into interpersonal and informational justice and introduced both into the study of organizational justice. When using validating factors to study the sense of organizational justice, the validating factors were divided into four dimensions: distributive justice, interpersonal justice, procedural justice, and information justice. Leadership and information equity were added to the two-factor model based on the Chinese social context. Among the dimensions, leadership justice was proposed based on Chinese human culture with unique cultural characteristics. An organizational

justice measurement scale containing 22 variables was developed, which was completed and passed the reliability test (Sweeney & Mcfarlin, 1993).

2.2.6.3 Other Related Studies on Organizational Justice

Organizational justice theory is crucial to the long-term development of a company and relates to interpersonal relationships and economic transactions within the company. The theory mainly analyzes the relationship between work attitudes and organizational behavior. Relevant scholars have studied its concepts and measurement dimensions and related studies.

Organizational justice falls under the category of employee perceptions, while employee perceptions influence employee job satisfaction; thus, there is a correlation between organizational justice and employee job satisfaction. Some scholars have also studied the two accordingly based on this relationship, but academics have diverged in studying the relationship; for example, Eychmueller (2008) concluded that procedural and distributive justice both positively affect it. Aryee et al., (2002) emphasized that only procedural justice affects its measurement. Similarly, procedural justice is related to employee job satisfaction, while the effect of distributive justice is not significant. When analyzing whether procedural justice is significant in the extent of the effect of procedural justice on employee job satisfaction, it is also not significantly related to it.

It has been emphasized in the literature analysis of constructive behavior that the higher the employees' perception of organizational justice, the more likely they are to produce constructive behavior. Some researchers have shown a strong relationship between organizational justice and constructive behavior. For example, in studying the relationship, scholars have argued that employees will engage in constructive behavior only when they perceive the justice of organizational procedures and that the strength of procedural justice determines the extent of employees' constructive behavior. Also, in conducting empirical studies, it was concluded that distributive justice also influences constructive employee behavior.

Some experts and scholars still believe that job performance is only influenced by employees' willingness and motivation to work and has no correlation with organizational

justice. As scholars continue to study organizational justice in-depth, they realize there is an interplay between the two and, therefore, study them together. In addition, some scholars believe that employees with a good sense of organizational justice will have higher motivation and to some extent will improve job performance (Liker & Ballé, 2013).

2.2.7 The Impact of Transformational Leadership on Job Satisfaction

Leadership style largely determines whether the subordinates are willing to actively propose rationalization, that is, to fulfill their right to speak. Suppose a leader does not believe in the ability and motivation of his employees and does not allow the existence of different opinions. In that case, the employees of this company will, over time, form a consensus that different opinions are not welcome here and will not influence the leadership's decisions. A transformational leader has the charisma to show subordinates the way forward, led by example, motivate employees to accept overall goals, set high-performance expectations, provide personalized care and emotional support, and encourage employees to do their jobs better. Transformational leaders are open-minded and innovative. They also explain the business philosophy, business goals, and the long-term significance of individual work to their employees so that they can clarify and set goals and directions consistent with the organization's goals. In this process, transformational leaders create the conditions for their subordinates to give full play to their abilities. The charisma of a transformational leader who puts his or her interests after the collective and others and who suffers before and does not seek personal gain will make employees work hard to achieve the organization's goals, and they will be more likely to put forward reasonable suggestions and ideas to achieve the organization's goals (Loeb et al., 2010).

A transformational leader's concern for the life, work, and growth of his subordinates and his sincere advice will lead to a strong sense of identification with the leader, who is, in a way, the representative of the organization and then the subordinates' sense of identification with the organization will increase. The subordinates' sense of ownership will be stimulated in achieving the organization's goals and contributing to achieving them. Thus, transformational leadership will stimulate more voice, i.e., transformational leadership will expand the voice of subordinates, and there is a positive relationship between the two. Therefore, transformational leadership will facilitate subordinates to exercise their right to

speak up and generate more advocacy behaviors (Men, 2014).

Transformational leaders can influence the psychological empowerment of their subordinates in several ways. First, transformational leaders can use vision to motivate their subordinates. A transformational leader usually lets subordinates understand the organization's or department's business philosophy, development goals, and prospects and explains the long-term significance of their actions. Through his vision, he often paints a vivid and aspirational picture of the future for his subordinates so that they can clarify their goals and efforts and make it clear to them that their efforts will achieve the goals of the organization or department in the process of achieving their personal goals, and that this internalization of organizational goals will make them appreciate the importance of their work. Transformational leaders are patient in teaching, advising, and creating conditions for their subordinates to develop their strengths, which undoubtedly enhances their sense of self-efficacy (Mehdinezhad & Mansouri, 2016). Transformational leaders tend to adopt more empowering behaviors, listen to their subordinates' opinions and suggestions, and participate in management to enhance their subordinates' perceptions of their ability to control their work and influence the outcome of their decisions, thus enhancing their perceptions of self-determination and influence. Therefore, this study suggests that transformational leadership can enhance subordinates' psychological empowerment. In the study of work attitude as an outcome variable. Scholars have found that meaning is positively related to personal satisfaction. Organizational commitment job stress and career intentions have a negative relationship with the intention to change and the influence of work burnout and self-determination were positively related. Job satisfaction and organizational commitment Self-efficacy is positively related to organizational commitment. The negative relationships with job tension and conflict in career intentions with supervisors. There was a significant moderating effect on the relationship between psychological empowerment and organizational commitment. It has a significant moderating effect. The higher the conflict level, the weaker the positive relationship between psychological empowerment and organizational commitment. (Men, 2014).

Men (2014) concluded from the regression analysis of the questionnaires that transformational leadership has a more robust predictive effect on employee satisfaction compared to paternalistic management and a more substantial predictive effect on organizational commitment and leader effectiveness compared to paternalistic compared to transformational leadership. This suggests that transformational leadership has the most potent predictive power for leadership effectiveness in the Chinese cultural context. The results of this study show that transformational leadership is the strongest predictor of leadership effectiveness in Chinese culture. The relationships between transformational leadership and subordinate satisfaction, organizational commitment, leader effectiveness, trust, and organizational citizenship behavior (Mehdinezhad & Mansouri, 2016) were found to have significant effects of transformational leadership on these leadership effectiveness variables (Loeb et al., 2010).

Self-alignment based on autonomy theory. It plays a partially mediating role between transformational leadership and employee satisfaction. Self-alignment refers to how an individual's activities, such as work-related tasks or goals, express her true interests and value criteria. Self-alignment reflects the employee's perception of the meaning of her work and the degree to which she identifies with her work's values and is a psychological sense of how well her work tasks match her values. When the employee's perception of the job is consistent with her interests, the internal coordination will motivate the employee and thus improve her job performance and job satisfaction.

The virtue modeling dimension in transformational leadership affects employee satisfaction and organizational commitment exclusively through the meaningfulness dimension in psychological empowerment. Academic motivation affects job satisfaction exclusively through self-efficacy, organizational commitment through meaningfulness and self-efficacy dimensions, etc. The effect of transformational leadership on employees' psychological empowerment is significant, as well as the effect of psychological empowerment on employees' organizational commitment is significant. Psychological empowerment completely mediates between transformational leadership and the organizational commitment of employees. Based on previous

research findings, transformational leaders influence subordinates' organizational justice of results through virtue and exemplary behavior. Transformational leaders share the hardships of their subordinates, do not care about personal gains and losses, and do not take the fruits of their work for themselves. Transformational leaders will provide personalized care to their subordinates according to their situation; for example, they will communicate with their employees frequently, understand their work, life, and family situation, and help them solve their problems in life and family. By sincerely providing advice and creating conditions for employees' work, life, and growth, subordinates will receive more fantastic spiritual encouragement. Therefore, transformational leadership can increase subordinates' perception of their output, thus generating organizational justice in results. At the same time, it can make subordinates perceive that their leaders treat them equally, generating interactive justice (Compeau et al., 1999).

Focusing on transformational leadership by principals in education, there is a rich body of research, with Ramazan's comparative analysis of 27 studies based on four databases finding a stronger correlation between transformational leadership and teacher job satisfaction than other leadership styles of interactive leadership (Ramazan, 2016). García used questionnaires and interviews to study 171 secondary school teachers in Greece and found that teachers were delighted when their principals had a high level of transformational leadership (García, 2011); The same thing in a study with a sample of 100 secondary school teachers in Perak, Malaysia (Wildy & Dimmock, 1993). Studies with samples of employees from joint-stock commercial banks and food companies have demonstrated that transformational leadership significantly affects employee job satisfaction and verifies the mediating role of variables such as organizational justice and perceptions of organizational support in the mechanism. However, scholars in the field of education in China still pay much attention to this area, and the relationship between transformational leadership and school performance also found that transformational leadership positively predicted teachers' communication satisfaction. Relevant research in the education field shows a significant deficit compared to the corporate field. Although the relationship between the two variables has received attention from scholars in the field of education, most of

the research has focused on the direct effects of the two variables in different national and regional contexts. However, more needs to be done to investigate further the mechanisms of the two variables based on mediating variables. Even more, it needs to be done to discuss the magnitude of the effect of each dimension of transformational leadership on teachers' job satisfaction.

2.2.8 The Impact of Transformational Leadership on the Perception of Organizational Justice

Transformational leadership emphasizes paying attention to the needs of employees and providing them with organizational vision and values so that they understand the value and meaning of their work. In this way, subordinates will work harder for organizational goals. This contributes to a pleasant and reliable organizational climate where employees take their work more seriously. Scholars have explored campus management in depth and found that transformational leadership significantly improves worker job satisfaction. Transformational leadership actions and attitudes have a significant effect on improving employee job satisfaction (Li et al., 2018). Scholars studying the service industry, which deals with leadership style and employee satisfaction, eventually came to the same conclusion as the former, that transformational leadership actions significantly improve employee job satisfaction. In addition, in the same organization in the management, research, and development departments, this survey shows that the research and development department is more responsive to transformational leadership than the management department and more related to job satisfaction by investigating the IT industry. Scholars believe that all four aspects of transformational leadership are related to job satisfaction, only to different degrees of correlation. Although foreign scholars have explored the direct impact of transformational leadership on employee job satisfaction, has not explored much in this area in China, and more and deeper exploration is needed. Transformational leadership actions have a significant effect on improving employees' job satisfaction. Chao-Ping Li has explored further based on the path taken by his predecessors and has finally achieved something with his unremitting efforts. He explored transformational leadership in the local culture and came up with the following elements: personalized care: giving personalized care to subordinates; virtuous behavior: being a role model for subordinates in terms of character

and behavior; vision motivation: compelling motivation based on the company's vision (Li et al., 2018); and leadership charisma: influencing employees through personal charisma. In addition, the study of the impact of these elements on job satisfaction continued, and two elements significantly improved employees' job satisfaction. In the current situation in China, where collective interests are valued more than individual interests, transformational leadership actions have a more pronounced effect on improving the job satisfaction of organizational members because organizational members prefer managers who are personally caring and vision motivation.

Transformational leadership is defined as social exchange-based leadership behavior. Transformational leadership can define hierarchical relationships as more than economic contracts and motivate employees through organizational justice and trust. Transformational leadership behavior is a process of instilling ideological and ethical values in employees and motivating them. In this process, in addition to guiding the subordinates to accomplish their work, the leader often uses personal charisma of the leader to change the work attitudes, beliefs, and values of the employees by motivating them, stimulating their minds, and caring for them so that they will be more committed to their work for the benefit of the organization and beyond their interests. This leadership style can lead to a greater sense of belonging, meet the needs of subordinates at higher levels, and achieve high productivity and low turnover (Li et al., 2018). The prerequisite for transformational leadership behavior is that the leader must have a clear vision of the organization's development and goals and that subordinates must accept the feasibility of leadership. To motivate employees with a vision, the transformational leader must first gain the employees' approval. If the employees' sense of distributive justice is not satisfied, they will be suspicious of the leader's vision.

According to Maslow's Hierarchy of Needs theory, people's lower-level needs are satisfied before they aspire to the satisfaction of higher-level needs. Therefore, transformational leaders ensure justice in outcomes, thus creating a sense of distributive justice among employees. Several studies have shown that people's organizational justice is determined by how others treat them and that this organizational justice influences their behavior. For transformational leaders to earn the trust of their employees, build their

commitment to their attitudinal goals, and produce superior performance, they must treat their subordinates fairly in their interpersonal interactions. An essential dimension of the transformational leadership questionnaire is personalized care. Transformational leaders get to know their employees in their interpersonal interactions, consider their needs, and communicate and interact with them regularly (Li et al., 2018).

Transformational leadership is significantly associated with organizational justice. Transformational leadership is a process of instilling ideas and moral values in employees and motivating them. In this process, in addition to guiding subordinates to accomplish their work, leaders often use their charisma to change employees' work attitudes, beliefs, and values by motivating, stimulating, and caring for subordinates so that they will go beyond their interests for the benefit of the organization and become more engaged in their work. The effectiveness of transformational leadership behavior depends on the recognition and trust of employees for the leadership; when employees can feel the effectiveness of leadership, they will show corresponding work attitudes and behavior in return for the organization. Based on the social exchange theory, when employees can feel the charisma and care of their leaders, they will show corresponding attitudes and behaviors in return for the organization and leadership; that is, they will show some extra-role behaviors such as organizational citizenship behavior and organizational commitment. The authors argue that the impact of transformational leadership behaviors on organizational citizenship behaviors and organizational commitment is indirect and that organizational justice is mediating the impact process.

2.2.9 Mediating Effects of Organizational Justice Perceptions

There is a significant positive correlation between all dimensions of organizational justice and all dimensions of job satisfaction, and job satisfaction differ among subjects with different organizational justice. There is a significant difference between those with higher organizational justice scores and those with lower scores, and similar results have been obtained from related studies in other fields. To further confirm the relationship between organizational justice and civil servants' job satisfaction, a step-by-step regression analysis revealed that leadership justice, distributive justice, and information justice had significant regression effects on civil servants' job satisfaction, among which leadership justice had the

most potent predictive effect, while procedural justice was not significant (Vaamonde et al., 2018). Suppose the rationality of the organization's system is recognized. In that case, civil servants tend to show a high degree of trust and dedication to the organization, but on the contrary, their motivation and initiative may be incredibly frustrating. Leadership justice is a factor that is equivalent to distributive justice. Since Chinese culture is a pan-familistic culture of rule by man, this makes the role and position of the leader as the parent of the unit in the organization even more prominent. Therefore, improving leadership justice is critical to improving employees' sense of organizational justice and management effectiveness. In the Chinese cultural context, the exchange between individuals and organizations is for long-lasting and stable social relationships and for satisfying the needs for care, security, warmth, and belonging. The emotional component may be greater than the instrumental component. Thus, procedural justice is weakened in some sense (Aggarwal et al., 2018).

2.2.9.1 The Mediating Role of Distributive Justice

The mediating role of organizational justice perceptions stems from individuals' instinctive responses when they encounter threats at work. When individuals encounter threats at work (e.g. job burnout), they try hard to cope by reducing or lowering their job demands or increasing their job resources (e.g. sense of organizational justice). Based on the causal analysis framework, three mediating hypotheses can be obtained: first, personality can act on organizational support through organizational justice; second, personality can act on job stress through organizational justice; and third, personality can act on job burnout through organizational justice (Shabbir et al., 2016).

The payment-reward imbalance (PRI) model suggests that job stress arises because corresponding rewards and rewards do not accompany individuals' high commitment and effort at work. The concept of distributive justice, which measures the justice of the outcome of rewards and rewards, aligns with the ERI model's core concept. When the sense of distributive justice is low, the payoff imbalance is correspondingly high. When this is the case over a long period, the pressure of higher work demands will increase the risk of physical and mental exhaustion and depletion (Omar et al., 2018).

According to social exchange theory, an individual's social value is proportional to

the pay he receives from society. An unfair pay level can make an individual cynical about the social work environment and lower his self-esteem and self-efficacy. Distributive equity is the individual's past satisfaction with the distribution of organizational resources and compensation.

2.2.9.2 The Intermediary Role of Procedural Justice

Procedural equity reflects the judgment of organizational employees about the predictability and controllability of their future work environment and job income. The job demand-control model indicates that the perception of predictability and controllability is an essential factor influencing the level of job stress and burnout among organizational employees (Wibowo, 2015). Procedural justice is closely related to the company's system, and the more material support construction project managers receive in an excellent institutional environment, the more procedural justice is positively reflected in material organizational support at the same time. In addition, the evaluation of project and project managers by company leaders and colleagues plays an important role. Process unfairness also affects construction project managers' evaluation of leaders and colleagues simultaneously, thus reducing their perception of non-material organizational support (Pryce & Wilson, 2020).

2.2.9.3 The mediating role of Interactive Justice

Justice in interpersonal interactions enhances individuals' sense of self and enhances employees' resource levels, reducing individuals' perceptions of stress and job burnout (Wibowo, 2015). The study also found that the lack of communicative feedback and the lack of attention to employees' opinions are essential factors that lead to feelings of alienation, such as cynicism. In addition, the level of interpersonal relationships with leaders implied in interaction equity is critical in triggering mental health problems at work, such as frustration and depletion. For a typically relational society such as China, the impact of interpersonal justice on job stress and burnout of construction project managers may be even more pronounced. Thus, inequity in interpersonal relationships is likely to directly lead to low levels of perceived leadership and colleague support, reducing employees' judgments about the overall level of organizational support.

2.2.9.4 The Mediating Role of Spatio-temporal Justice

Time equity and spatial equity have not been investigated regarding their role in the causal mechanisms of job burnout. Based on the theory of conservation of resources, when time and space are treated as personal resources, the excessive consumption of resources will lead to a series of negative consequences (Cole & Copland, 1997). When a construction project manager is faced with long hours of overtime, their time is greatly compressed. Or even that no time or personal resources are being overused. But there is no time to recover and adapt. This causes high work pressure. Especially for project managers who are on projects for a long time, the instability of the job, the simplicity of the work environment, and being away from family for long periods. These will make employees feel lonelier and reduce their sense of security at work. This results in increased use of emotional resources and encourages wastefulness. At the same time, the organization and the direct supervisor determine the working hours and location of the construction project manager. Therefore, perceptions of spatial and temporal inequality also reduce employees' perceptions of organizational support (Rosenkranz & Jaillon, 2016).

2.2.10 The Mediating Effect of Psychological Capital

Transformational leadership may positively influence employees' psychological capital in two ways: the role model demonstration effect and the direct stimulation of employees' psychological capital by the different dimensions of transformational leadership. For employees, the leader is a powerful environmental resource that enhances their courage in adversity and confidence in achieving their goals. The role model of a transformational leader can serve as a clear guide to the ideal behavior to achieve goals. Using this role model as a foundation helps followers build confidence in their skills and gives them a role model to guide them in choosing the right direction in the face of obstacles. Leadership behaviors affect the psychological state of employees and have a positive or negative impact on their psychology. When a leader is perceived to be a transformational leader, he or she demonstrates that positive environmental forces enable followers to develop positive perceptions of having a spirit of effort and perseverance. Moreover, when followers develop such ideas, the transformational leader's behavior can create the conditions for high levels of psychological capital. This finding highlights the critical role of transformational leadership

in stimulating positive psychological capital in employees (Avey et al., 2011). Intellectually stimulating leaders can help employees turn work challenges into opportunities and increase flexibility and self-confidence. Meanwhile, leaders serve as mentors who are attentive to employees' growth needs with purpose and help them grow to face complex problems and challenges.

The positive relationship between transformational leadership and employee self-efficacy is evidenced by the fact that transformational leaders persuade their employees based on their emotional relationship with them, helping them to develop positive thinking and thus build a better vision and new perceptions, and supporting and guiding them to develop optimistic emotions. The positive relationship between transformational leadership and employee self-efficacy was also found to be positively related to employee resilience by empirical studies such as the one conducted by the study's authors on personalized leadership care, leadership charisma, and intellectual stimulation. Personalized care by transformational leaders enhances subordinates' self-efficacy. Transformational leadership promotes increased personal self-efficacy and mutual trust among members.

Scholars have concluded that self-efficacy partially mediates the relationship between transformational leadership and employee job performance and job satisfaction after controlling for age, gender, and years of service. Self-efficacy, hope, and resilience in subordinates' psychological capital mediated the relationship between transformational leadership behaviors and subordinates' job performance; self-efficacy and resilience in subordinates' psychological capital mediated the relationship between transformational leadership behaviors and subordinates' organizational commitment. Scholarly research has validated the fully mediating role of employee psychological capital in the relationship between transformational leadership and innovative employee behavior. Psychological capital mediated the relationship between transformational leadership style and elementary and secondary school teachers' work commitment. Psychological capital significantly mediates between perceived organizational support and change-supportive behaviors (Kim, 2018).

Psychological capital is considered to have not only a direct effect on the outcome variables of interest at the individual level, but it is also a standard line of research to study it

as a mediating variable, yielding many valuable findings suggesting that psychological capital is a significant factor in revealing the mechanisms underlying some variables and is a very significant mediator of the role of these variables on the outcome variables of interest (Avey et al., 2011).

Luthans et al. (2004) suggest that psychological capital drives employees to have active emotions, challenging thinking, and a willingness to succeed. They are more likely to perceive meaning and value in their work and are more open to new ideas and challenges, exhibiting positive motivational states that reflect higher job satisfaction. Moreover, Luthans believes that psychological capital also helps employees adapt positively when dealing with difficulties and adversities, persevere rather than give up, and show excellent willpower and resilience, thus inhibiting the emergence of negative attitudes at work, effectively preventing the decline of satisfaction (Luthans et al., 2004).

Focusing on the relationship between the two variables in education, the literature is full of articles that firstly explore the direct effect between the two, with Kurt & Demirbolat, (2018) finding that teachers' psychological capital significantly predicted their job satisfaction after a two-sample survey of 384 public secondary school teachers (Kurt & Demirbolat, 2018); Mansour et al. (2011) similarly studied 104 faculty members from different higher education institutions in Thailand (Mansour et al., 2011). The following most relevant study in the literature is the introduction of teachers' psychological capital as a mediating variable, in which the relationship between teachers' psychological capital and job satisfaction is explored in conjunction with the analysis of the mechanism of the effect of an antecedent variable on teachers' job satisfaction. Heled et al. (2015) also demonstrated a positive relationship between psychological capital and job satisfaction when they examined the mediating role of psychological capital in the relationship between team learning climate and job satisfaction in 82 school management teams in Australia (Heled et al., 2015).

In contrast, the literature has shown a sharp decline in attention to both variables, with some attention paid to research findings in business management using company employees or civil servants, all of which suggest that employees' psychological capital positively predicts their job satisfaction (Firdaus et al., 2022). However, there are very few articles on teachers in educational management, and teachers in primary education have received little attention

from researchers. When psychological capital was used as a moderating variable to investigate the mechanism of job satisfaction and burnout of full-time counseling teachers in universities, the positive relationship between psychological capital and job satisfaction was also verified (Ngoma & Dithanntale, 2016).

In conclusion, the study confirmed that teachers' psychological capital could positively affect their job satisfaction. Many of the studies also used psychological capital as a mediating variable to analyze the mechanism of the effect of an antecedent variable on teachers' job satisfaction while verifying the positive effect of psychological capital on it, which further strengthens the rationality of introducing psychological capital as a mediating variable in this dissertation (Marashdah & Albdareen, 2020). However, these antecedent variables are significantly underrepresented in the focus on principals' transformational leadership. While some studies in business management have examined and validated the positive effect of psychological capital on employee job satisfaction, there are much weaker studies in education, especially in secondary school organizational settings. Hence, the relationship between the two variables when secondary school teachers are the subjects deserves further exploration in empirical studies.

Table 2.5 Scholars' Related Research

Variable	Scholars																	
	Hoppock,1935	Homans, 1953	Festinger,1954	Tosi et al.,1980	Burke, 1985	Bass,1995	Bandura, 1977	Aryee et al., 2002	Rafferty, 2004	Luthans et al., 2004	Luthans, 2008	Loeb et al., 2010	Men, 2014,	García, 2011	Nielsen & Cleal, 2011	Goroshit & Hen, 2014	Omar et al., 2018	Li, 2018
Transformational leadership																		
Morality	○	●	○		●	●	○		●	○	○	●	○	●	●		○	●
Vision motivation	○	●	○		●	●	○		●	○	○	●	○	●	●		○	●
Personalized care	○	●	○		●	●	○		●	○	○	●	○	●	●		○	●
Leadership charisma	○	●	○		●	●	○		●	○	○	●	○	●	●		○	●
Psychological capital																		
Task type		○		○			○			●	●				○	○		○
Relational type		○		○			○			●	●				○	○		○
Learning type		○		○			○			●	●				○	○		○
Innovative type		○		○			○			●	●				○	○		○
Organizational Justice																		
Procedural justice		○	●	○		○	○	●		○			○				●	○
Distribution justice		○	●	○		○	○	●		○			○				●	○
Interpersonal justice		○	●	○		○	○	●		○			○				●	○
Information justice		○	●	○		○	○	●		○			○				●	○
Job Satisfaction	●			●	○	○		●	●			●	●	●	●	○		●

Note: ● indicates a high correlation, ○ indicates correlation exists, and unmarked indicates no correlation.

2.3 Conceptual Framework

Based on the literature review and analysis of relevant research models, this study proposes a conceptual research model in which transformational leadership is used as the independent variable, and psychological capital and organizational justice are used as mediating variables. Job satisfaction is used as the dependent variable, as shown in Table 2.5. The analysis clarified the interrelationships among four variables: transformational leadership, psychological capital, organizational justice, and job satisfaction.

After reviewing a large amount of literature, it has been understood that the impact of transformational leadership on job satisfaction is directly evident, where transformational leadership, according to the measurement dimensions of the classical scale, includes the aspects of motivation, ethics, motivation, and humanistic care, so the measurement of transformational leadership will include these contents and set the corresponding measurement questions according to none of the dimensions to ensure the measurement process is effective and accurate.

Job satisfaction has consistently been the focus of scholars' research. According to the measurement dimensions of the classic scale, the dimensions of job satisfaction are determined to include work environment, future development, interpersonal relationship, salary and treatment, and job nature. Through the measurement dimensions of the question items, it was determined that the job satisfaction of university teachers could be effectively measured. Also, in combing the literature, we learned that transformational leadership impacts total employee satisfaction, so in the conceptual framework, we proposed that transformational leadership impacts job satisfaction.

As one of the essential elements in studying transformational leadership, psychological capital is included in many transformational leadership studies (Choi & Park, 2022). Meanwhile, research on the influence of psychological capital on job satisfaction and job performance has also been the focus of scholars' research in recent years, so studying the relationship between transformational leadership and job satisfaction necessarily requires considering factors related to employees' psychological capital. Therefore, this study proposes psychological capital as a mediating variable in the model. Combined with the

classical scale, the dimensions of psychological capital studied are hope, optimism, relationship, self-efficacy, and release. The mediating effect of psychological capital between transformational leadership and job satisfaction was determined by measuring the question items.

Organizational justice is an essential element that transformational leadership brings to the organization. Transformational leaders empower subordinates. The fact that subordinates can always give their opinions about the job or the leader is significant for the employees in the organization (Firdaus et al., 2022). There is also a corresponding effect of organizational justice on job satisfaction pairs, with higher organizational justice and higher job satisfaction. Therefore, this study proposed the mediating effect of organizational justice. According to the classical scale finally determine the organizational justice impact measurement questions are distribution justice, salary and treatment justice, and transparency, respectively. The mediating effect of organizational justice was explored through measurement dimensions.
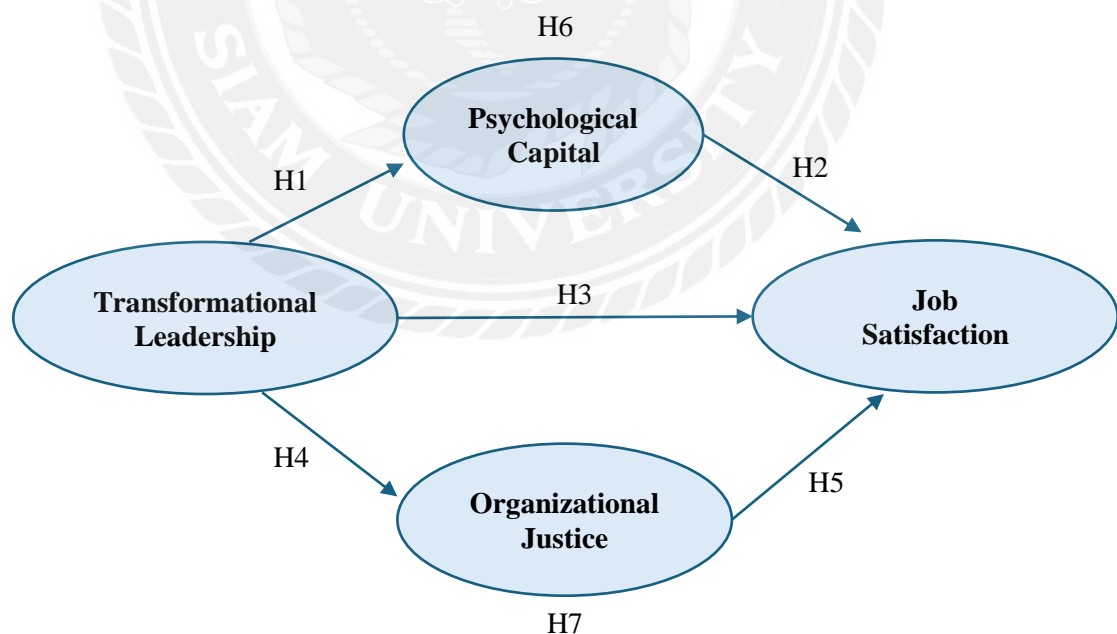
Figure 2.2 Conceptual Framework
(Source: Researcher, 2023)

2.4 Conclusion

Through the analysis of the concepts, connotations, influencing factors, and mechanisms of variables, this study concludes that transformational leadership, as one of the key factors affecting organizational outcomes at the individual level, is worth exploring in terms of its effects on psychological capital, organizational justice, and job satisfaction, which are the most used individual-level variables to measure leadership effectiveness. Therefore, it is essential to integrate a theoretical perspective on the paths of transformational leadership and satisfaction with psychological capital and organizational justice.

Through literature review, this study suggests that social exchange theory and organizational justice theory may be the best theoretical perspectives to integrate the mediating variables of transformational leadership's impact on psychological capital and organizational justice. Social exchange theory provides a valuable theoretical perspective for understanding how transformational leaders influence employees' attitudes toward work. social behavior is "an exchange, tangible or intangible, between at least two people, more or less for reward or cost." The scope of social exchange is defined as " For behavior to lead to social exchange, two conditions must be met: one is that the ultimate goal of the behavior can only be achieved through interaction with others, and the other is that the behavior must adopt means that contribute to the achievement of these ends." (Heled et al., 2015)

The relationship of social exchange between the leader and his subordinates is based on power and authority. The leader can command and order his subordinates to work to achieve organizational goals using the power of his position, such as legal, rewarding, and punishing power. At the same time, the leader uses his power, such as expert and reference power, as much as possible to make the organization's members willingly follow and obey him (Avey et al., 2011). Frequently, personal power also makes it easier for subordinates to perceive the leader's authority and form a positive evaluation of the leader, thus showing praise, respect, trust, and obedience to the leader. By following the leader and achieving the organization's goals, subordinates satisfy their needs, such as survival, growth, achievement, and self-actualization.

Transformational leadership is precisely the motivation of the subordinates to work beyond the expectations of the leader in the process of achieving the organizational goals by providing them with the satisfaction of their high-level needs. Organizational justice theory provides a good explanation about mechanism of action achieved and motivation generated. The transformational leader makes subordinates aware of the importance of their tasks, thus motivating them to make suggestions for improving the quality of their work. The transformational leader listens to the subordinates' opinions and suggestions so that they feel they have a voice, and their perception of the value of their work, their confidence in completing their work, and their perception of self-determination and influencing the outcome of their work will increase. Suppose the subordinates' participation in the work is higher. In that case, the subordinates will think the decision-making process is fairer (Pryce & Wilson, 2020). The organizational justice in the distribution results will be enhanced, and the subordinates will be more satisfied. Satisfied subordinates are more likely to have positive feelings toward the organization and are more willing to show loyalty and obedience to the organization. Therefore, the higher the organizational commitment of satisfied employees.

Chapter 3

Research Methodology

In this chapter, details can be separated as follows research, research summarize, and collected all data. The details in this chapter will be separated into 8 parts as follows:

3.1 Research Design

3.2 Operationalization of Variables

3.3 Hypotheses

3.4 An Analytical Model

3.5 Population and Sampling Methods

3.6 Questionnaire Pre-test

3.7 The Quality of the Measurement Tool was Analyzed by Item Analysis

3.8 Statistical Method of Analysis

3.1 Research Design

The focus of this study is the effect of transformational leadership on job satisfaction and organizational justice perceptions of teachers in private universities in Shandong, China. The main targets of the study are the teachers of private universities in Shandong province, and 425 teachers of private universities in Shandong province were randomly selected for the survey by random sampling method. The questionnaire consists of two parts, the first part is the control variables, including the gender, age, and work experience of the survey sample; the second part is the survey questions about the four variables of transformational leadership, psychological capital, organizational justice, and job satisfaction, using a five-point Likert scale. Four research variables were involved: transformational leadership, psychological capital, organizational justice, and job satisfaction. Based on the social exchange theory and social cognitive theory, structural equation modeling (SEM) was applied to investigate the relationship between each variable. Hypotheses were formulated based on the interaction between the variables.

The study used a quantitative research method. A questionnaire was developed and data were collected from private universities in Shandong province and analyzed by SPSS and AMOS. The section of the questionnaire measuring transformational leadership styles was later revised by Chinese scholar Chao-Ping Li. The transformational leadership style was divided into four dimensions: morality, vision motivation, personalized care, and leadership charisma. The Multifactor Leadership Style Questionnaire was used to measure transformational leadership. Colquitt's scale was selected for the organizational justice scale. The organizational justice scale was divided into four dimensions which are distributive justice, procedural justice, interpersonal justice, and information justice. Job satisfaction was measured using Weiss' (1967) MSQ scale, where organizational members give their own perceived job satisfaction. Chen et al. (2019) developed psychological capital was selected from the classical scale, and the psychological capital scale was divided into four dimensions, which were task-based psychological capital, relational psychological capital, learning psychological capital, and innovative psychological capital. By organizing and analyzing the classic scale and combining it with the research questions, a total of four variables were finally determined in this study.

Finally, the questionnaires will be collected using the Questionnaire Star online and offline collection methods. The questionnaire was designed using a 5-point Likert scale to assign values to the questionnaire and to provide information for subsequent data analysis. Based on the results of the research, suggestions are given for the application of the transformational leadership model. Explaining how private universities should operationalize and use the model that came out of the research when it comes to improving the level of transformational leadership in universities.

3.2 Operationalization of Variables

3.2.1 Independent Variable

Transformational leadership is a style of leadership that promotes internal commitment among employees by expressing their recognized vision and higher-level needs and makes them naturally follow and obey the leader from within. This dissertation on the measurement of transformational leadership variables incorporates the MLQ questionnaire

developed by Bass and Avolio (1990). The scale contains 20 questions in which employees are assessed based on their status of supervisor management practices at work. The Chinese scholar Chao-Ping Li modified and adapted the scale to the actual situation in China. Thus, Chao-Ping Li's modified transformational leadership scale is divided into four dimensions: morality, vision motivation, personalized care, and leadership charisma, with five questions per dimension, for a total of 20 questions.

Table 3.1 Transformational Leadership Measurement Item

Dimension	Measuring Item	NO.
Morality	1. My supervisor does not seek personal gain and is honest.	TL1
	2. My supervisor does his best to work hard for the development of the company.	TL2
	3. My supervisor puts the interests of others and the group before my own.	TL3
	4. My supervisor will not take over the fruits of other people's labor.	TL4
	5. My supervisor will not secretly retaliate against subordinates.	TL5
Vision Motivation	6. My supervisor can let his subordinates understand the development prospects of the company/department.	TL6
	7. My supervisor can let subordinates understand the development goals and business philosophy of the company/department.	TL7
	8. My supervisor paints an exciting picture of the future for his subordinates.	TL8
	9. My supervisor can give subordinates direction and goals.	TL9
	10. My supervisor often discusses with subordinates the impact of their work on the company/department's overall goals.	TL10
Personalized Care	11. My supervisor will consider the actual situation of the subordinates in the process of communicating with them.	TL11
	12. My supervisor can often communicate with his subordinates to understand their family, lives, and work conditions.	TL12
	13. My supervisor is willing to help his subordinates solve family and life difficulties.	TL13
	14. My supervisor sincerely cares about his subordinates and creates conditions for their development.	TL14
	15. My supervisor pays attention to creating conditions for subordinates to develop their expertise.	TL15

Dimension	Measuring Item	NO.
Leadership Charisma	16. My supervisor has excellent professional skills and is constantly improving.	TL16
	17. My supervisor is open-minded and has a strong sense of innovation.	TL17
	18. My supervisor loves the job he is doing and is very ambitious and aggressive.	TL18
	19. My supervisor puts his heart into his work and maintains a high level of enthusiasm.	TL19
	20. My supervisor dares to grasp and manage and is good at dealing with work problems.	TL20

3.2.2 Dependent Variable

3.2.2.1 Psychological Capital

The research perspective on the impact of psychological capital on employees' innovative behavior can be based on the enterprise level. In terms of the more mature psychological capital theory, combing and summarizing the existing literature based on the scale developed by the research about the enterprise, the common psychological capital dimensions are divided into four dimensions, mainly effectiveness, hope, resilience, and optimism, such as Chen et al., (2019) with female entrepreneurs as the research object. With the continuous improvement and use of the scale, the construct of dimensions for employees' psychological capital is proposed,

(1) Task-based psychological capital mainly explores employees' positive emotions (optimistic and upward psychological state at work) and resilience (adaptability in the face of adversity at work);

(2) Relational psychological capital mainly explores employees' emotional intelligence (ability to manage their own and others' emotions at work) and gratitude (assistance to others at work);

(3) The learning psychological capital focuses on employees' learning efficacy (the ability to transform the learning process at work into their knowledge and beliefs);

(4) The innovative psychological capital focuses on employees' innovation self-efficacy (the belief in obtaining results through innovative work content); and ambiguity tolerance (the degree of tolerance in the face of uncertainty at work).

Therefore, this study uses a scale for psychological capital that contains a total of 20 items, including task-based psychological capital, relational psychological capital, learning psychological capital, and innovative psychological capital.

Table 3.2 Psychological Capital Measurement Item

Dimension	Measuring Item	NO.
Task-Based	1. My supervisor affects my work ethic.	PC1
	2. I always expect good things to happen in my future work.	PC2
	3. I am not afraid of difficult new jobs.	PC3
	4. I trust my supervisor to help me when I encounter work difficulties.	PC4
	5. I hope that I can undertake a certain job independently.	PC5
Relational	6. I know why my mood changes.	PC6
	7. I can understand the nonverbal messages my supervisor sends me.	PC7
	8. I can understand my supervisor's emotions well.	PC8
	9. I appreciate my supervisor pointing out problems to me.	PC9
	10. I remember the help and support I received from my supervisor.	PC10
Learning	11. I believe in my ability to translate what I have learned into skills.	PC11
	12. I believe I can master the knowledge provided by my supervisor	PC12
	13. I will learn and improve my job skills spontaneously.	PC13
	14. I take the initiative to learn from my supervisor's experience and expertise.	PC14
	15. I am happy to share my experience with my supervisor.	PC15
Innovative	16. I can achieve the goals I set out in new ways.	PC16
	17. I am willing to try new methods and ideas in my work.	PC17
	18. I can take the initiative to adjust and change the original working method.	PC18
	19. I can deal with several tasks at the same time.	PC19
	20. I can break the traditional way of thinking and working in my work.	PC20

3.2.2.2 Organizational Justice

For this study, the sense of organizational justice scale was primarily based on Colquitt's (2011) scale. The structural dimensions of the sense of organizational justice scale are distributive justice, procedural justice, interpersonal justice, and information justice. Distributive justice is people's perception of the justice of distribution and how people judge what they get. Interpersonal justice is the degree to which people are treated with dignity and respect and focuses on the interpersonal treatment people receive when carrying out procedures. Information justice is the value of people in information activities to reflect the balanced state of information relations among social subjects by using the concept of justice and equality as a value scale Therefore, the organizational justice scale used in this study has four dimensions and 20 questions in total.

Table 3.3 Organizational Justice Measurement Item

Dimension	Measuring Item	NO.
Distribution Justice	1. The company pays me a salary that reflects how hard I work.	OJ1
	2. My salary reflects my contribution to the company.	OJ2
	3. My salary is reasonable and fair based on job responsibilities and workload.	OJ3
	4. Based on my work performance, my salary is reasonable and fair.	OJ4
	5. Compared with the work performance of my colleagues, my salary is reasonable.	OJ5
Procedural Justice	6. Managers make work decisions with rules to follow.	OJ6
	7. The company's system can be well implemented.	OJ7
	8. Employees of the company can participate in the decision-making process.	OJ8
	9. The implementation of the company system will not vary from person to person.	OJ9
	10. The formulation and implementation of decisions in the company are transparent and open.	OJ10
Interpersonal Justice	11. My supervisor can treat me with courtesy.	OJ11
	12. In terms of ideas and opinions, my supervisor respects me.	OJ12
	13. My supervisor has not judged me inappropriately.	OJ13
	14. The work I do is recognized by the company's superiors.	OJ14
	15. My supervisor can provide me with the help and support I need for my work.	OJ15

Dimension	Measuring Item	NO.
	16. The leader can communicate with me frankly.	OJ16
	17. My supervisor explained my work-related decisions to me in detail and comprehensively.	OJ17
Information Justice	18. Your supervisor's explanations for work decisions are reasonable.	OJ18
	19. The supervisor can communicate with me in time about the details of work decisions.	OJ19
	20. The supervisor will communicate with employees based on their specific needs.	OJ20

3.2.2.3 Job Satisfaction

Weiss' (1967) MSQ scale was used to study employee job satisfaction, which was divided into two dimensions: intrinsic and extrinsic satisfaction. Different types of job satisfaction scales have been successively developed by different scholars and all of them have been influential. Pond and Geyer (1991) proposed one of the widely accepted is the job satisfaction scale, which has a total of six questions. This scale was originally developed by The scale's six-question items measure employees' emotional responses to their job answers and are not specific to other aspects of the job.

Table 3.4 Job Satisfaction Measurement Item

Dimension	Measuring Item	NO.
	1. If I must now choose whether to engage in my current job, of course, I will continue to be engaged in the job.	JS1
	2. If a friend asked me whether he (she) should look for a job like me, I would strongly suggest that he (she) should.	JS2
Job Satisfaction	3. My job is very close to my ideal job.	JS3
	4. My job is very much in line with some of the characteristics I precepted when I first met it.	JS4
	5. I'm very pleased with the job now.	JS5
	6. As a whole, I like the job I have now very much.	JS6

3.2.3 Control Variables

Bernerth & Aguinis (2015) suggested that empirical studies require theoretical implications and empirical testing when selecting control variables by combining the literature on social exchange theory and social cognitive theory. The control variables of the study were therefore presented from teachers at each level in private universities in Shandong province, including teachers' age, gender, educational level, job title, and years of work experience.

3.3 Hypotheses

The conceptual model for this study was derived from the literature review in Chapter 2. Therefore, the mutual hypotheses among transformational leadership, psychological capital, organizational justice, and job satisfaction in the conceptual model of private university teachers are proposed as follows.

3.3.1 The Impact of Transformational Leadership on Teachers' Psychological Capital

Transformational leadership motivates employees through their work goals and organizational vision, and the leader leads by example and sets an example for employees, increasing their sense of belonging and organizational identity and making them willing to work for the organization from the bottom of their hearts. At the same time, members are motivated to have a high level of collective vision and to work for it, thus strengthening team cohesion. Organizational strategy and organizational climate are also directly influenced by transformational leadership. The analysis of transformational leadership will significantly enhance employees' psychological capital, improve their self-efficacy, and achieve the adjustment and development of their psychological state for the better. Therefore, this study proposes the following hypotheses.

H1: Transformational leadership in private universities in Shandong province has a positive impact on teachers' psychological capital.

3.3.2 The Impact of Teachers' Psychological Capital on Job Satisfaction

Psychological capital enables individuals to generate confidence to perform challenging tasks and to persevere in performing them, to make attributions for present and future successes, and to show resilience after failures (Rad & Yarmohammadian, 2006). This shows that psychological capital belongs to the individual's ability to generate positive psychological states that help to challenge difficult things. Psychological capital is a positive psychological state that a person exhibits on the path of growth and development. Job satisfaction is closely related to a person's psychological state, so good psychological capital can influence how an employee feels about his or her job. Therefore, the following hypotheses are proposed in this study.

H2: Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction.

3.3.3 The Impact of Transformational Leadership on Faculty Job Satisfaction

The concern shown by transformational leaders for the life, work, and growth of their subordinates and the sincere provision of advice will lead to a stronger identification of the subordinates with the leader, who is somehow a representative of the organization, and then the subordinates' identification with the organization will increase. Li (2018) concluded from regression analysis of survey data that transformational leadership has a stronger predictive effect on employee satisfaction compared to paternalistic management and a stronger predictive effect on organizational commitment and leader effectiveness compared to paternalistic compared to transformational leadership. This suggests that transformational leadership has the strongest predictive power for leadership effectiveness in the Chinese cultural context. The relationship between transformational leadership and subordinate satisfaction, organizational commitment, leader effectiveness, trust, and organizational citizenship behavior was found to have a significant effect of transformational leadership on these leadership effectiveness variables. Therefore, the following hypotheses were formulated for this study.

H3: Transformational leadership in private universities in Shandong province has a positive effect on teachers' job satisfaction.

3.3.4 The Impact of Transformational Leadership on Organizational Justice

Based on the social exchange theory, transformational leadership motivates employees through organizational justice and trust. In addition to guiding subordinates to complete their work, leaders often use their charisma to change employees' work attitudes, beliefs, and values by motivating, stimulating, and caring for their subordinates, so that they will go beyond their interests for the sake of the organization and thus become more involved in their work. To enhance employees' sense of belonging and the realization of their self-worth, leaders accept employees' opinions and invite them to participate in all corporate decisions at the same time, to improve the transparency of corporate decisions and to realize the improvement of organizational justice. The work style and style of transformational leaders determine the work environment and work perceptions of employees at work and enhance employees' organizational justice experience. Therefore, this study proposes the following hypotheses (Colquitt & Rodell, 2011).

H4: Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice.

3.3.5 Impact of Organizational Justice on Teachers' Job Satisfaction

Organizational justice is an employee's overall perception of the organizational environment, organizational interpersonal relationships, and organizational assignments. In an environment with a high sense of organizational justice, employees have good interpersonal relationships and increased productivity. Employees' self-efficacy and sense of security increase. As employees' self-efficacy increases and their sense of organizational justice increases, employees develop a sense of belonging to the organization (Fuentes-Tauber, 2018; Mathisen, 2011). According to the social exchange theory and the social identity theory, employees' perception of themselves as part of the organization will be conducive to enhancing employees' satisfaction with the organization. Therefore, the following hypotheses are proposed in this study.

H5: The sense of organizational justice of teachers in private universities in Shandong province has a positive effect on the improvement of teachers' job satisfaction.

3.3.6 The Mediating Effect of Psychological Capital

Transformational leaders persuade employees based on the emotions between themselves and their employees, demonstrating the positive relationship between transformational leadership and employee self-efficacy. The personalized care of transformational leaders enhances subordinates' self-efficacy. Transformational leadership promotes increased personal self-efficacy and mutual trust among members. Scholars have concluded that self-efficacy partially mediates the relationship between transformational leadership and employee job performance and job satisfaction after controlling for age, gender, and years of service (Lin & Hsu, 2013). Scholars' research verified the fully mediating role of employee psychological capital in the relationship between transformational leadership and employee innovative behavior. Psychological capital plays a significant mediating role between perceived organizational support and change-supportive behaviors. Therefore, the following hypotheses were formulated in this study.

H6: Psychological capital of teachers in private universities in Shandong province has a mediating effect between transformational leadership and job satisfaction.

3.3.7 The Mediating Effects of Organizational Justice

Transformational leadership behavior is a process of instilling ideas and ethical values in employees and motivating them. The effectiveness of transformational leadership behavior depends on the employees' recognition and trust in the leader, when the employees can feel the effectiveness of the leader, they will show the corresponding work attitude and behavior to reward the organization. Based on the social exchange theory, when employees can feel the charisma and care of their leaders, they will show corresponding attitudes and behaviors in return for the organization and leadership, i.e., they will show some extra-role behaviors such as organizational citizenship behavior and organizational commitment (Pryce & Wilson, 2020; Shabbir et al., 2016; Vaamonde et al., 2018). The effect of transformational leadership behavior on organizational citizenship behavior and organizational commitment is not direct, and organizational justice plays a mediating role in the influence process. Therefore, the following hypotheses are proposed in this study.

H7: Organizational justice has a mediating effect between transformational leadership and job satisfaction in private universities in Shandong province.

Therefore, the assumptions related to the conceptual model are summarized as follows：

Table 3.5 The Summary of the Hypothesis

NO.	Hypothesis
H1	Transformational leadership in private universities in Shandong province has a positive impact on teachers' psychological capital.
H2	Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction.
H3	Transformational leadership in private universities in Shandong province has a positive effect on teachers' job satisfaction.
H4	Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice.
H5	The sense of organizational justice of teachers in private universities in Shandong province has a positive effect on the improvement of teachers' job satisfaction.
H6	Psychological capital of teachers in private universities in Shandong province has a mediating effect between transformational leadership and job satisfaction.
H7	Organizational justice has a mediating effect between transformational leadership and job satisfaction in private universities in Shandong province.

3.4 An Analytical Model
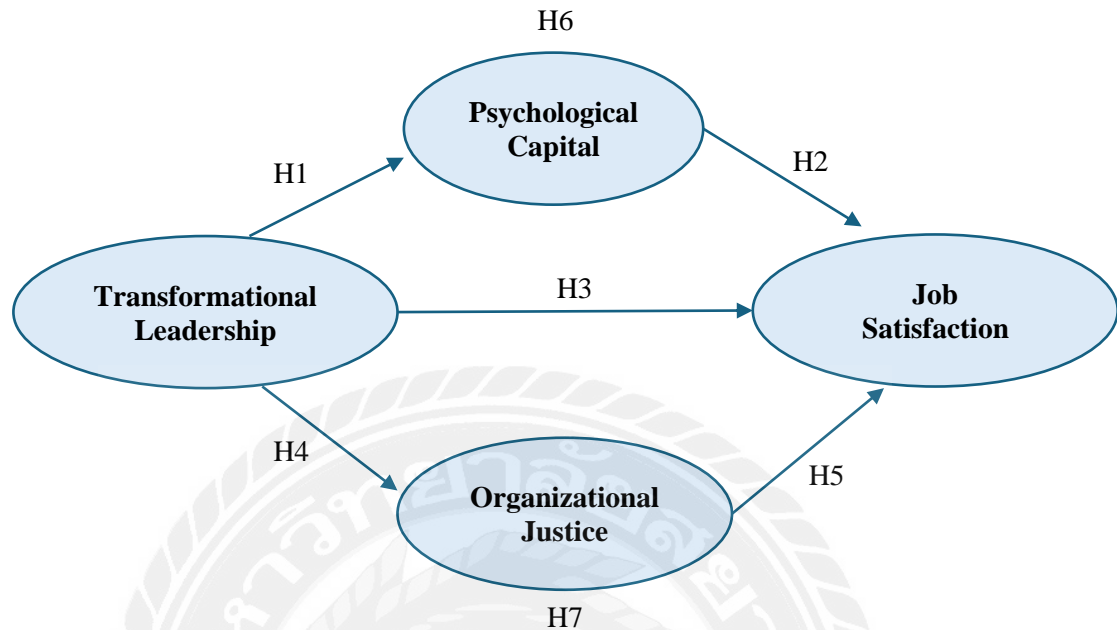
Figure 3.1 Conceptual Model
(Source: Researcher, 2023)

3.5 Population and Sampling Methods

To enhance the quality of the study and the scientific nature of the study, two aspects need to be fully considered for the sample selection. On the one hand is the sample selection object, the main content of this study is to study the management aspects of private universities in Shandong province therefore, the main research object is the teachers of private universities in Shandong province. Yamane (1973) adjusted the calculation formula to be more accurate; by increasing of π = population variance from the Dichotomous Variable equal to 0.50 and z = z score at significance level β (where z = 1.96 at β = 0.05 and z = 2.56 at β = 0.01) as the following formula (Yamane, 1973).

$$n = \frac{(z)^2(\pi)(1-\pi)(N)}{(z)^2(\pi)(1-\pi) + (N)(e)^2}$$

From the calculation formula of the given 23,000 population, estimates were obtained based on data released on the official websites of 22 private universities in Shandong province. The sample size equals 377.84 compared with Taro Yamane's reliability level of

95% ($f = \pm 5\%$) and various errors; the sample size is equal to 378. Therefore, this study requires a random sample of 378 private university teachers in Shandong province to be surveyed to ensure that the difference between the sample mean and the overall mean does not exceed 0.5 at the 95% confidence level. Structural equation modeling was adopted in the study and according to the scholars, the sample size should be 10 to 20 times the number of items tested while not exceeding a maximum of 500 samples (Anderson & Gerbing, 1988; Bentler & Yuan, 1999). There are 66 measurement items in this study and according to the scholars' opinion the sample size should be 660 and not more than 500, so combining the sample calculation formula and the sample size requirement of structural equation modeling, the final sample size is determined as 500.

3.6 Questionnaire Pre-test

The purpose of the pre-survey is to adjust and correct the questionnaire accordingly based on the results of the small-scale survey to ensure the reliability of the questionnaire in the formal survey. The pre-survey of this study was conducted using an online questionnaire. The area of the questionnaire pre-test is mainly 2 private higher education institutions in Qingdao, China, which include: Qingdao Binhai University, and Qingdao Huanghai University. The survey respondents were teachers of private higher education institutions in Shandong province.

For the collected data, reliability analysis was used to analyze the possible problems of the measurement items and further correct and screen them for the formal survey. The pre-test sample of the questionnaire was used as the research object, and SPSS software was applied to analyze the sample of the pre-survey and to conduct exploratory factor analysis, principal component analysis, multivariate co-linear analysis, and questionnaire reliability analysis on the scale items of the initial questionnaire, which were combined with the analysis to revise the scale dimensions and questionnaire items to form the formal questionnaire. However, the section on cautions for scale completion needed to be appropriately revised, and the overall revision was made according to the revisions. The revised questionnaire consisted of two parts, for the basic information about employees and the measurement scales of each variable. The scales in this dissertation were all scored on a five-point Likert scale.

3.7 The Quality of the Measurement Tool was Analysed by Item Analysis

3.7.1 Validity Testing

The validity measure of the questionnaire was mainly adopted by the expert evaluation method, so an expert panel was formed, with the main members being Shi Qiang (Xiangtan University, Professor), Chaiyanant Panyasiri (Siam University, Associate Professor), Vuttichat Soonthonsmai (Rajamangala University of Technology Krungthep, Associate Professor), Jidapa Chollathanrattanapong (Siam University, Ph.D.), and Sarun Widtayakornbundit (Kasetsart University, Ph.D.).

(1) Content Validity

Content validity refers to the extent to which a measurement instrument, assesses the construct or domain it is intended to measure. Expert rating methods are used for already constructed questionnaires. Experts can rate items and calculate the content validity ratio (CVR) and content validity index (CVI) (Prananto et al., 2022). The overall content validity of the measurement instrument is assessed by examining the CVR and CVI of each item. Items with low validity scores were modified or eliminated. the CVR ranged from -1 to +1, with a value above 0 indicating that the item was considered necessary. The CVI ranged from 0 to 1, with a value above 0.80 indicating good content validity. According to the expert assessment, the CVR of the questionnaire exceeded 0 and the CVI exceeded 0.8. Therefore, the content validity of the questionnaire was good.

(2) Logical Validity

Logical validity examines whether the items in the test or questionnaire make logical sense about the construct being measured. The research questionnaire was based on social identity theory, social exchange theory, and organizational justice theory, and each item was evaluated to determine whether it made logical sense about the construct being measured. And by consulting with experts in the field, reviewing existing literature, and revising items as necessary to ensure that they are logically related to the construct being measured. Based on the expert panel evaluation, a measure of the consistency of each item in the test or questionnaire with the overall construct being measured is obtained by calculating the item

objective congruence (IOC) (Turner & Carlson, 2003). A value of IOC between 0 and 1, with higher values indicating stronger congruence between the item and the overall construct being measured. Items with IOC values above 0.30 are generally considered to have acceptable congruence, while items above 0.50 items are very good.

(3) Construct Validity

Structural validity examines the basic structure of the test or questionnaire and whether it is consistent with the theoretical structure being measured. It includes checking the number of factors, factor loadings, and interpretability of the factors. Based on the analysis results, necessary modifications are made to the test or questionnaire to ensure that it has good structural validity.

3.7.2 Reliability Testing

Reliability refers to the reliability of the scale measurement results. The more repeatable and reliable the scale is, the less it is affected by the environment such as time and place, and the more stable the results of testing with it. The internal consistency and reliability of the scales are examined by examining the Cronbach's Alpha coefficient of each scale. It is necessary to judge the reliability and validity of the questionnaire based on the pretest of the questionnaire, and Cronbach's Alpha is above 0.7 to meet the requirements of internal consistency and reliability. (Eisinga et al., 2012).

Table 3.6 Cronbach's Alpha Coefficient Result

Variable		Number of Questions	Cronbach's Alpha
Transformational Leadership	Morality	5	0.900
	Vision Motivation	5	0.874
	Personalized Care	5	0.869
	Leadership Charisma	5	0.868
Psychological Capital	Task-based	5	0.887
	Relational	5	0.886
	Learning	5	0.877
	Innovative	5	0.875

Variable		Number of Questions	Cronbach's Alpha
Organizational Justice	Distribution Justice	5	0.891
	Procedural Justice	5	0.867
	Interpersonal Justice	5	0.887
	Information Justice	5	0.891
Job Satisfaction	-	6	0.882

3.8 Statistical Method of Analysis

The data will be analyzed by the SPSS program and AMOS to test the hypotheses of this dissertation. To determine the effect of transformational leadership on satisfaction in private universities in Shandong province, and there have been positive effects of transformational leadership on organizational justice and psychological capital, etc. The statistical methods used in this study were:

First, descriptive statistical analysis will be conducted. The content will include the frequency, percentage, and mean of the sample size, which will mainly describe the demographics of the sample.

Second, confirmatory factor analysis or exploratory factor analysis will be performed to analyze the data's reliability and validity, measure the factor loading values, and analyze the data to lay the foundation for the later structural equation analysis.

Third, structural equation modeling analysis focuses on the relationship of each variable in the structure and validates the hypotheses. The GIF, CIF, RMSEA, etc. are validated and the final structure is interpreted to conclude.

Finally, the data were analyzed to determine the magnitude of the impact of each variable in the transformational leadership model on the satisfaction of the university. Determine the process of analyzing, investigating, implementing, and evaluating the transformational leadership model based on the results of the research. Recommendations are made for the application of the results of the transformational leadership modeling research.

Chapter 4

Research Result

This chapter focuses on the analysis of the collected data and contains five sections:

4.1 Sample Characterization

4.2 Percentage Distribution of Constructs

4.3 Discriminatory Power, Reliability, and Confirmatory Factor Analysis

4.4 The Structural Equation Models and Hypothesis Testing

4.5 Conclusion

This chapter is based on data collection and analysis based on the research analysis in the previous three chapters. Based on social exchange theory and social cognitive theory, structural equation modeling was used to explore the transformational leadership, psychological capital, organizational justice, and job satisfaction relationships among the variables. SPSS and AMOS software were used in the data analysis process. The statistical analysis process in this chapter mainly includes the statistics and description of control variables and data average distribution analysis. Meanwhile, the survey data were analyzed for reliability and validity. Cronbach's Alpha and Corrected Item-Total Correlation (CITC) were used for the reliability analysis. The validity test used Confirmatory Factor Analysis, including path coefficients, Composite Reliability (CR), and Average Variance Extracted (AVE) values. Based on the analysis results, it was ensured that the survey data were reliable and distinguishable. Correlation analysis and structural equation modeling are performed after the data have passed the reliability and validity tests. Structural equation modeling requires verification of the model fit, and the model fit needs to refer to the GFI, CFI, TLI, RMSEA, and other indicators of data analysis. By analyzing the data model fit meets

the requirements, path analysis is performed for each variable to verify the hypothesis to conclude.

4.1 Sample Characterization

Sample characterization refers to describing and analyzing the essential information and characteristics of the sample group participating in a survey. Sample characterization helps to fully understand the background and features of the participants, understand the behavior of the research subjects better, and improve the study's credibility and validity. The sample characteristics description in this study mainly includes gender, age, education level, job position, and so on. Four hundred twenty-five valid questionnaires were collected in this study.

Statistics show that in the survey sample of 222 males, accounting for 52.2%, and 203 females, accounting for 47.8%, the male is slightly higher than the female. In the survey, the age group is concentrated in 21 to 54 years old. And the age distribution of the model is relatively even. The sample education level is divided into three options: the sample number of Bachelor's degrees is 264, accounting for 62.1%; the sample number of Master degrees is 147, accounting for 34.6%; and the sample number of higher than the Master's degree is 14, accounting for 3.3%. For the survey of positions, the number of operation samples is 192, accounting for 45.2%. The number of Manager/senior models is 76, accounting for 17.9%; the number of Lecturer/instructor samples is 50, accounting for 11.8%; and the number of other pieces is 107, accounting for 25.2%. In the survey on the number of years of working experience of the samples, less than/or equal to 5 years was 65, accounting for 15.3%; between 6-10 was 148, accounting for 34.8%; between 11-15 was 197, accounting for 46.4%, 16 and over was 16, accounting for 15.9%, and other was 107, accounting for 25.2%. The sample size is 15, or 3.5%, as shown in Table 4.1.

Table 4.1 Sample Feature Description

Variable	Options	Frequency	Percent%
Gender	Male	222	52.2
	Female	203	47.8
Age	Less than25	49	34.8
	25-35	148	31.1
	36-45	132	22.6
	46 and over	96	2.6
Education	Bachelor's degree	264	62.1
	Master degree	147	34.6
	Higher than the Master's degree	14	3.3
Position	Operation	192	45.2
	Manager/senior	76	17.9
	Lecturer/instructor	50	11.8
	Other	107	25.2
Tenure	Less than/or equal to 5	65	15.3
	Between 6-10	148	34.8
	Between 11-15	197	46.4
	16 and over	15	3.5
Total		**425**	**100.0**

4.2 Percentage Distribution of Constructs

4.2.1 Transformational Leadership

There are four dimensions of transformational leadership: morality, vision motivation, personalized care, and leadership charisma, with 20 questions. According to Table 4.2, in morality, there were 57. 1% of the respondents believe that the leader is honest and does not seek personal gain. There were 56% of the respondents believe that the leader does his best to work hard for the development of the university. There were 53.4% of the respondents believe that leaders consider the interests of the collective before self-interest. There were 45.9% of the respondents think leaders will not take over the fruits of other people's labor. There were 48.9% of the respondents think leaders will not secretly retaliate against subordinates.

There were five questions on vision motivation. And 48% of the respondents believe that leaders let subordinates understand the development prospects of the

university. There were 56.7% of the respondents believe that leaders allow assistants to understand the university/department's development goals and business philosophy of the university/department. There were 57.7% of the respondents believe that leaders paint an exciting picture of the university. There were 60% of the respondents think supervisors can give associates direction and goals. There were 59.2% of the respondents believe that supervisors often discuss with subordinates the impact of their work on the department's overall goals.

There were five questions on personalized care. And 56.5% of the respondents believed that supervisors would consider the actual situation of the subordinates in the process. There were 61.1% of the respondents think supervisors can often communicate with their associates to understand their families, lives, and work conditions. There were 47.3% of the respondents believe that supervisors will consider the subordinates' actual situation in communicating with them. There were 54.8% of the respondents believe that supervisors sincerely care about their subordinates and create conditions for their development. There were 62.1% of the respondents believe that supervisors pay attention to creating conditions for subordinates to expand their knowledge.

According to Table 4.2 in leadership charisma, there are five questions: There were 55.5% of the respondents think that the supervisor has excellent professional skills and is constantly improving. There were 53.9% believe that the supervisor is open-minded and has a strong sense of innovation. There were 57.4% of the respondents believe that the supervisor loves his job and is very ambitious and aggressive. There were 54.8% of the respondents believe the supervisor has excellent professional skills and is constantly improving. There were 55.3% of the respondents believe that the supervisor dares to grasp and manage and is good at dealing with work problems.

Table 4.2 Percentage Distribution of Transformational Leadership

Statement		Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
Morality	TL1	8.9	12.2	21.6	36.9	20.2
	TL2	9.9	8.2	25.9	34.4	21.6
	TL3	7.3	7.1	32.2	30.6	22.8
	TL4	8.5	4.7	40.9	31.3	14.6
	TL5	7.1	6.6	37.4	30.1	18.8
Vision Motivation	TL6	7.5	7.3	37.2	26.8	21.2
	TL7	5.9	5.4	32.0	36.2	20.5
	TL8	9.4	4.5	28.5	35.8	21.9
	TL9	8.9	4.0	27.1	32.5	27.5
	TL10	10.4	6.1	24.2	41.6	17.6
Personalized Care	TL11	12.9	7.3	23.3	19.1	37.4
	TL12	10.4	6.8	21.6	39.5	21.6
	TL13	7.8	8.0	36.9	32.7	14.6
	TL14	7.5	4.2	33.4	35.3	19.5
	TL15	6.8	11.1	20.0	38.6	23.5
Leadership Charisma	TL16	9.4	9.2	25.9	27.3	28.2
	TL17	5.4	16.5	24.2	33.2	20.7
	TL18	8.0	12.2	22.4	22.8	34.6
	TL19	6.6	12.0	26.6	37.4	17.4
	TL20	7.8	11.1	25.9	32.0	23.3

4.2.2 Psychological Capital

The four dimensions of psychological capital are task-based, relational, learning, and innovative, totaling 20 questions. According to Table 4.3, there were 53.6% of respondents believe that the supervisor affects their work ethic in Task-based. And 57.2% always expect good things to happen in my future work. There were 58.4% of the respondents are afraid of difficult new jobs. There were 52.0% of the respondents trust that supervisors will help when encountering work difficulties. There were 63.3% of the respondents can undertake a specific job independently. The following is a list of the most important things to consider.

There were five questions in the relational aspect. There were 62.1% of the respondents know why their mood changes. There were 52.5% of the respondents could understand the nonverbal messages the supervisor sent them. There were 58.1% of the respondents understood the supervisor's emotions well. There were 58.6% of the

respondents appreciated the supervisor pointing out problems to him. There were 57.9% of the respondents remember the help and support they received from their supervisor.

There were five questions on learning. And 58.4% of the respondents believe they can translate what they have learned into skills. There were 57.6% of the respondents think that they can grasp the knowledge provided by their supervisors. There were 61.4% of the respondents believe that they will be self-motivated to learn and improve their job skills, and 60.7% of the respondents think that they will be motivated to learn from their supervisors' experience and professional knowledge. There were 67.8% of the respondents believe they are willing to share their experiences with coworkers.

According to Table 4.3, there are five questions on innovative. And 60.2% of the respondents believe they can achieve their goals in new ways. There were 61.9% of the respondents believe they can take the initiative in adjusting and changing the old working methods. There were 61.2% of the respondents think that they can handle multiple tasks at the same time. There were 45.9% of the respondents believe they can break traditional thinking and work in their work.

Table 4.3 Percentage Distribution of Psychological Capital

Statement		Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
Task-based	PC1	1.6	7.3	37.4	33.2	20.5
	PC2	0.2	15.8	26.8	33.2	24.0
	PC3	7.5	9.4	24.7	10.8	47.5
	PC4	0.0	6.1	41.9	31.8	20.2
	PC5	2.8	10.6	23.3	13.4	49.9
Relational	PC6	2.8	16.5	18.6	38.6	23.5
	PC7	9.9	18.6	19.1	39.8	12.7
	PC8	5.9	10.6	25.4	28.2	29.9
	PC9	6.6	14.8	20.0	28.5	30.1
	PC10	7.5	12.9	21.6	32.0	25.9

Statement		Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
Learning	PC11	6.8	12.5	22.4	29.9	28.5
	PC12	2.1	11.1	29.2	33.9	23.8
	PC13	7.1	11.8	19.8	30.6	30.8
	PC14	2.6	9.6	27.1	34.6	26.1
	PC15	1.6	13.9	16.7	38.8	28.9
Innovative	PC16	2.4	18.8	18.6	28.2	32.0
	PC17	6.1	13.4	20.2	31.5	28.7
	PC18	4.9	15.3	17.9	29.6	32.2
	PC19	4.5	4.9	29.4	36.5	24.7
	PC20	8.2	7.1	38.8	20.7	25.2

4.2.3 Organizational Justice

The four dimensions of organizational justice are procedural justice, distribution justice, interpersonal justice, and information justice, with 20 questions. According to Table 4.4, there are five questions in procedural justice. There were 58.6% of the respondents believe that administrators make decisions about their work and that there are rules and regulations to follow. There were 53.6% of the respondents believe that the system of the university can be implemented well. There were 63.5% of the respondents believe that the university faculty members can be involved in decision-making. There were 60.5% of the respondents believe that the implementation of the university system does not vary from person to person. There were 54.8% of the respondents believe that the university's design is implemented similarly to person-to-person. Plans are not implemented differently from one person to another. There were 54.8% of the respondents believe that the decision-making and implementation of the university decisions are transparent and open.

According to Table 4.4, there were 5 questions on distribution justice. There were 64.0% of the respondents believe that the salary paid by the university reflects the level of hard work, and 67.5% of the respondents believe that the wage demonstrates the faculty member's contribution to the university. There were 60.0% of the respondents believe that based on the job duties and workload, his compensation is reasonable and fair. There were 54.1% of the respondents believe the faculty member's

salary is excellent and appropriate based on job performance. There were 44.0% of the respondents think that the compensation is reasonable.

There were five questions on interpersonal justice. There were 48.9% of the respondents believed that their supervisors can treat teachers with courtesy. There were 60.2% of the respondents believed that their supervisors respect the ideas and opinions of teachers, and 53.2% of the respondents believed that their supervisors do not make inappropriate comments about teachers. There were 66.8% of the respondents thought that the teachers' work is recognized by their superiors at the university. There were 59.8% of the respondents believed that their supervisors can provide teachers with the help and support they need in their work. Teachers' work is recognized by their supervisors in the university. There were 59.5% of the respondents believe their supervisors provide teachers with the necessary help and support.

There are five questions in Information Justice. There were 55.5% of the respondents believe that leaders communicate openly with teachers, and 56.9% of the respondents believe that supervisors explain work-related decisions to teachers in a detailed and comprehensive manner, and 58.6% of the respondents believe that supervisors reasonably explain work decisions. There were 54.4% of respondents believe supervisors communicate with teachers according to their needs.

Table 4.4 Percentage Distribution of Organizational Justice

Statement		Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
Procedural Justice	OJ1	4.0	6.4	31.1	38.1	20.5
	OJ2	5.9	3.8	36.7	40.0	13.6
	OJ3	0.7	5.6	30.1	41.6	21.9
	OJ4	7.3	3.8	28.5	33.9	26.6
	OJ5	1.6	12.0	31.5	33.4	21.4
Distribution Justice	OJ6	8.5	2.4	25.2	41.6	22.4
	OJ7	7.1	10.1	15.3	40.9	26.6
	OJ8	2.8	8.0	29.2	36.2	23.8
	OJ9	7.1	2.1	36.7	32.9	21.2
	OJ10	5.4	6.8	43.8	25.6	18.4

Statement		Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
Interpersonal Justice	OJ11	6.4	7.5	37.2	25.9	23.1
	OJ12	7.3	4.7	27.8	31.8	28.5
	OJ13	9.9	10.4	26.6	24.5	28.7
	OJ14	7.8	4.7	20.7	28.9	37.9
	OJ15	5.2	6.8	28.5	32.9	26.6
Information Justice	OJ16	8.9	15.1	20.5	36.0	19.5
	OJ17	8.9	9.6	24.5	27.3	29.6
	OJ18	6.8	15.5	19.1	31.8	26.8
	OJ19	8.5	12.7	20.2	31.8	26.8
	OJ20	7.5	12.5	25.6	26.6	27.8

4.2.4 Job Satisfaction

Job satisfaction totaled six questions. According to Table 4.5, in terms of job satisfaction, there were 63.10% of the respondents will continue to work in this job. There were 58.12% of the respondents will strongly recommend the same position to their friends. There were 65.41% of the respondents think it is close to their ideal job. And 58.59% of the respondents believe that the job is very much in line with some of the characteristics given to it when they first saw it. There were 64.71% of the respondents think they are pleased with their present job. There were 63.29% believe that I like my current job a lot.

Table 4.5 Percentage Distribution of Job Satisfaction

Statement	Strongly Disagree	Disagree	Neutrality	Agree	Strongly Agree
SAT1	4.9	9.2	22.8	32.7	30.4
SAT2	3.1	10.6	28.2	29.9	28.2
SAT3	3.5	15.1	16.0	34.6	30.8
SAT4	2.4	17.9	21.2	27.8	30.8
SAT5	3.3	12.2	19.8	31.8	32.9
SAT6	1.4	12.5	22.8	31.8	31.5

4.3 Discriminatory Power, Reliability, and Confirmatory Factor Analysis

There were 500 questionnaires distributed, with a validity rate of 85%. The research questionnaire collected 425 valid questionnaires. The questionnaire data were

subjected to a reliability test and validity test. Structural equation modeling was performed when the reliability and validity tests passed the requirements.

4.3.1 Reliability

The individual variables in the study were collected using questionnaire data, and the reliability of the collected data needed to be tested. Reliability analysis was done for all scales by SPSS. Using Cronbach's Alpha and Cronbach's Alpha if Item was Deleted as the measures. Describe the overall reliability status of the questionnaire. The total number of questions for the questionnaire variables was 66, and the overall Cronbach's Alpha was 0.964, which is a high level of reliability and meets the requirements, as shown in Table 4.6.

Table 4.6 Reliability Testing

Cronbach's Alpha	N of Items
0.964	66

1. Transformational Leadership

The Cronbach's Alpha and Corrected Item-Total Correlation (CITC) test was performed on the collected data in the study. The Cronbach's Alpha is above 0.7, and the Corrected Item-Total Correlation (CITC) needs to be above 0.5 to meet the requirements of internal consistency and reliability. Based on the analysis results, each of the four dimensions of transformational leadership's Corrected Item-Total Correlation (CITC) value is above 0.5, as shown in Table 4.7. Meanwhile, Cronbach's Alpha for the four dimensions of morality, vision motivation, personalized care, and leadership charisma are 0.900, 0.874, 0.869, and 0.868, respectively, more significant than 0.7.

Table 4.7 Transformational Leadership Scale Reliability Analysis

Dimension	Item	Cronbach's Alpha	Corrected Item-Total Correlation
Morality	TL1	0.900	0.684
	TL2		0.649
	TL3		0.633
	TL4		0.616
	TL5		0.649
Vision Motivation	TL6	0.874	0.621
	TL7		0.631
	TL8		0.610
	TL9		0.587
	TL10		0.619
Personalized Care	TL11	0.869	0.621
	TL12		0.629
	TL13		0.565
	TL14		0.572
	TL15		0.599
Leadership Charisma	TL16	0.868	0.588
	TL17		0.602
	TL18		0.671
	TL19		0.599
	TL20		0.593

2. Psychological Capital

The data of psychological capital was analyzed, and according to the results, the Corrected Item-Total Correlation (CITC) value of each of the four dimensions of psychological capital exceeded 0.5, as shown in Table 4.8. Meanwhile, Cronbach's Alpha for the four dimensions of task-based, relational, learning, and innovative were 0.887,0.886,0.877,0.875, all exceed 0.7.

Table 4.8 Psychological Capital Scale Reliability Analysis

Dimension	Item	Cronbach's Alpha	Corrected Item-Total Correlation
Task-based	PC1	0.887	0.628
	PC2		0.658
	PC3		0.668
	PC4		0.664
	PC5		0.596
Relational	PC6	0.886	0.676
	PC7		0.659
	PC8		0.684
	PC9		0.666
	PC10		0.684
Learning	PC11	0.877	0.626
	PC12		0.652
	PC13		0.621
	PC14		0.627
	PC15		0.614
Innovative	PC16	0.875	0.682
	PC17		0.626
	PC18		0.633
	PC19		0.632
	PC20		0.677

3. Organizational Justice

The data on organizational justice was analyzed, and according to the analysis results, the Corrected Item-Total Correlation (CITC) value of each of the four dimensions of organizational justice exceeded 0.5, as shown in Table 4.9. Meanwhile, Cronbach's Alpha for the four dimensions of procedural justice, distribution justice, interpersonal justice, and information justice are 0.891,0.867,0.887,0.891, respectively, which all exceed 0.7.

Table 4.9 Organizational Justice Scale Reliability Analysis

Dimension	Item	Cronbach's Alpha	Corrected Item-Total Correlation
Procedural Justice	OJ1	0.891	0.686
	OJ2		0.617
	OJ3		0.633
	OJ4		0.639
	OJ5		0.663
Distribution Justice	OJ6	0.867	0.634
	OJ7		0.619
	OJ8		0.658
	OJ9		0.652
	OJ10		0.666
Interpersonal Justice	OJ11	0.887	0.683
	OJ12		0.660
	OJ13		0.707
	OJ14		0.654
	OJ15		0.624
Information Justice	OJ16	0.891	0.659
	OJ17		0.660
	OJ18		0.672
	OJ19		0.685
	OJ20		0.697

4. Job Satisfaction

Job satisfaction has a total of 6 questions. The data on job satisfaction was analyzed, and according to the analysis results, the Corrected Item-Total Correlation (CITC) value of each question in job satisfaction exceeded 0.5, as shown in Table 4.10. Meanwhile, job satisfaction's Cronbach's Alpha is 0.882, more significant than 0.7.

Table 4.10 Job Satisfaction Scale Reliability Analysis

Item	Cronbach's Alpha	Corrected Item-Total Correlation
Sat1	0.882	0.754
Sat2		0.689
Sat3		0.669
Sat4		0.723
Sat5		0.671
Sat6		0.642

The above data analysis reveals that the Corrected Item-Total Correlation (CITC) of the survey data exceeded 0.5, and Cronbach's Alpha is more significant than 0.7, which meets the requirements.

4.3.2 Confirmatory Factor Analysis

Confirmatory factor analysis is used to verify that the constructed measurement model fits the data well. It ensures that the measurement tools used accurately reflect the concepts or variables involved in the study. Also, to test the relationship between different underlying variables. Measurement errors and uncertainties are estimated and considered in the analysis, thus improving the quality and credibility of the data analysis. Validation is done through mean-variance extraction measures, composite validity, and differential validity of the scale. Average Variance Extraction (AVE) and Composite Reliability (CR) are used as indicators to evaluate the measurement consistency of each variable. Distinctive validity serves as a determination based on the relationship between the square root of the AVE value and the standardization coefficient. According to relevant studies and standards, a minimum AVE value of 0.5 (Hair, Black, Babin, &Anderson, 2010) and a minimum CR requirement of 0.7 (Fornell & Larcker, 1981) are required to indicate good convergent validity and combinatorial reliability. The study was conducted using SEM methodology to construct structural equation modeling. AMOS software and SPSS software were utilized for the overall research. Firstly, the model fitness test is carried out, and the relevant indicators meet the requirements. Secondly, parameter estimation is carried out to obtain relevant research results.

1. Transformational Leadership

According to Table 4.11 and Figure 4.1, the analysis results indicate that transformational leadership and path coefficient estimates are all between 0.7 and 0.87, and the path coefficients all exceed 0.5, which meets the requirements. Meanwhile, the

collected data were calculated and analyzed according to the formula of AVE and CR. The AVE of morality, vision motivation, personalized care, and leadership charisma were 0.646, 0.583, 0.577, and 0.570, more significant than 0.5. The CR is 0.901, 0.875, 0.872, and 0.869, respectively, all exceeding 0.7. It can be concluded from the analysis results that the indicators of the transformational leadership study meet the requirements, and the survey data can be applied to the structural equation study.

Table 4.11 AVE and CR of Transformational Leadership

Path Relationship			Estimate	Cronbach's Alpha	AVE	CR
TL1	<---	Morality	0.864			
TL2	<---	Morality	0.790			
TL3	<---	Morality	0.809	0.900	0.646	0.901
TL4	<---	Morality	0.771			
TL5	<---	Morality	0.780			
TL6	<---	Vision Motivation	0.784			
TL7	<---	Vision Motivation	0.757			
TL8	<---	Vision Motivation	0.762	0.874	0.583	0.875
TL9	<---	Vision Motivation	0.762			
TL10	<---	Vision Motivation	0.751			
TL11	<---	Personalized Care	0.850			
TL12	<---	Personalized Care	0.756			
TL13	<---	Personalized Care	0.706	0.869	0.577	0.872
TL14	<---	Personalized Care	0.726			
TL15	<---	Personalized Care	0.752			
TL16	<---	Leadership Charisma	0.771			
TL17	<---	Leadership Charisma	0.719			
TL18	<---	Leadership Charisma	0.793	0.868	0.570	0.869
TL19	<---	Leadership Charisma	0.757			
TL20	<---	Leadership Charisma	0.734			
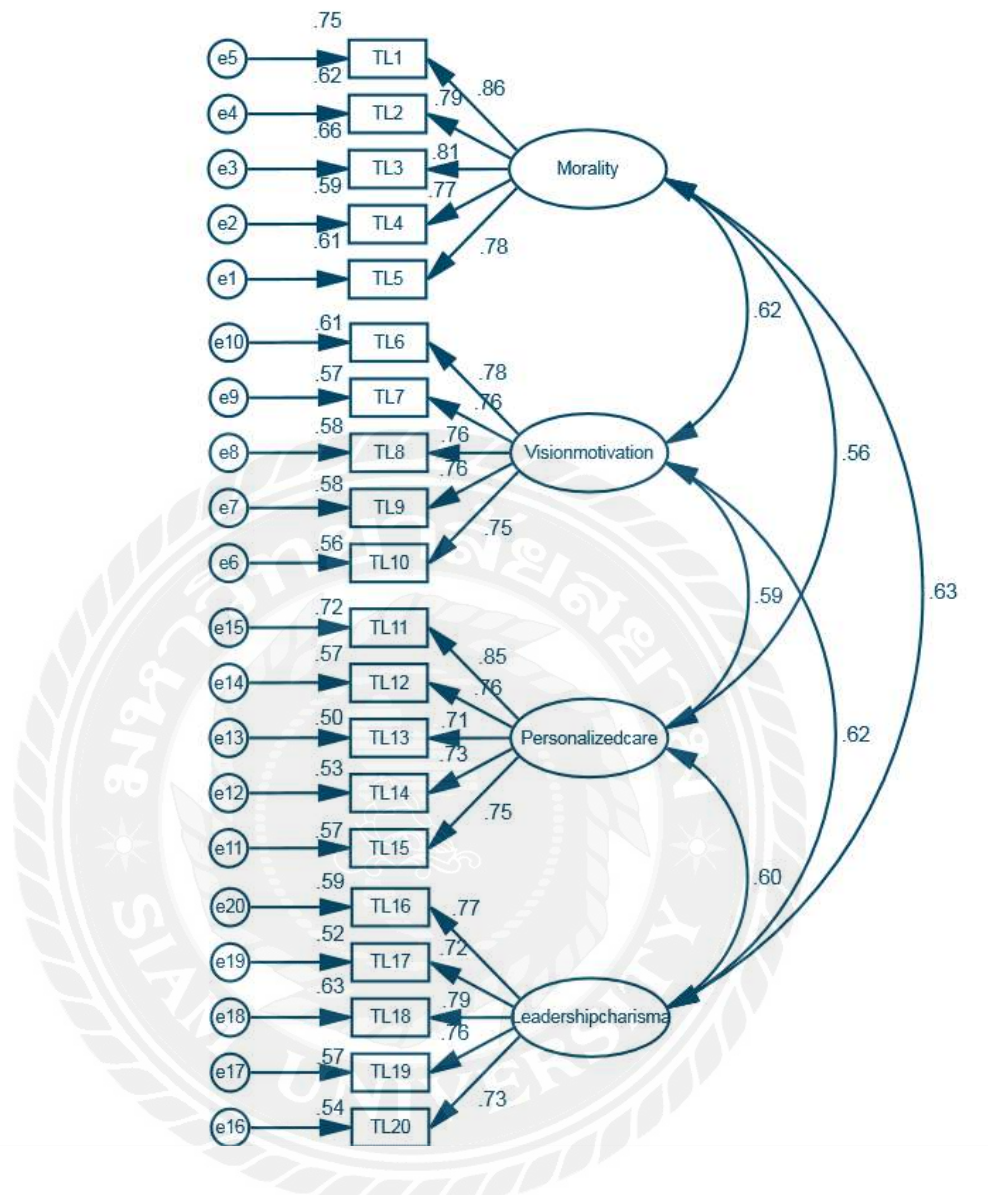
Figure 4.1 Confirmatory Factor Analysis of Transformational Leadership
(Source: Researcher, 2023)

2. Psychological Capital

According to Table 4.12 and Figure 4.2, the analysis results show that psychological capital and path coefficient estimates are all between 0.7 and 0.81, and the path coefficients all exceed 0.5, which meets the requirements. Meanwhile, the collected data were calculated and analyzed according to the formula of AVE and CR.

The AVE of task-based, relational, learning, and innovative dimensions were 0.610, 0.608, 0.603, and 0.572, respectively, more significant than 0.5. the CR was 0.887, 0.886, 0.884, 0.884, 0.884, and 0.572, respectively, more important than 0.5. the CR was 0.887, 0.886, 0.884, 0.884, and 0.886, respectively. 0.884, 0.870, all exceed 0.7. Analyzing the results shows that the indicators of psychological capital research meet the requirements, and the survey data can be applied to structural equation research.

Table 4.12 AVE and CR of Psychological Capital

Path Relationship			Estimate	Cronbach's Alpha	AVE	CR
PC1	<---	Task-based	0.790			
PC2	<---	Task-based	0.790			
PC3	<---	Task-based	0.767	0.887	0.610	0.887
PC4	<---	Task-based	0.798			
PC5	<---	Task-based	0.760			
PC6	<---	Relational	0.784			
PC7	<---	Relational	0.780			
PC8	<---	Relational	0.783	0.886	0.608	0.886
PC9	<---	Relational	0.768			
PC10	<---	Relational	0.785			
PC11	<---	Learning	0.772			
PC12	<---	Learning	0.801			
PC13	<---	Learning	0.772	0.877	0.603	0.884
PC14	<---	Learning	0.751			
PC15	<---	Learning	0.741			
PC16	<---	Innovative	0.800			
PC17	<---	Innovative	0.755			
PC18	<---	Innovative	0.744	0.875	0.572	0.870
PC19	<---	Innovative	0.741			
PC20	<---	Innovative	0.788			
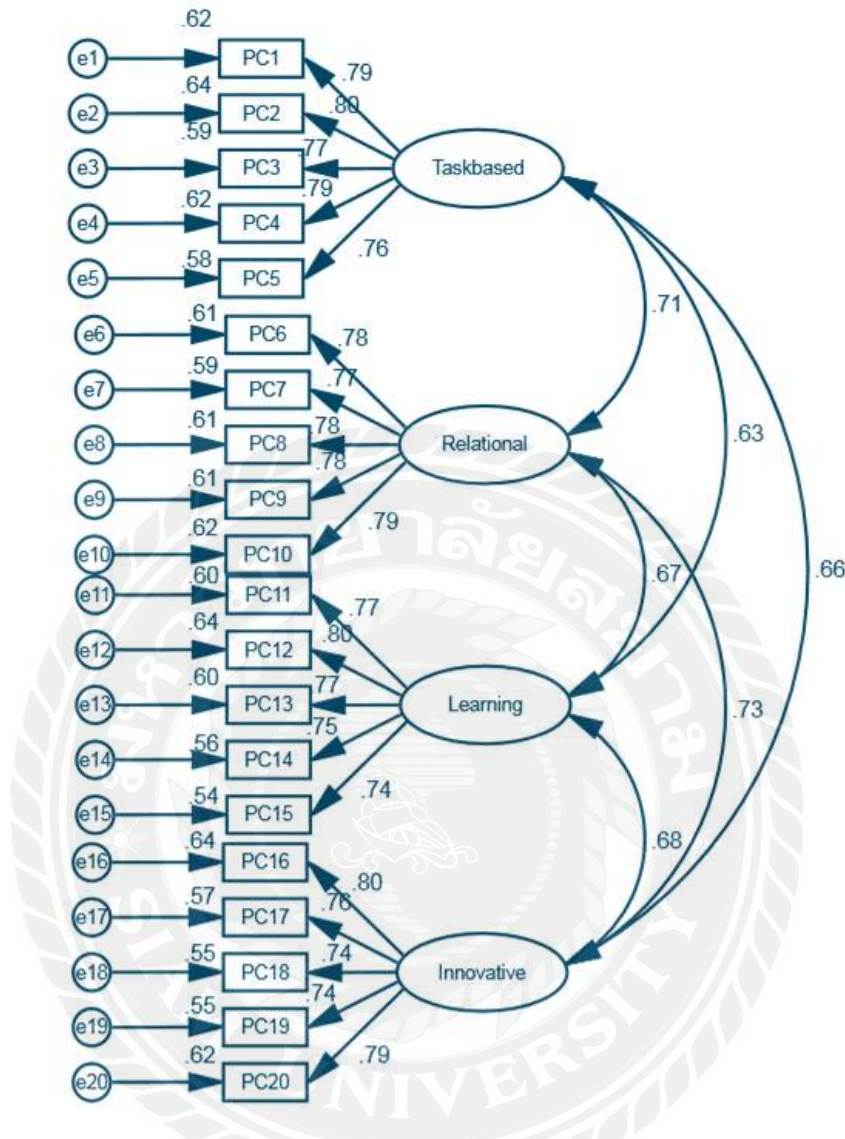
Figure 4.2 Confirmatory Factor Analysis of Psychological Capital
(Source: Researcher, 2023)

3. Organizational Justice

According to Table 4.13 and Figure 4.3, the analysis results can be seen in organizational justice. Path coefficient estimate is all between 0.7 and 0.849, and the path coefficients all exceed 0.5, which meets the requirements. Meanwhile, the collected data were calculated and analyzed according to the AVE and CR calculation formulas. The AVE for the four dimensions of procedural justice, distribution justice, interpersonal justice, and information justice were 0.628, 0.570, 0.613, 0.621, which

are all exceed 0.5. CR is 0.894, 0.869, 0.888, and 0.891, all exceeding 0.7. It can be learned from the analysis results that the indexes of organizational justice research meet the requirements, and the survey data can be applied to the structural equation research.

Table 4.13 AVE and CR of Organizational Justice

Path relationship			Estimate	Cronbach's Alpha	AVE	CR
OJ1	<---	Procedural Justice	0.828			
OJ2	<---	Procedural Justice	0.732			
OJ3	<---	Procedural Justice	0.769	0.891	0.628	0.894
OJ4	<---	Procedural Justice	0.778			
OJ5	<---	Procedural Justice	0.849			
OJ6	<---	Distribution Justice	0.734			
OJ7	<---	Distribution Justice	0.737			
OJ8	<---	Distribution Justice	0.777	0.867	0.570	0.869
OJ9	<---	Distribution Justice	0.759			
OJ10	<---	Distribution Justice	0.766			
OJ11	<---	Interpersonal Justice	0.773			
OJ12	<---	Interpersonal Justice	0.799			
OJ13	<---	Interpersonal Justice	0.814	0.887	0.613	0.888
OJ14	<---	Interpersonal Justice	0.768			
OJ15	<---	Interpersonal Justice	0.759			
OJ16	<---	Information Justice	0.769			
OJ17	<---	Information Justice	0.764			
OJ18	<---	Information Justice	0.793	0.891	0.621	0.891
OJ19	<---	Information Justice	0.800			
OJ20	<---	Information Justice	0.814			
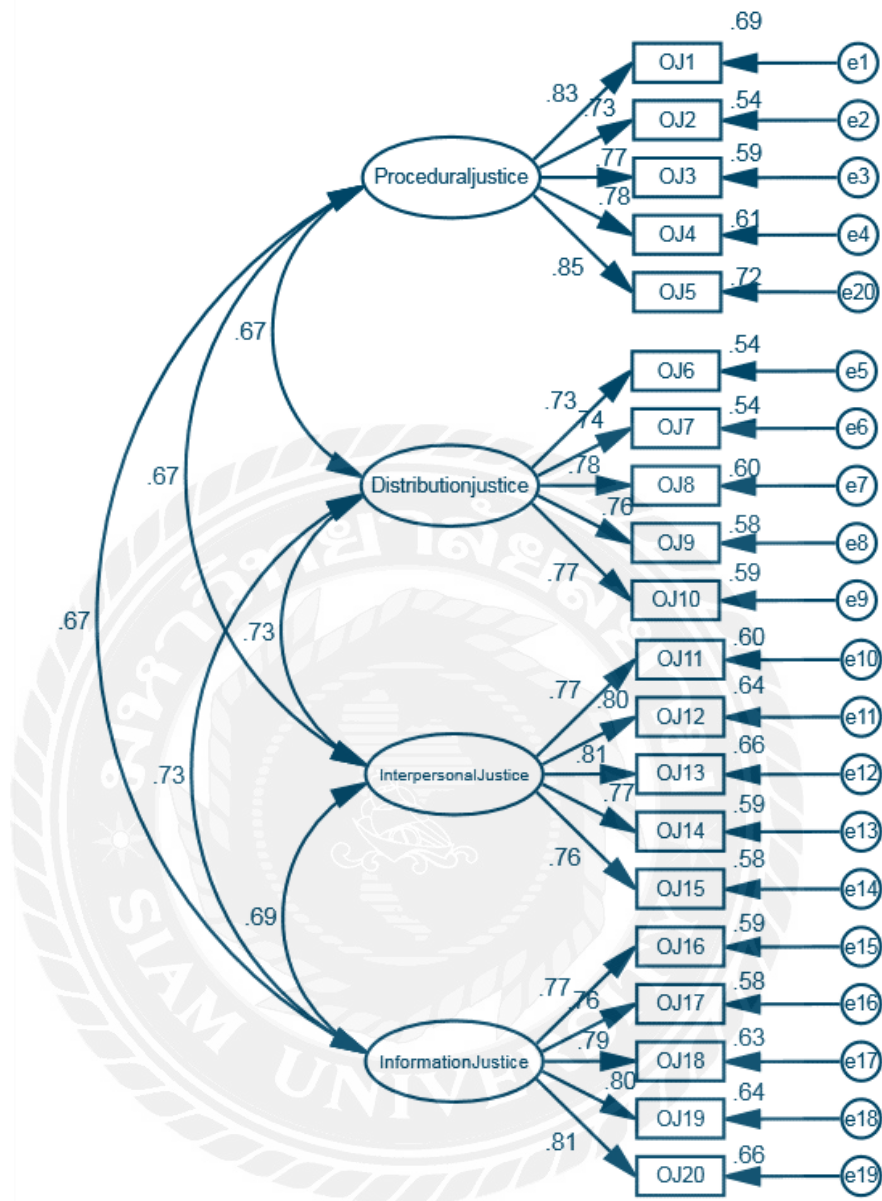
Figure 4.3 Confirmatory Factor Analysis of Organizational Justice
(Source: Researcher, 2023)

4. Job Satisfaction

According to Table 4.14 and Figure 4.4, analysis results can be seen in job satisfaction, path coefficient estimates are between 0.7 and 0.817, and path coefficients are more significant than 0.5. However, the path coefficient of Sat6 is 0.687, which is less than 0.7 and does not meet the requirements, and it is recommended to delete the

question item. At the same time, the collected data are calculated and analyzed according to the formula of AVE and CR. The AVE of job satisfaction is 0.556, more significant than 0.5, and the CR is 0.882, more critical than 0.7. The analysis results show that all the indexes of job satisfaction research meet the requirements, and the survey data can be applied to the structural equation research.

Table 4.14 AVE and CR of Job Satisfaction

Path Relationship			Estimate	Cronbach's Alpha	AVE	CR
Sat1	<---	Job Satisfaction	0.817			
Sat2	<---	Job Satisfaction	0.743			
Sat3	<---	Job Satisfaction	0.723	0.882	0.556	0.882
Sat4	<---	Job Satisfaction	0.778			
Sat5	<---	Job Satisfaction	0.719			
Sat6	<---	Job Satisfaction	0.687			
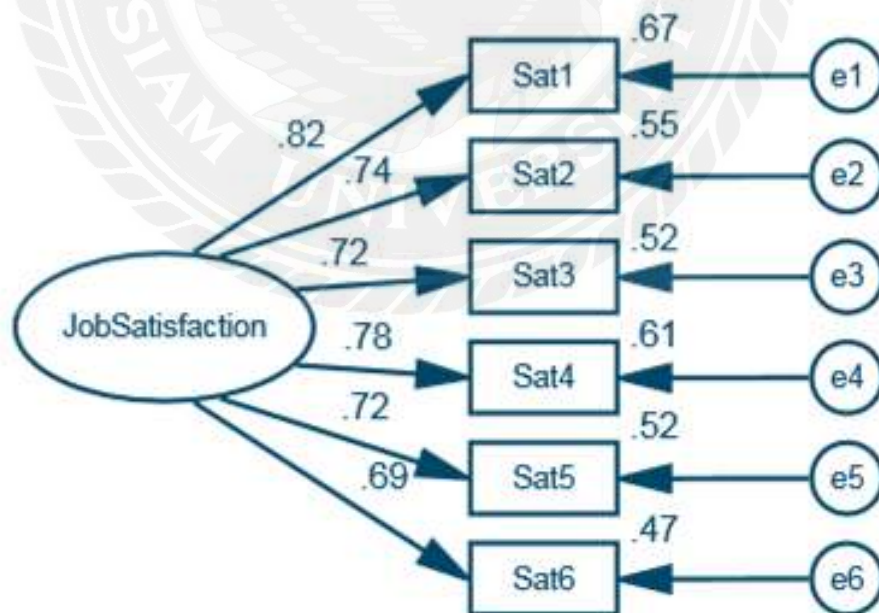
Figure 4.4 Confirmatory Factor Analysis of Job Satisfaction
(Source: Researcher, 2023)

4.3.3 Discriminant Validity

The dimensions of each variable were analyzed for correlation in this study using Pearson's correlation analysis. The discriminant validity of the survey data was determined by comparing the Pearson correlation coefficient with the square root of the AVE. When the absolute value of the square root of AVE is consistently greater than the Pearson correlation coefficient, the questions have good discriminant validity. Meanwhile, according to the results of Table 4.15, the Pearson correlation coefficient does not exceed 0.9, and there is no covariance problem, which meets the requirements for analyzing and studying the structural equation modeling.

Table 4.15 Results of Pearson's Correlation Analysis for Each Dimension

√AVE	Morality	Vision Motivation	Personalized Care	Leadership Charisma	Task-based	Relational	Learning	Innovative	Procedural Justice	Distribution Justice	Interpersonal Justice	Information Justice	Job Satisfaction
Morality	0.80												
Vision motivation	.555**	0.76											
Personalized care	.514**	.526**	0.76										
Leadership charisma	.555**	.536**	.526**	0.75									
Task-based	.310**	.292**	.317**	.321**	0.78								
Relational	.378**	.373**	.355**	.390**	.628**	0.78							
Learning	.327**	.366**	.393**	.365**	.559**	.596**	0.78						
Innovative	.277**	.318**	.352**	.353**	.588**	.644**	.594**	0.76					
Procedural justice	.318**	.265**	.309**	.286**	.281**	.283**	.258**	.286**	0.79				
Distribution justice	.426**	.342**	.333**	.354**	.227**	.275**	.250**	.239**	.594**	0.75			
Interpersonal Justice	.371**	.337**	.350**	.348**	.338**	.296**	.297**	.311**	.605**	.637**	0.78		
Information Justice	.338**	.314**	.289**	.316**	.261**	.291**	.276**	.312**	.602**	.641**	.613**	0.79	
Job Satisfaction	.471**	.420**	.460**	.457**	.480**	.509**	.499**	.459**	.477**	.465**	.485**	.451**	.75
AVE	0.646	0.583	0.577	0.57	0.61	0.608	0.603	0.572	0.628	0.57	0.613	0.621	0.556

Note: * p<0.05 ** p<0.01 *** p<0.001.

4.4 The Structural Equation Models and Hypothesis Testing

Based on the above data analysis and indicators, the research data meets the requirements for structural equation modeling. Structural equation modeling is performed on the data through AMOS software and explains the relationship between the variables to verify whether the hypotheses are valid. Structural equation modeling needs to test the model's fitness. Chi-square/df needs to be less than 3 to meet the research criteria. Meanwhile, GFI, CFI, and TLI all need to exceed 0.9 as excellent, more significant than 0.8, less than or equal to 0.9 as acceptable, and RMSEA needs to be less than 0.08 to meet the requirements of the model fit indexes, as shown in Table 4.16. According to the results, the Chi-square in the study is 2668.770, df is 2062, and Chi-square/df is 1.294 less than 3, which meets the criteria. GFI is more significant than 0.8, which is an acceptable range. IFI, CFI, and TLI all exceed 0.9, and RMSEA is 0.026, less than 0.08. therefore, the model fitting indicators meet the requirements.

Table 4.16 Model Fit Intercept (N=425)

Model fit indicators	Threshold Range	Observed Values
Chi-square	-	2668.770
df	-	2062
Chi-square/df	Below 5, best below 3	1.294
GFI	Above 0.9，0.8-0.9Acceptable	0.848
IFI	Above 0.9，0.8-0.9Acceptable	0.964
CFI	Above 0.9，0.8-0.9Acceptable	0.964
TLI	Above 0.9，0.8-0.9Acceptable	0.963
RMSEA	Below 0.08	0.026

4.4.1 Direct Effect Validation

Based on the AMOS output (see Table 4.17, Figure 4.5), it can be concluded that the path coefficient of transformational leadership on psychological capital is 0.462. The regression weight estimate has a standard error (S.E.) of about 0.051. The regression weight estimate is 9.107 (C.R.) common errors above zero, p<0.001. Estimates of standardized regression weights are 0.624.

The path coefficient of the effect of transformational leadership on organizational justice is 0.490. The regression weight estimate has a standard error (S.E.) of about 0.054. The regression weight estimate is 9.046 (C.R.) standard errors above zero, p<0.001. regression weight estimate is 9.046 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights is 0.599.

The path coefficient of the effect of transformational leadership on job satisfaction is 0.280. The regression weight estimate has a standard error (S.E.) of about 0.078. The regression weight estimate is 3.578 (C.R.) standard errors above zero, p<0.001. regression weight estimate is 3.578 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights is 0.266.

The path coefficient of the effect of psychological capital on job satisfaction is 0.578. The regression weight estimate has a standard error (S.E.) of about 0.094. The regression weight estimate is 6.172 (C.R.) common errors above zero, p<0.001. weight estimate is 6.172 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights is 0.371.

The path coefficient of organizational justice on job satisfaction is 0.440. The regression weight estimate has a standard error (S.E.) of about 0.079. The regression weight estimate is 5.577(C.R.) common errors above zero, p<0.001. weight estimate is 5.577 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights are 0.303.

Table 4.17 Results of Structural Equation Modeling

Path Relationship			Estimate	S.E.	C.R.	P	Estimates of Standardized Regression Weights
PC	<---	TL	0.462	0.051	9.107	***	0.624
OJ	<---	TL	0.490	0.054	9.046	***	0.599
Sat	<---	TL	0.280	0.078	3.578	***	0.266
Sat	<---	PC	0.578	0.094	6.172	***	0.371
Sat	<---	OJ	0.440	0.079	5.577	***	0.303

Note: * $p<0.05$ ** $p<0.01$ *** $p<0.001$, TL is Transformational leadership. PC is psychological capital. Sat is Job

Satisfaction. OJ is Organizational Justice.

The study results show the relationship between transformational leadership, psychological capital, organizational justice, and job satisfaction. The causal relationship between each variable is clear. According to Figure 4.5, the coefficient path directly responds to the relationship between the variables. The study results show that transformational leadership in private universities in Shandong province positively impacts teachers' psychological capital (H1). Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction (H2). Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction (H2). Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice (H4). Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice (H4). Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice (H4). The sense of organizational justice of teachers in private universities in Shandong province has a positive effect on the improvement of teachers' job satisfaction (H5).

4.4.2 Validation of the Mediating Effect

To verify the mediating effect in the structural equation modeling, the process plug-in in SPSS was used for the analysis, and the Bootstrap mediating effect test was used to test whether the mediating effect was significant. The method used was Bootstrap ML, with 5000 repetitions of the sampling number, to test the results of the mediating development, as shown in Table 4.18 and Table 4.19.

Table 4.18 Results of Psychological Capital Mediating Effects Tests

Path	Effect	SE	t	p	LLCI	ULCI	Percentage
TL-SAT Total Effect	0.65	0.05	13.92	0.00	0.55	0.74	-
TL-PC-SAT Direct Effect	0.41	0.05	8.40	0.00	0.32	0.51	0.64
TL-SAT Indirect Effect	0.23	0.03	-	-	0.18	0.30	0.36

Table 4.19 Results of Organizational Justice Mediating Effects Tests

Path	Effect	SE	t	p	LLCI	ULCI	Percentage
TL-SAT Total Effect	0.65	0.05	13.92	0.00	0.55	0.74	-
TL-OJ-SAT Direct Effect	0.44	0.05	8.96	0.00	0.34	0.53	0.68
TL-SAT Indirect Effect	0.21	0.03	-	-	0.15	0.26	0.32

The direct effect of transformational leadership on job satisfaction was 0.65, with a 95% confidence interval not containing 0, indicating direct effect significance. Transformational leadership, psychological capital, and job satisfaction (TL-PC-SAT) indirect effect is 0.41, and the 95% confidence interval does not include 0, indicating an indirect effect significance, in 64%. Transformational leadership, organizational justice, and job satisfaction (TL- OJ-SAT) had an indirect effect of 0.44, with a 95% confidence interval not containing 0, indicating an indirect effect significance, in 68%. Therefore, by analyzing psychological capital and organizational justice, two variables in the total impact of transformational leadership on job satisfaction, there is an indirect effect, and the result is significant. The capital of teachers in private universities in

Shandong province has a mediating effect between transformational leadership and job satisfaction (H6), the hypothesis six is supported. Organizational justice mediates between transformational leadership and job satisfaction in private universities in Shandong province (H7), the hypothesis seven is supported.
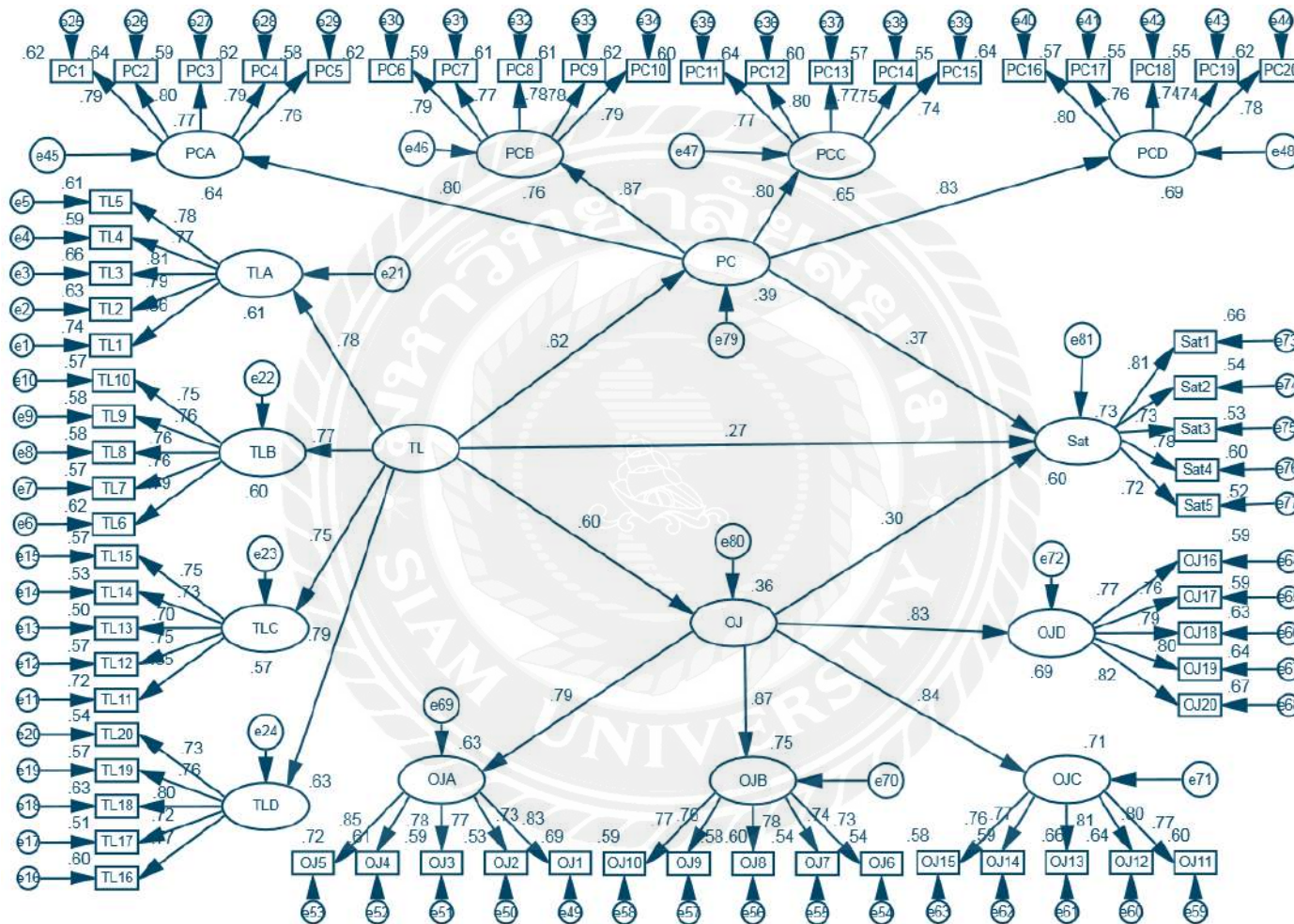
Figure 4.5 The Modified Structural Equation Model

(Source: Researcher, 2023)

H1: Transformational leadership in private universities in Shandong province has a positive impact on teachers' psychological capital. (**Accepted hypothesis**).

The hypothesis explains that transformational leadership in Shandong province's private universities positively impacts teachers' psychological capital. The role of transformational leadership in private universities was studied, and the importance of transformational leadership was illustrated.

H2: Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction. (**Accepted hypothesis**).

The hypothesis explains a positive association or influence between psychological capital and job satisfaction among private university teachers in Shandong province. Teachers are more likely to experience higher job satisfaction when they have higher levels of psychological capital. This implies that psychological capital, such as optimism, resilience, hope, and self-confidence, may contribute to higher levels of job satisfaction among teachers in private universities. This hypothesis could provide a basis for further research to understand the mechanisms and factors influencing this relationship.

H3: Transformational leadership in private universities in Shandong province has a positive effect on teachers' job satisfaction. (**Accepted hypothesis).**

The hypothesis explains that transformational leadership positively affects teachers' job satisfaction in private universities in Shandong province. Teachers are more likely to experience higher job satisfaction when leaders in private universities adopt a transformational leadership style. Transformational leadership typically encompasses behaviors in which leaders inspire innovation, motivation, and responsibility in their employees and encourage them to achieve higher performance. Therefore, this hypothesis implies that this leadership style contributes to higher job satisfaction among teachers because they feel more motivated and valued in this environment and are more likely to achieve personal and organizational goals. The acceptance of this hypothesis could allow the researcher to explore further how

transformational leadership affects teacher job satisfaction and its importance to management practices in private universities.

H4: Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice. **(Accepted hypothesis)**.

The hypothesis explains that transformational leadership positively impacts teachers' sense of organizational justice in private universities in Shandong province. Specifically, when leaders in private universities adopt a transformational leadership style, teachers are likelier to feel that the organization treats them fairly and justly. Sense of organizational justice typically involves employees' subjective perceptions of the right to treatment and decision-making. Thus, the acceptance of this hypothesis suggests that transformational leaders promote teachers' sense of organizational justice by inspiring trust, motivation, and buy-in from employees and by providing a transparent and fair decision-making process. This is important for organizational health and employee satisfaction, as employees' perception of corporate fairness typically increases their engagement and job satisfaction. The acceptance of this hypothesis supports further research into the relationship between leadership style and perceptions of organizational justice.

H5: The sense of organizational justice of teachers in private universities in Shandong province has a positive effect on the improvement of teachers' job satisfaction. **(Accepted hypothesis)**.

The hypothesis explains that teachers' sense of organizational justice positively impacts their job satisfaction in private universities in Shandong province. Teachers are more likely to experience higher job satisfaction when they feel that their organization treats them more fairly and justly. An organizational sense of fairness typically involves employees' subjective perceptions of the justice of treatment and decision-making, including pay equity, promotion equity, and job distribution equity. Ensuring a fair and just work environment enhances teachers' job satisfaction. If treated fairly, teachers are more likely to feel fulfilled and engaged in their work. This is important for maintaining

teacher motivation, reducing employee turnover, and improving the quality of education. Accepting this hypothesis gives organizational management and leaders a strong rationale for focusing on and maintaining a sense of fairness within the organization to promote teachers' job satisfaction and overall performance.

H6: Psychological capital of teachers in private universities in Shandong province has a mediating effect between transformational leadership and job satisfaction. (**Accepted hypothesis**).

The hypothesis explains that psychological capital mediates the relationship between Transformational leadership and teachers' job satisfaction in private universities in Shandong province. This implies that Transformational leadership may indirectly affect teachers' job satisfaction by influencing their psychological capital. Specifically, transformational leadership typically inspires motivation, self-confidence, and optimism in employees, factors that are part of psychological capital. These increases in psychological capital make teachers more able to cope with challenges at work, more positively respond to problems, and more confident in pursuing goals. These factors may directly increase job satisfaction. Thus, the acceptance of this hypothesis suggests that leaders in private universities who employ transformational leadership styles may indirectly increase teachers' job satisfaction by increasing their psychological capital. This understanding will help leaders better understand how to influence employees' job satisfaction and take steps to improve the work environment and employees' level of psychological capital to achieve higher satisfaction and performance.

H7: Organizational justice has a mediating effect between transformational leadership and job satisfaction in private universities in Shandong province. (**Accepted hypothesis**).

The hypothesis explains that organizational justice mediates the relationship between transformational leadership and job satisfaction in private universities in Shandong province. Transformational leadership may indirectly affect job satisfaction through its impact on organizational justice. Transformational leadership typically

involves leaders motivating and inspiring employees, which can contribute to employees' perceptions of fairness and justice within the organization. Organizational justice is enhanced when employees feel that leaders treat them fairly, are transparent in their decision-making, and foster a sense of trust. Acceptance of this hypothesis suggests that transformational leaders in private universities can increase teacher job satisfaction by promoting organizational justice. This understanding can guide leadership practices to create more satisfying work environments and increase overall job satisfaction among faculty at these institutions.

Table 4.20 Hypotheses Testing

NO.	Hypothesis	Result
H1	Transformational leadership in private universities in Shandong province has a positive impact on teachers' psychological capital.	Supported
H2	Psychological capital of private university teachers in Shandong province has a positive effect on job satisfaction.	Supported
H3	Transformational leadership in private universities in Shandong province has a positive effect on teachers' job satisfaction.	Supported
H4	Transformational leadership in private universities in Shandong province has a positive impact on the improvement of teachers' sense of organizational justice.	Supported
H5	The sense of organizational justice of teachers in private universities in Shandong province has a positive effect on the improvement of teachers' job satisfaction.	Supported
H6	Psychological capital of teachers in private universities in Shandong province has a mediating effect between transformational leadership and job satisfaction.	Supported
H7	Organizational justice has a mediating effect between transformational leadership and job satisfaction in private universities in Shandong province.	Supported

4.5 Conclusion

This chapter analyzes the collected data. Descriptive statistical analysis, reliability and validity analysis, confirmatory factor analysis, correlation analysis, and construction of structural equations were performed on the relevant data, mainly using SPSS and AMOS. Each hypothesis was validated based on the analyzed indicators of the relevant data. The validation results show that transformational leadership positively affects the variables of psychological capital, organizational justice, and job satisfaction. Meanwhile, psychological capital and organizational justice mediate between transformational leadership and teachers' job satisfaction.
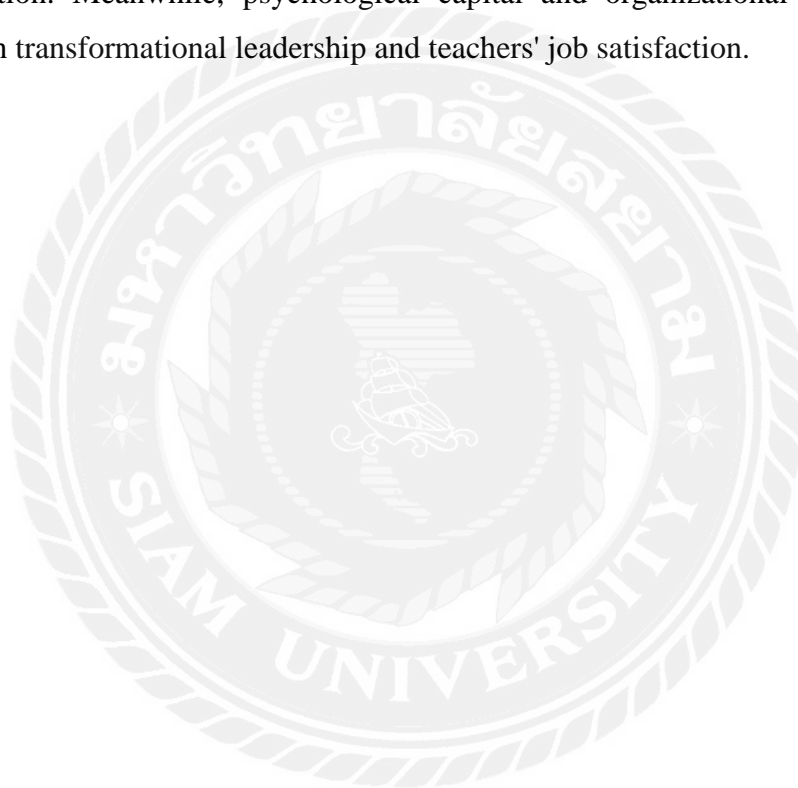
Chapter 5

Research Conclusion, Discussion, and Recommendation

This chapter provides explanations and summaries based on the results of the data analysis from Chapter Four. It explains the conclusions, summarizes the structural equation modeling analysis results, discusses the study results, and provides policy advice and future research trends based on the findings. This chapter is therefore organized into five parts as follows.

5.1 Research Conclusion

5.2 Discussion

5.3 Recommendation

5.4 Research Contributions

5.5 Future research

5.1 Research Conclusion

The questionnaire in the study was designed based on the references, which consisted of 66 questions with five items for each dimension. The sample size was calculated. Yamane (1973) adjusted the calculation formula to be more accurate. The sample size equals 377.84 compared with Taro Yamane's reliability level of 95% ($f = \pm5\%$) and various errors; the sample size equals 378. Structural equation modeling was adopted in the study and according to the scholars, the sample size should be 10 to 20 times the number of items tested while not exceeding a maximum of 500 samples (Anderson & Gerbing, 1988; Bentler & Yuan, 1999). There are 66 measurement items in this study and according to the scholars' opinion the sample size should be 660 and not more than 500, so combining the sample calculation formula and the sample size requirement of structural equation modeling, the final sample size is determined as 500. Faculty questionnaires from 22 private universities in Shandong province were collected for the study. There were 500 questionnaires distributed, with a validity rate of 85%, 425 valid questionnaires

were collected, calculated, and analyzed based on structural equation modeling.

The objectives of this study are threefold: (1) to find out the factors that affect transformational leadership and job satisfaction, (2) to explore the relationship between transformational leadership and teachers' satisfaction in private universities in Shandong province, and (3) to study mediating variables and discover the effect of transformational leadership through organizational justice and psychological capital that impact job satisfaction in private universities in Shandong province.

During the study, 22 private universities in Shandong province were surveyed, were 500 questionnaires distributed, with a validity rate of 85%, and 425 valid questionnaires were obtained. A total of seven hypotheses were formulated in structural equation modeling. The independent variable (transformational leadership) was set up to test the dependent variables (sense of organizational justice, psychological capital, and job satisfaction), and the interrelationships between the variables were investigated.

The study's findings can guide the development of transformational leadership among administrators of private universities in Shandong province. Knowledge of statistical measurement was used in the analysis to analyze the collected data using descriptive statistics and structural equation modeling. The conclusions of the essential statistical characteristics of the sample in the study are mainly: (1) Demographic information shows that there are 222 males, accounting for 52.2%, and 203 females, accounting for 47.8%; the male is slightly higher than the female; the primary age group is concentrated in 21 to 54 years old; in terms of education level, the maximum number of bachelor's degree is 264, accounting for 62.1%; in the survey, the number of operation is 192, accounting for 45.2%; the number of working years 11-15 years old is more, totaling 197, accounting for 46.4%. (2) In researching the variables transformational leadership, organizational justice, psychological capital, and job satisfaction, each variable correlates. According to the results of structural equation modeling, there is a relationship between each variable, including the mediating effect of organizational justice and psychological capital. (3) The structural equation modeling was constructed according to the literature review. The model fitness test must be conducted for the structural equation modeling. Calculating each index of the

model shows that the GFI, AGIF, CFI, and TLI all exceed 0.9, are more significant than 0.8, and are less than or equal to 0.9 as acceptable. RMSEA needs to be less than 0.08 to meet the requirements of the model fit. The RMSEA needs to be less than 0.08 to meet the conditions of the model fit indexes.

SPSS and AMOS software were used in the data analysis process. The statistical analysis process mainly includes the statistics and description of the data average distribution analysis of the control variables. Meanwhile, the survey data were analyzed for reliability and validity. Cronbach's Alpha and Corrected Item-Total Correlation (CITC) were used for the reliability analysis. The validity test used Confirmatory Factor Analysis, including path coefficients, Combined Reliability (CR), and Average Variance Extracted (AVE) values. Correlation analysis and structural equation modeling were performed once the data passed the reliability and validity tests. By analyzing the data, the model fit meets the requirements; path analysis is performed for each variable to test the hypothesis and draw conclusions. Path analysis is the primary method of analyzing independent and dependent variables—regression relationships in structural equations for hypothesis testing. The path analysis method provides causal inferences for each variable of interest to answer the hypotheses identified from all four sub-variables. All four sub-variables retrieved from the key variables were designed to answer the questions in this study.

Based on the analysis and research in the previous four chapters, structural equation modeling was constructed, and to analyze the data and to produce the results of the validation against the hypotheses. Analyzing the results, this study answers three main questions respectively:

(1) What transformational leadership factors in private universities in Shandong province affect teachers' job satisfaction?

Based on the literature review and relevant theoretical analysis, the study found that transformational leadership is divided into four dimensions: morality, vision motivation, personalized care, and leadership charisma (Li et al., 2018). This study also uses this method of dividing dimensions to construct structural equation modeling.

Meanwhile, through the analysis of social exchange theory, social cognitive theory, and organizational justice theory (Li et al., 2018), psychological capital and sense of organizational justice were the mediating factors affecting job satisfaction. Through the research and analysis of structural equation modeling, the factors of transformational leadership affecting teachers' job satisfaction in private universities in Shandong province mainly include the morality, vision motivation, personalized care, and leadership charisma of transformational leaders. In addition to leadership, organizational justice, and psychological capital affect teachers' job satisfaction. Meanwhile, organizational justice and psychological capital play a mediating effect in the process of transformational leadership, affecting teachers' job satisfaction.

(2) Does transformational leadership in private universities in Shandong province positively or negatively impact teachers' job satisfaction?

The results of the analysis of structural equation modeling show that transformational leadership has a direct impact on teacher satisfaction in private universities in Shandong province. The influence of transformational leadership is positive. Transformational leadership emphasizes innovation and motivates teachers to participate in decision-making, which enhances teachers' job satisfaction. This leadership style creates a positive work atmosphere where teachers feel valued and encouraged, ultimately leading to an improvement in teacher satisfaction.

(3) What is the effect of transformational leadership through organizational justice and psychological capital that impacts job satisfaction in private universities in Shandong province?

According to the results of the study, it was found that transformational leadership significantly affects the job satisfaction of teachers in private universities in Shandong province through the sense of organizational justice and psychological capital. Transformational leadership has a direct influence on teacher satisfaction. At the same time, transformational leadership impacts the organizational understanding of justice and psychological capital, which indirectly drives a corporate sense of justice and psychological capital to impact teacher satisfaction.

Overall, transformational leadership brings advantages to the development of private universities in Shandong province. Transformational leadership is an important way for private universities in Shandong province to improve their competitiveness and achieve sustainable organizational development (Kotlar et al., 2018). Managers of private universities in Shandong province can improve their leadership through learning. According to the four aspects of transformational leadership ethics, vision motivation, personalized care, and leadership charisma (Bass, 1995) (Li et al., 2018), they can transform their management style to become transformational collar leadership style.

Transformational leadership demonstrates ethics, including no greed for personal gain, fairness, and integrity, concern for the collective good, and a strong sense of responsibility, which influences employee behavior and improves employee perceptions of organizational justice and satisfaction with their work. A leader with good ethics will promote the healthy development of the organization, especially in private universities in Shandong province, where teachers in private universities have a lower sense of belonging to the organization compared to public universities, as well as a higher turnover rate, which makes them particularly sensitive to the management of private universities. Transformational leadership can be effective in increasing employees' sense of belonging and self-efficacy through its role modeling in ethics (Nielsen & Cleal, 2011), enhancing the sense of organizational justice, and influencing employee satisfaction. Transformational leadership boosts employee morale and enhances employee performance (Bass, 1995).

Transformational leadership in visionary motivation, shows the transparency of corporate development goals, helping employees to deeply understand the corporate culture and business philosophy, and providing support and assistance for the future development of employees (Bass, 1999). Transformational leadership effectively strengthens employees' psychological capital (Rafferty & Griffin, 2004). In private universities in Shandong province, teachers use the contract appointment system, while teachers in public universities have the establishment appointment system. Teachers in public universities have more stable jobs and superior salaries. Teachers in private universities have relatively low levels of psychological capital, high work initiative, a

greater sense of self-development, and less dependence on the organization. Transformational leaders can enhance teachers' psychological capital level to some extent through visionary motivation. The self-development of teachers and the development of private universities are closely linked.

Transformational leaders pay attention to the career development and work characteristics (Bass, 1995) of employees in terms of personalized care, as well as pay attention to their families and lives, and consider the actual situation of employees (Bass, 1999). Teachers in private universities have a lower sense of self-efficacy at work compared to public universities. Problems encountered in the course of their work can lead to negative emotions, as well as a lack of responsibility. By caring for teachers, transformational leadership reflects the organization's recognition of employees, and employee's job satisfaction and self-efficacy will increase. The leadership charisma of transformational leadership is open-minded, innovative, enterprising, enthusiastic, and adept at dealing with all types of challenges.

Transformational leaders set a positive example for their employees and drive them to be positive. As a result, transformational leadership demonstrates excellent qualities that become a model for employees to learn from directly (Bass, 1999), providing guidance for employee development and bringing vitality to the organization. The transformational leadership approach is an important way to develop private universities in Shandong province.

5.2 Discussion

As found in Chapter 4, managers with transformational leadership can affect teachers' job satisfaction, psychological capital, and organizational justice. At the same time, organizational justice and psychological capital also affect teachers' job satisfaction. There are significant mediating effects of organizational justice and psychological capital on the influence of transformational leadership on teachers' satisfaction. Therefore, the following questions are explained:

Research question 1: What transformational leadership factors in private universities in Shandong province affect teachers' job satisfaction?

The four dimensions of transformational leadership are morality, vision motivation, personalized care, and leadership charisma. Each of these factors impacts transformational leadership; the path coefficient for morality is indicated at 0.780; the path coefficient for vision motivation is indicated at 0.770; the path coefficient for personalized care is indicated at 0.750; and the path coefficient for leadership is shown at 0.750. indicated at 0.780; the path coefficient for vision motivation is at 0.770; the path coefficient for personalized care is at 0.750; and the path coefficient for leadership charisma is at 0.770. Transformational leadership affects the following variables: organizational 0.462, S.E. = 0.051, C.R. = 9.107, and P ≤0.001). The calculation shows that the impact of transformational leadership is reflected in four dimensions: morality, vision motivation, personalized care, and leadership charisma. Meanwhile, transformational leadership is significant in influencing psychological capital and organizational justice. To make the study more scientific, there is a need to correct the research data and remove the missing values to validate the model.

Research question 2: Does transformational leadership in private universities in Shandong province positively or negatively impact teachers' job satisfaction?

The path coefficient of the effect of Transformational leadership on Job Satisfaction is 0.280. The regression weight estimate has a standard error (S.E.) of about 0.078. The regression weight estimate is 3.578 (C.R.) standard errors above zero, p<0.001. regression weight estimate is 3.578 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights is 0.247. Calculations from structural equation modeling show that transformational leadership's effect on job satisfaction is positive and significant.

Research question 3: What is the effect of transformational leadership through organizational justice and psychological capital that impacts job satisfaction in private universities in Shandong province?

The effect of psychological capital and organizational justice on job satisfaction is present and significant. The path coefficient of the impact of psychological capital on job satisfaction is 0.578. The regression weight estimate has a standard error (S.E.) of about 0.094. The regression weight estimate is 6.172 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights is 0.378. The path coefficient of organizational justice on job satisfaction is 0.440. The regression weight estimate has a standard error (S.E.) of 0.440. The regression weight estimate has a standard error (S.E.) of about 0.079. The regression weight estimate is 5.577 (C.R.) standard errors above zero, p<0.001. Estimates of standardized regression weights are 0.318. weight is 0.318. Meanwhile, the indirect effect of Transformational Leadership-Psychological Capital-Job Satisfaction (TL-PC-SAT), as tested by the Bootstrap mediation effect test, is 0.41, with 95% of the confidence interval does not contain 0, indicating that the indirect effect is significant, accounting for 64% of the total. Transformational Leadership-Organizational Justice-Job Satisfaction (TL-OJ-SAT) has an indirect effect of 0.44, with a 95% confidence interval that does not contain 0, indicating a significant indirect effect, accounting for 68% of the total. It was substantial at 68%. Therefore, by analyzing psychological capital and organizational justice, two variables in the total effect of transformational leadership on job satisfaction, there is an indirect effect, and the impact is significant.

5.2.1 Discussion on Variable: Transformational Leadership

Transformational leadership encourages innovation and new thinking, aiding in coping with the ever-changing educational environment, and enhances teachers' excitement about teaching and learning (Bass & Avolio, 1990). Transformational leaders motivate team members through their personal charisma and infectious energy. They can influence others through the power of their example so that teachers trust and identify with the leader. Transformational leaders usually collaborate with team members to develop goals and strategies, increasing teachers' opportunities to participate in decision-making and enhancing their sense of responsibility and commitment. Transformational leaders can communicate the organization's vision and inspire teachers to be enthusiastic about the future (Senbel, 2014). By clarifying goals

and demonstrating prospects, teachers feel the importance of their work in realizing the shared vision.

Transformational leaders empower teachers in the process of organizational vision by valuing the vision, understanding the vision through communication, building trusting relationships, and positioning teachers well for themselves. In this way, employees are motivated to follow the organization autonomously. Transformational leaders support the promise of greater benefits for the organization and motivate employees to put in higher efforts to efficiently over-deliver (Bass, 1995). Transformational leaders can positively influence their followers. Transformational leaders increase self-confidence and inspire trust by effectively identifying follower needs and emphasizing them by instilling a sense of pride in their followers. Transformational leaders change the vision of followers through communication and encourage followers to take initiative and present higher standards in their work (Gumusluoglu, 2009). In private universities in Shandong province, leaders need to use transformational leadership to motivate teachers in private universities. This conclusion of the research on transformational leadership is consistent with the findings of most academic leaders. In the management practice of private universities in Shandong province, transformational leadership behaviors are fully demonstrated, such as administrators should formulate school administrators' long-term strategies and development plans based on comprehensively grasping the characteristics of the educational development of the school, forming high-performance expectations of teachers through a common vision, valuing their values, respecting and caring for their feelings and needs, encouraging teachers to think about their educational and teaching work in the light of the characteristics of the students, continually opening up the communication channels with the school will continue to open up communication channels with teachers and staff, and create a favorable humanistic environment in the school.

Transformational leaders focus on the needs (Bass, 1995) and the development of individual teachers and help them achieve their personal and professional goals through personalized support and motivation. Transformational leaders emphasize

ethics and values, emphasizing integrity, fairness, and honesty. A leader's high ethical standards motivate teachers to identify with shared values and create a work atmosphere of integrity and honesty. In addition, the leader's support and caring make teachers feel valued and help shape a positive work climate, increasing teacher satisfaction. In private universities, leader charisma contributes to creating a positive leadership image and inspires a sense of belonging among teachers, which increases job satisfaction. Leader charisma can be a critical factor in organizational cohesion. Overall, the characteristics of transformational leadership fit with the educational environment of private universities and can contribute to teachers' professional development and job satisfaction.

5.2.2 Discussion on Variable: Psychological Capital

Psychological capital has four dimensions: task-based, relational, learning, and innovative (Chen et al., 2019). Task-based describes teachers' positive attitudes and confidence in accomplishing work tasks, including strong goal-setting determination, positive confrontation of challenges, and self-efficacy in task completion. Task-based psychological capital enables teachers in private universities in Shandong province to better cope with difficulties at work and improve their work effectiveness and execution. Relational refers to the ability of employees to build positive relationships with others, including confidence in teamwork, self-confidence in social skills, and trust and support for others. Relational psychological capital helps build good interpersonal relationships, improves team cohesion, and facilitates cooperation and sharing of resources (Youssef-Morgan & Luthans, 2015). Learning is the positive attitude and confidence towards learning and knowledge acquisition, including the desire for new knowledge, enthusiasm for learning, and a sense of responsibility for continuous improvement. Learning psychological capital drives individuals to continually adapt to new knowledge and skill requirements, promoting career development and the ability to adapt to change (Luthans et al., 2000). Innovative is the employee's positive attitude towards and confidence in innovation and change, including openness to new thinking, belief in the innovation process, and positive acceptance of new ideas. Innovative psychological capital motivates individuals to be more willing to face change,

stimulates innovation, and helps organizations remain competitive in an ever-changing environment. Together, these four dimensions comprise psychological capital, which emphasizes an individual's ability to respond positively to tasks, build good relationships, continue to learn, and encourage innovation in work and life. The development of psychological capital helps improve an individual's overall quality and promotes professional and personal growth (Wilson, 2012).

Under the guidance of transformational leaders in private universities in Shandong province, teachers are more motivated to cope with teaching tasks, enhance work efficiency, and develop positive task psychological capital. Teachers feel support and trust in the team and build positive psychological capital relationships, which help form a more collaborative and shared team culture (Yip & Schweitzer, 2019). Teachers are more willing to accept new knowledge and continuously improve their professionalism in transformational leadership, creating positive psychological capital for learning. Teachers are more inclined to accept challenges and actively participate in innovative activities under the guidance of transformational leaders, forming positive psychological capital for innovation and promoting school change and progress.

Transformational leadership focuses on the emotional needs of teachers, and moderate empowerment goes hand in hand with personalization. Since the emotional intelligence of teachers in private universities contributes to the strength of the relationship between transformational leadership and teachers' psychological capital and psychological capital has a significant positive effect on teachers' job satisfaction, this finding needs to be brought to the attention of educational administrators (Sood & Puri, 2022). Compared with other social environments, private universities are a special environment. The characteristics of private universities, such as clear teaching and learning tasks, relatively well-developed management systems, and teachers' knowledge-based employees, make different levels of emotional intelligence play different roles in the relationship between transformational leadership and psychological capital. Therefore, administrators need to pay attention to the emotional needs of teachers and provide them with appropriate resources and support at the material, emotional, and psychological levels. At the same time, school leaders also

need to appropriately empower teachers with higher levels of psychological capital, while teachers with relatively lower levels of psychological capital need to pay attention to the role of understanding teachers' emotional states, care, and concern (Luthans et al., 2000).

Taken together, transformational leadership in private universities in Shandong province promotes active participation, cooperation, and personal growth through its positive influence on tasks, relationships, learning, and innovation psychological capital. It helps to improve overall teacher job satisfaction and comprehensive quality. Psychological capital mediates transformational leadership and teacher satisfaction in four dimensions: task-based, relational, learning, and innovative. Forming positive psychological capital strengthens teachers' positive attitudes toward their work and organization and increases their job satisfaction.

5.2.3 Discussion on Variable: Organizational Justice

Organizational justice consists of four dimensions: procedural justice, distribution justice, interpersonal justice, and information justice. Decision-making and organizational processes are reduced. By setting procedures and policies with fairness, transparency, and consistency. Members have the same opportunities and rights to participate in the organization's decision-making process (Gashema & Kadhafi, 2020). Procedural justice ensures justice in the organization's internal operations, enhances members' trust in the organization's decision-making, and reduces the likelihood of unfair treatment and discrimination. Distribution justice refers to the reasonableness and justice of distributing resources, rewards, and punishments. It ensures that the organization's distribution of pay, promotions, and other resources is based on fair criteria and is not interfered with by subjective factors (Greenberg, 1990). Distributional justice helps maintain employee motivation and satisfaction and reduces turnover and dissatisfaction due to unfairness. Interpersonal justice refers to the justice of interpersonal relationships within an organization, ensuring that interrelationships and communications between members are fair and equal, preventing discrimination, prejudice, and inappropriate behaviors from occurring, and promoting a good working atmosphere. Interpersonal justice helps build teamwork and trust, reduces employee

conflict, and improves overall job satisfaction and organizational cohesion. Information justice refers to whether the transmission of information within and outside the organization is fair, accurate, and transparent (Restubog et al., 2009). It ensures that the flow of information within the organization is open and that employees have access to the necessary information and are not affected by unequal information or improper confidentiality. Information justice helps to build a transparent organizational culture, enhances employee understanding and acceptance of administrative decisions, and reduces the likelihood of suspicion and mistrust. Together, these four dimensions constitute corporate equity, ensuring that systems and behaviors within the organization are based on justice, equality, and transparency, thereby promoting a sense of justice and job satisfaction among employees (Akhtar et al., 2022).

Changes in the internal and external environment of an organization can affect the relationship between employees and leaders. Organizational justice, as an important component of organizational contextual variables (Adams et al., 1962), influences the relationship between leaders and employee satisfaction. In private universities where the role of leaders in the organization is more prominent, the relationship between superiors and subordinates is more likely to be an important factor in influencing employees' perceptions of fairness, and even job satisfaction. Many scholars have also found that a more ideal leadership style is one of grace and authority, where the leader is not only wise and authoritative but also cares for his or her subordinates (Liker & Ballé, 2013). Organizational leaders' recognition, support, and encouragement of subordinates and employees, and the timely and accurate transmission of information can establish a good leader-employee relationship, enhance employee satisfaction, and increase their trust and support for their superiors.

Perceived organizational justice is a stronger predictor of job satisfaction for teachers in private universities because it is safer for employees to change organizational justice when they adjust their job satisfaction through perceived organizational justice (Sweeney & Mcfarlin, 1993). Private college teachers' sense of organizational justice is largely derived from their sense of satisfaction and fairness in all aspects of their work and organization, especially as knowledge employees, private

college teachers have a stronger demand for an equal and fair atmosphere, and if the transparency, operability, and reasonableness of the organization's relevant systems are recognized by the teachers, the teachers usually show a high degree of trust and dedication to the organization, and are willing to take the initiative to contribute. Otherwise, their enthusiasm and initiative may be greatly frustrated and they may feel frustrated and alienated (Akhtar et al., 2022). Therefore, more emphasis should be placed on fair and reasonable procedures in the management process. As long as the assessment and allocation procedures are fair, people will accept the results even if they are not so satisfactory.

A fair organizational environment attracts and retains high-quality faculty and staff. Talented individuals often focus on organizational justice when choosing an employer, including salary distribution, promotion opportunities, and the justice of the decision-making process. By maintaining justice, private universities are better able to attract and retain talented education professionals (Akhtar et al., 2022). When employees perceive that the organization treats each member fairly and impartially, they are more likely to develop a positive attitude toward their work and increase their commitment to their jobs, increasing overall employee satisfaction. A fair organizational culture contributes to a good atmosphere for teamwork. When members believe that the organization's decisions and resource allocation are reasonable, they are more likely to cooperate to achieve its goals and promote team synergy. Organizational justice has a significant impact on external reputation (Liker & Ballé, 2013). Ensuring organizational justice in private universities in Shandong province can help build a positive work environment, increase staff motivation and satisfaction, and help enhance the university's reputation to attract more talented people.

5.2.4 Discussion on Variable: Job Satisfaction

The main components of job satisfaction are employees' emotional experiences with their jobs, including enjoyment of the job content, emotional connection to coworkers and leaders, and satisfaction with the work environment (Tosi et al., 1980). Emotional satisfaction focuses on the positive emotions and job enjoyment that employees experience at work (Eliyana et al., 2018). Job satisfaction also includes

satisfaction with job content. At the same time, employees' satisfaction with interpersonal relationships and future development are all elements of job satisfaction. The connotation of job satisfaction is multi-level and multi-faceted, covering a variety of feelings and expectations of employees at work (Miner, 2002). A work environment with comprehensive satisfaction helps to improve employees' happiness, motivation, and performance levels.

The transformational leadership of the administrators of private universities in Shandong province stands at the height of value, and by conveying the macro vision of school development to teachers and giving full play to the role model power of the administrators themselves (Kalra, 2020), guiding teachers to take the goals and intrinsic motivation as the guide to their work, instead of mindlessly obeying the management system, it can better help the teachers to dissolve their confusion and dissatisfaction due to being blindly led by the changeable system, and improve their satisfaction by helping them to point out the direction of higher levels of their work and professional development. By helping them to find higher levels of direction in their work and professional development, their satisfaction is enhanced.

Transformational leaders motivate teachers to actively participate in change and innovation by encouraging them to set challenging goals and providing support and resources. This leadership style inspires teachers and increases their sense of responsibility and ownership of their work (Li et al., 2018). Teachers are more likely to feel fulfilled in this positive leadership climate because they see their work making a positive difference in the growth and change of the university. Teachers are more likely to feel a sense of trust in the organization when they perceive that it treats all members fairly and equitably. This sense of confidence and expectation of fairness leads to more positive teacher engagement, less negativity, and dissatisfaction, and thus greater satisfaction (Mehdinezhad & Mansouri, 2016) These positive psychological capitals help shape teachers' positive attitudes toward their work and enhance their effectiveness, thereby increasing satisfaction. In private universities in Shandong province, transformational leadership stimulates teachers' passion and sense of responsibility for their job (Connolly et al., 2020), organizational justice establishes a

foundation of trust, and psychological capital provides teachers with a positive mindset and the ability to cope with challenges, which work together to drive teachers' job satisfaction.

5.3 Recommendation

5.3.1 Recommendations for Private Universities Managers Based on the Impact of Transformational Leadership

1. Findings：

Transformational leadership consists of the four dimensions of morality, vision motivation, personalized care, and leadership charisma (Li et al., 2018). Transformational leaders' morality is recognized in private universities, and teachers perceive that leadership has high ethical standards. The vision and motivation of transformational leaders inspire teachers to look forward to future development and motivate them to participate in organizational change. Personalized care by transformational leaders increases teachers' sense of belonging in the organization. The charisma of transformational leaders inspires more positive emotions in teachers, making them more willing to engage in their work. Transformational leadership positively affects organizational justice and teacher psychological capital.

2. Recommendations：

(1) Morality

Managers need to realize the significance of playing the transformational leadership style (Li et al., 2018), and at the same time examine the objective situation of the current teachers' perception of their leadership style, discard the backward and insufficient parts of it, adjust and transform the current leadership style to the transformational leadership, and actively use the transformational leadership style in their daily leadership work, so that the school can be constructed into a management mode that is oriented mainly to understanding and interaction. In private universities in Shandong province, the moral charisma of administrators and their power to lead by

example have a strong driving effect on teacher satisfaction. Administrators should systematically strengthen their transformational leadership strategies through training and learning and continuously promote their professional development to improve the effectiveness of leadership style adjustment and transformation.

(2) Vision Motivation

The identification and formation of school vision should be based on joint consultation with teachers, should reflect the common values of the organization, and reduce the utilitarian correlation between the vision and achievement indicators of private universities. It is more important to construct a reasonable vision (Li et al., 2018) that is consistent with teacher development and conducive to the development of private universities. Administrators still need to give more consideration to the direction of the school's vision in terms of whether it is in line with teachers' common aspirations. Managers of private universities in Shandong province adopt a transformational leadership management approach to work with their teams to develop clear visions and goals, ensure that each member understands the long-term direction of the organization, and stimulate positive work attitudes.

(3) Personalized Care

Leaders need to build good relationships with their employees by understanding the needs and goals of individual employees and providing personalized support and care (Li et al., 2018). Administrators in private universities in Shandong province take a developmental view of each teacher's flashpoints and express appreciation for each different strength. In addition, under the premise of ensuring the overall good professional development of teachers in the school, it is appropriate to provide more opportunities and platforms for teachers with outstanding performance, while positively understanding the difficulties of teachers in their work and pointing out the way for bottlenecks they may encounter in their professional development. Administrators of private universities in Shandong province should improve communication with each teacher, and flexibly use knee-to-knee talks, micro-letters, and other means to establish cross-level direct feedback channels with teachers to maximize understanding of what

teachers think and feel. Administrators should pay attention to the care of teachers' family life, and give a helping hand to teachers with sudden family difficulties.

(4) Leadership Charisma

Leadership charisma in transformational leadership is mainly characterized by strong business skills, a strong sense of responsibility, enthusiasm for work, and the ability to overcome difficulties. Administrators serve as role models for teachers to learn from in private universities, and excellent leadership charisma will bring more motivation to teachers. Transformational leadership helps teachers to solve professional difficulties, guides teachers to look at education and teaching with new thinking, and thus promotes the cultivation of their professional problem-solving ability, so that they can feel the potential of education and teaching work to improve and increase the effectiveness of the work, which is closely related to the teacher's career development towards success.

5.3.2 Recommendations for Psychological Capital Findings

1. Findings：

(1) Teachers in private universities in Shandong province show higher task psychological capital when they perceive challenging tasks and goals provided by their organizations. This is consistent with transformational leadership that emphasizes task challenge and goal setting.

(2) Good leadership relationships and teamwork atmosphere in private universities in Shandong province help build relational psychological capital. Transformational leadership encourages teamwork and positive relationship building, positively affecting relational psychological capital, and enhancing teachers' satisfaction.

(3) Transformational leaders in private universities in Shandong province promoted the formation of learning psychological capital among faculty members by providing learning opportunities and supporting professional development. This is

manifested in employees' greater willingness to embrace new knowledge and continuous learning while indirectly enhancing faculty satisfaction.

(4) Transformational leadership encourages innovation and new thinking, and teachers' innovative psychological capital in Shandong province's private universities is enhanced. Teachers are more willing to try new methods and propose new ideas to promote organizational change and innovation.

2. Recommendations：

(1) Transformational leaders should set clear development goals for their teams. Assign organizational tasks to team members, each member assuming responsibility, to inspire confidence in task completion. Provide challenging work projects and training opportunities to motivate faculty to develop positive attitudes toward their tasks. With the help of career planning and management systems in the management of private universities in Shandong province, leaders need to show employees the beautiful vision of the organization's development through a variety of channels and ways (Compeau et al., 1999; Lin & Hsu, 2013), strengthen the transparency and flattening of the organization's internal, so that employees are fully aware of the overall goals and process of change. Guide employees to adjust their way of thinking, help employees reasonably measure the positive significance of organizational development and personal.

(2) Administrators of private universities in Shandong province should establish good communication channels for teachers to realize effective communication, including improving communication, providing communication opportunities, and encouraging an open teamwork atmosphere. Team building activities and regular meetings can strengthen employee interaction and improve relational psychological capital.

(3) The enhancement of psychological capital drives individuals to continually adapt to new knowledge and skill requirements, promoting professional development and the ability to adapt to change. Transformational leadership in private universities

in Shandong province needs to provide rich professional development opportunities for teachers, including training, workshops, and academic resources. Provide safeguards for faculty growth and development, including institutional safeguards, material safeguards, etc. Encourage faculty members to engage in academic research and continuous professional improvement to develop psychological capital for learning. Combining the needs of teachers and the needs of the organization, the psychological capital of teachers is guided and developed through training and practice in professional skills, theoretical knowledge of professional development, and so on. More attention should be paid to the development of teachers' psychological capital to enhance employees' self-efficacy, hope, resilience, and optimism.

(4) Transformational leadership in private universities in Shandong province encourages innovative thinking and practice by providing support and resources for innovative programs. Establish a culture encouraging faculty and staff to develop new ideas and try new approaches to develop creative psychological capital. Promote the formation and enhancement of psychological capital through a transformational leadership management style, which enhances the interaction and collaboration between administrators and faculty to create a positive work atmosphere. By focusing on all aspects of psychological capital, managers can better lead their organizations to adapt to change and increase job satisfaction.

5.3.3 Recommendations for Organizational Justice Findings

1. Findings：

(1) Organizational justice positively affects teachers' satisfaction in Shandong province's private universities. Among them, organizational justice is reflected in four aspects: procedural justice, distribution justice, interpersonal justice, and information justice.

(2) Transformational leadership also achieves a portion of its impact on teacher satisfaction through organizational justice. Organizational justice plays a role in transformational leadership and teacher satisfaction.

2. Recommendations：

(1) Transformational leaders in private universities in Shandong province should establish clear procedures and rules to ensure transparency in organizational decision-making. Transformational leaders can explain the rationale for decisions through effective communication to minimize employees' perceptions of procedural unfairness. Employees are encouraged to provide input and feedback to make the decision-making process more participatory. For example, equity concerning compensation requires teachers to fully understand the compensation system and accurately calculate each teacher's compensation package (Colquitt & Rodell, 2011). The teacher selection and appointment process must focus on fairness in promotion opportunities. When private universities in Shandong province are allocating resources, on the one hand, they should prudently consider the common values of the teachers and adhere to a people-centered approach, rather than generalizing around output efficiency, which needs to be in line with the interests of most teachers. On the other hand, the application of the law of distribution must not be formalized, focusing only on meeting rigid institutional requirements without considering the specific context of reality, resulting in another kind of unfairness generated by the fairness of the system (Wofford & Goodwin, 1994).

(2) Transformational leaders in private universities in Shandong province should ensure the fairness of the compensation system by transparently stating the criteria and procedures for salary allocation (Fuentes-Tauber, 2018; Mathisen, 2011). Transformational leaders can collaborate with their teams to set clear goals and performance standards to make pay allocations fairer and encourage employees to participate in developing allocation strategies. An equitable distribution of tasks can help avoid situations where employees feel overburdened or neglected, thus increasing satisfaction.

(3) Good interpersonal relationships and avoidance of favoritism and unfair behavior. Transformational leaders in private universities in Shandong province should advocate fair treatment of each member, emphasize cooperation and sharing, and reduce inequality among individuals. Ensure managers treat employees equally and do

not let personal relationships influence decisions. Private universities in Shandong province need to use the law of procedural fairness to control the uncertainty of the relationship between individual teachers and the organization. In addition to adhering to the general laws of consistency, unbiasedness, representativeness (Yip & Schweitzer, 2019), and morality in the procedures, they should focus on the respect and symmetry of information for teachers during the implementation of the policy, so that teachers can feel the information about their position and clarify their self-concepts in the process of interacting with them.

(4) Private universities in Shandong province provide transparent information transfer to ensure that employees receive accurate information about the organization's internal affairs. Transformational leaders in private universities in Shandong province can share the organization's goals, change plans, and decision-making processes through effective communication mechanisms to maintain information justice. Employees are encouraged to ask questions and respond to concerns promptly to reduce information asymmetry. An open and transparent decision-making process helps reduce employee uncertainty and increases trust in organizational management. Ensuring that information is impartially communicated helps employees understand the organization's decisions and direction and reduces suspicion and dissatisfaction.

5.3.4 Recommendations for Job Satisfaction Findings

1. Findings：

Transformational leadership, organizational justice, and teachers' psychological capital positively affect teachers' job satisfaction in private universities in Shandong province. Therefore, teacher satisfaction is a complex process that includes the work environment, leadership style, and teachers' psychological capital.

2. Recommendations：

Transformational leaders have a significant impact on teachers' job satisfaction. Transformational leaders show subordinates the way forward, set an example, and

motivate teachers to embrace the overall goal. Transformational leaders provide teachers with personalized care and emotional support to do their jobs better. Open-minded and innovative transformational leaders align teachers with the organization's goals by explaining the organization's philosophy, objectives, and long-term significance (Yip & Schweitzer, 2019). In the process, the transformational leader creates conditions for subordinates to utilize their abilities fully. Transformational leaders put self-interest behind the collective good. Teachers are motivated to work hard to achieve organizational goals. The transformational leader's concern for teachers' lives, work, and growth and sincere advice will create a strong sense of identification with the leader and increase teachers' job satisfaction. In achieving organizational goals, teachers' sense of ownership will be stimulated (Adams & White, 2003). Transformational leaders are motivated by a vision, and personalized care affects teachers' psychological empowerment. Transformational leaders enhance teachers' self-efficacy. Transformational leaders tend to use more empowering behaviors, listen to their subordinates' opinions and suggestions, and participate in management, which enhances teachers' control over their work.

The personalized care and intellectual stimulation of the transformational leadership of the administrators focus to a high degree on the people in the collective, and the administrators no longer just "manage" the teachers institutionally, but rather, based on the humanistic proposition (Nemanich & Vera, 2009), they "lead" the teachers more. The humanistic "leadership" of administrators, coupled with the tendency toward collectivism nurtured by traditional Chinese culture, makes it easier for teachers to establish a team spirit and form a community with the members of the school organization, motivating them to work together with other teachers and to strive for the development goals of the school, resulting in higher levels of intrinsic commitment and the spirit of teamwork (Soni & Rastogi, 2019), and increased confidence in sharing the destiny of the organization. The resulting higher level of intrinsic commitment and teamwork increases confidence in sharing the fate of the organization, which in turn provokes better satisfaction ratings from teachers. Transformational leadership by administrators, which emphasizes attention to the humanity of teachers and adds a higher value to their work by leading by example and by awakening their vision, is a

form of leadership that raises teachers' higher-level needs and is conducive to their job satisfaction (Youssef-Morgan & Luthans, 2013).

Transformational leadership has a significant impact on teachers' organizational justice. Transformational leadership behavior is a process of instilling intellectual and ethical values in teachers. For transformational leaders to gain the trust of teachers, they must treat them fairly in their interpersonal interactions. Transformational leadership characteristics such as empowerment, confidence, and commitment allow teachers to experience organizational justice. Transformational leadership enhances organizational justice. Psychological capital influences the relationship between transformational leadership and job satisfaction. Dimensions of psychological capital include hope, optimism, relationships, self-efficacy, and release. Transformational leadership positively affects teacher psychology. Teachers' self-efficacy and resilience to stress are improved, and they can do their jobs better. Psychological capital plays a mediating role (Mcmurray et al., 2010). Organizational justice is an essential factor that transformational leadership brings to the organization. Transformational leaders empower their subordinates. Teachers must be able to express their opinions about their work at any time. Transformational leaders motivate teachers to achieve organizational goals by meeting their high-level needs. Transformational leaders make teachers realize the importance of the tasks they undertake. Transformational leaders listen to their subordinates and enhance teachers' sense of fairness. An increased understanding of fairness increases teachers' job satisfaction. Teachers develop positive feelings towards the organization.

5.4 Research Contributions

Based on the results of the research this study proposes a model for enhancing teacher satisfaction in private universities based on transformational leadership, organizational equity, and psychological capital, see Figure 5.1. This model is mainly for private universities to enhance teacher satisfaction and achieve efficient management. A prerequisite for using the model is that leaders fully understand the reasons for teachers' low job satisfaction, and therefore the following questions need to be answered:

➤ Do administrators demonstrate transformational leadership?

➤ Are there problems with organizational Justice in the environment?

➤ Are there problems with teachers' psychological capital?

If leaders find that low teacher satisfaction in private universities is related to other factors, then the model cannot be used and the influencing factors need to be reconsidered and another model chosen (outside the scope of this study). If the above problems do exist, then the teachers need to be surveyed based on the questionnaire. Responses are proposed in the model based on the study.

Transformational Leadership

➤ **Morality**

✓ Examine Perception of Leadership

✓ Adjust Transformational Leadership

✓ Constructed into Understanding and Interaction

✓ Strengthen Transformational Leadership Strategies Through Learning

➤ **Vision motivation**

✓ Vision Consultation with Teachers

✓ Reduce the Correlation Between the Vision and Achievement

✓ Construct Reasonable Vision

✓ Ensure Understands the Long-Term Direction of the Organization

➤ **Personalized care**

✓ Understanding the Needs and Goals of Employees

✓ Providing Personalized Support

✓ Build Good Relationships

✓ Express Appreciation for Each Individual's Different Strengths

✓ Provide More Opportunities and Platforms

✓ Encounter in Employees' Professional Development

✓ Pay Attention to Teachers' Family Life

➤ **Leadership charisma**

✓ Serve as Role Models

✓ Helps Teachers to Solve Professional Difficulties

✓ Guides Teachers to New Thinking

✓ Promotes Professional Problem-Solving Ability

Psychological Capital

➢ **Task-based**

✓ Set Clear Goals for Teams

✓ Inspire Responsibility

✓ Provide Challenging Work Projects and Training Opportunities

✓ Strengthen The Transparency and Flattening

➢ **Relational**

✓ Effective Communication

✓ Providing Communication Opportunities

✓ Encouraging Openness Teamwork Atmosphere

➢ **Learning**

✓ Provide Professional Development Opportunities (trainings, workshops, and academic resources)

✓ Provide Safeguards Development (institutional safeguards, material safeguards, etc.)

✓ Encourage Continuous Professional Improvement

➢ **Innovative**

✓ Encourages Innovative Thinking

✓ Create a Positive Work Atmosphere

Organizational Justice

✓ Ensure Transparency in Decision-Making

✓ Effective Communication to Raise Perceptions Fairness

✓ Provide Input and Feedback to Decision-Making Process

✓ Selection and Appointment Process Must Focus on Fairness

✓ Allocating Resources Should Be Efficient

✓ Distribution Must Not Be Formalized

✓ Ensure Transparently Stating the Criteria and Procedures for Salary Allocation

✓ Good Interpersonal Relationships and Avoidance of Subjective Factors

✓ Provide Transparent Information Transfer

According to the above measures, when the teachers' satisfaction in private universities is improved, it means that the measures are effective. If the teachers' satisfaction in private universities is not improved, it is necessary to go back to the first step and conduct relevant analysis and re-investigation to guide the teachers' satisfaction to be improved.
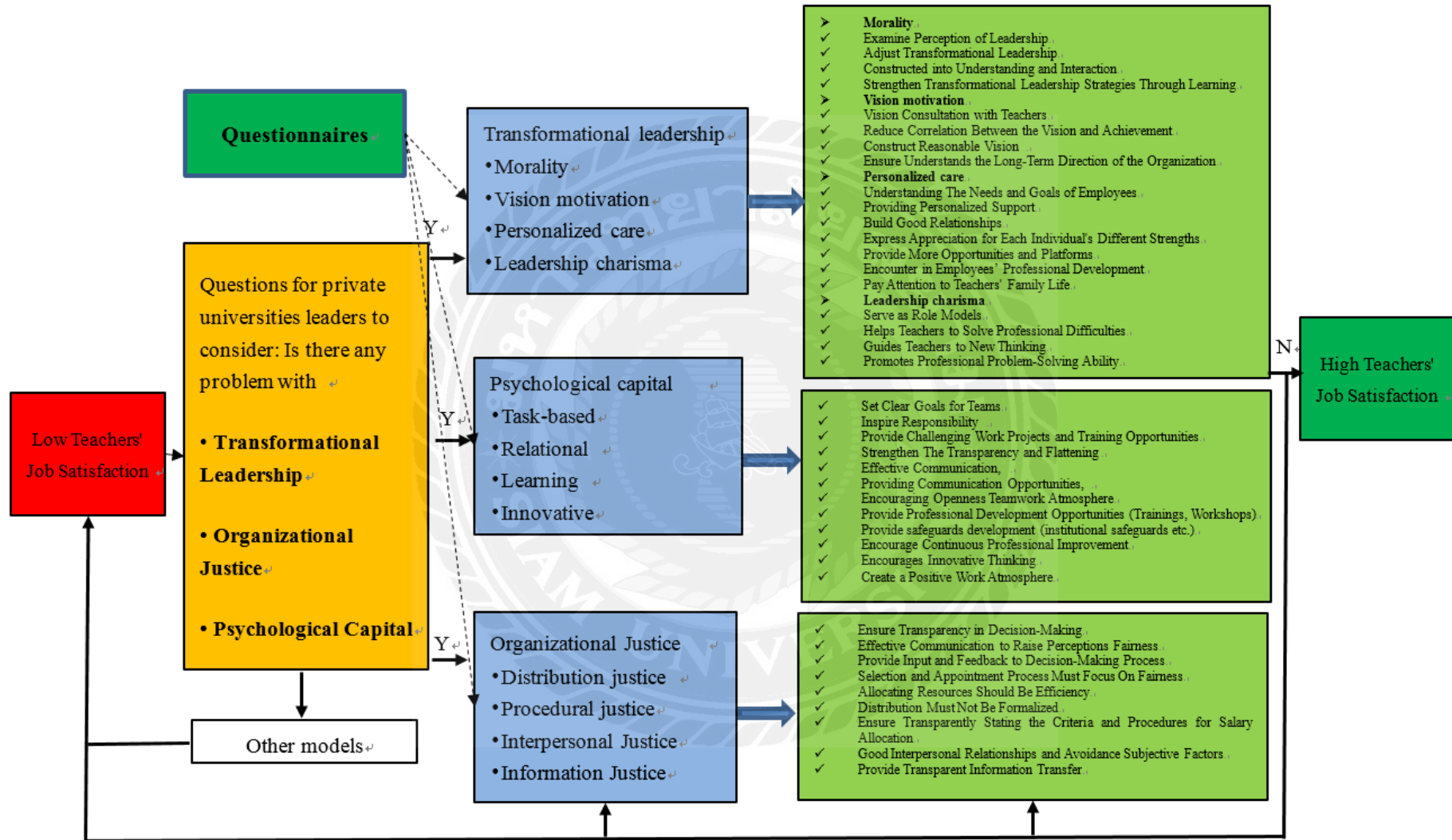
Figure 5.1 The Model for Enhancing Teachers' Satisfaction in Private Universities
(Source: Researcher, 2023)

5.5 Future Research

The research process of this study, while striving for rigor, has limitations, due to human, material, and time constraints. This study focuses on private universities in Shandong province, China, and does not cover other countries and regions. The population of this study was private university teachers in Shandong province. Whether the sample in the analysis is sufficiently representative of the faculty population of private universities in Shandong province and whether it covers faculty members of different disciplines and teaching levels may be an aspect to be considered. Cross-cultural studies have been conducted in other provinces and countries to verify the generalizability of transformational leadership on teacher satisfaction and examine cultural factors' impact on this relationship. Therefore, it is necessary to carefully consider whether the results of this study can be generalized to other private universities. A comparative analysis of private universities in different regions is recommended.

The research on transformational leadership on teacher satisfaction has considered long-term effects, where long-term observation and follow-up could provide a more in-depth understanding of the ongoing impact of this leadership style over time. In the context of research on transformational leadership on teacher satisfaction, where a cross-sectional design is used, i.e., a one-time survey of teachers at a specific time, it is difficult to capture the long-term effects of transformational leadership on teacher satisfaction. This design is more suited to obtaining quick cross-sectional data rather than tracking the evolution of leadership style and satisfaction. Therefore, in-depth interviews can be used. In-depth interviews allow the researcher to gain a more comprehensive understanding of the long-term effects of transformational leadership on teacher satisfaction. In-depth tracking and long-term observation will give the researcher richer, more extensive knowledge to help reveal transformational leadership styles' changes and ongoing effects on teachers' job satisfaction.

In studying the impact of transformational leadership on teacher satisfaction, other factors that may affect teacher satisfaction, such as organizational culture, work

pressure, and social support, should be considered. In considering these factors, researchers need to adopt a comprehensive research design and data collection methodology to build a more complex and realistic model that provides an in-depth understanding of how transformational leadership affects teacher satisfaction. Such a comprehensive study can provide more practical and empirical findings and targeted recommendations for enhancing educational management practices. Finally, this study primarily focuses on four aspects: transformational leadership, psychological capital, job satisfaction, and organizational justice. However, in practice, there is a lack of understanding of transformational leadership, and it is not possible to extend the results of the study to other private universities outside Shandong province. Knowledge management, innovation, and self-efficacy can be studied in future research.
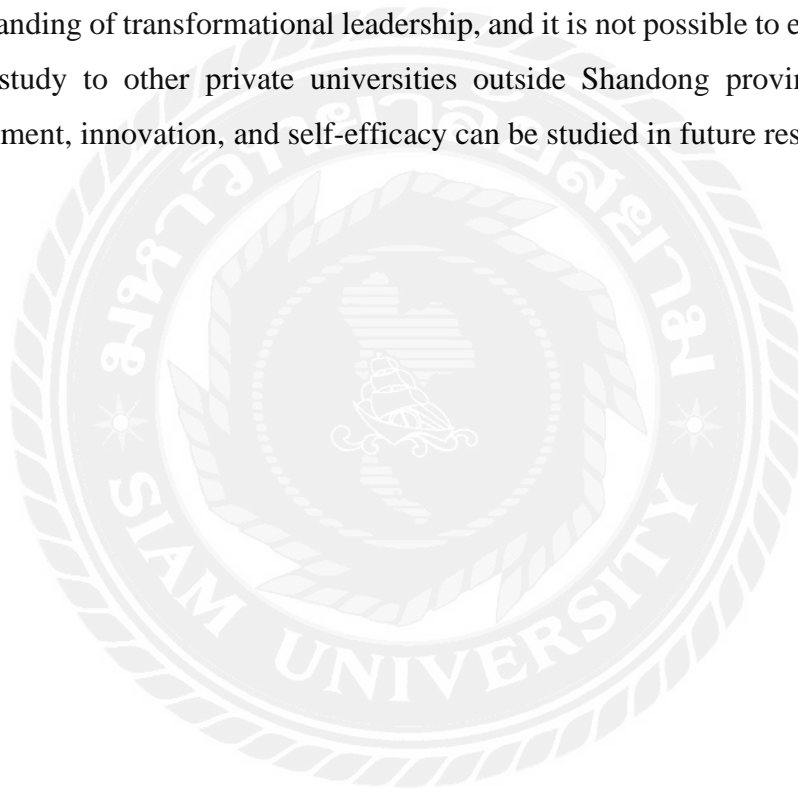
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Appendices

ใบรับรองจริยธรรมการวิจัยในมนุษย์
สถาบันการจัดการปัญญาภิวัฒน์

หมายเลขใบรับรอง: PIM-REC 027/2566

ข้อเสนอการวิจัยนี้ และเอกสารประกอบของข้อเสนอการวิจัยตามรายการแสดงด้านล่าง ได้รับการ
พิจารณาจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ สถาบันการจัดการปัญญาภิวัฒน์แล้ว คณะกรรมการฯ
มีความเห็นว่าข้อเสนอการวิจัยที่จะดำเนินการมีความสอดคล้องกับหลักจริยธรรมสากล ตลอดจนกฎหมาย
ข้อบังคับและข้อกำหนดภายในประเทศ จึงเห็นสมควรให้ดำเนินการตามข้อเสนอการวิจัยนี้ได้

ชื่อข้อเสนอโครงการ: The Effects of Transformational Leadership Model on Teachers' Organizational
Justice and Job Satisfaction in Private Universities in Shandong Province, China

รหัสข้อเสนอการวิจัย (ถ้ามี): (ไม่มี)

หน่วยงาน: มหาวิทยาลัยสยาม

ผู้วิจัยหลัก: Mr. Zuo Changlong

ลงนาม..

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วันที่รับรอง: 17 สิงหาคม 2566   **วันหมดอายุ:** 17 สิงหาคม 2567

เอกสารที่คณะกรรมการรับรอง

1. โครงร่างการวิจัย
2. ข้อมูลสำหรับชี้แจงกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย และ ใบแสดงความยินยอมจากกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย
3. เครื่องมือที่ใช้ในการวิจัย/เก็บรวบรวมข้อมูล เช่น แบบสอบถาม แบบสัมภาษณ์ ประเด็นในการสนทนากลุ่ม เป็นต้น

เงื่อนไขการรับรอง

1. นักวิจัยดำเนินการวิจัยตามที่ระบุไว้ในโครงร่างการวิจัยอย่างเคร่งครัด
2. นักวิจัยรายงานเหตุการณ์ไม่พึงประสงค์ร้ายแรงที่เกิดขึ้นหรือเปลี่ยนแปลงกิจกรรมวิจัยใดๆ ต่อคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ภายในกำหนด
3. นักวิจัยส่งรายงานความก้าวหน้าต่อคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ตามเวลาที่กำหนดหรือเมื่อได้รับการร้องขอจากคณะกรรมการฯ
4. หากการวิจัยไม่สามารถดำเนินการเสร็จสิ้นภายในกำหนด ผู้วิจัยต้องยื่นขออนุมัติใหม่ก่อนอย่างน้อย 1 เดือน
5. หากการวิจัยเสร็จสมบูรณ์ ผู้วิจัยต้องแจ้งปิดโครงการตามแบบฟอร์มที่กำหนด

No. SU 0210.7/42

Graduate School of Management,
Siam University
38 Petkasem Rd., Bang-wa,
Phasi-charoen, Bangkok, 10160

July 7, 2023

Subject: Request for Data Collection via Questionnaire Distribution
To Whom It May Concern:

Mr. Zuo Changlong Student ID # 6319200024, a doctoral student of the Graduate School of Management, Siam University (Mobile Phone No. +6606-159-10187 and email: siamzuo@gmail.com) is currently working on the Ph.D. Dissertation entitle: "The Effects of Transformational Leadership Model on Teachers' Organizational Justice and Job Satisfaction in Private Universities in Shandong Province, China" under the supervision of Associate Professor Dr. Chalermkiat Wongvanichtawee and Associate Professor Dr. Jun Jiang.

In this regard, the Graduate School of Management would like to request for you cooperation by corresponding the attached questionnaire form. The completion of this questionnaire form will allow Mr. Zuo Changlong to further proceed on her research with data accuracy and overall quality. Your kind assistance is fully appreciated.

Best Regards,

Chaiyanant P.

(Associate Professor Dr. Chaiyanant Panyasiri)
Dean of the Graduate School of Management

Graduate School of Management
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The Effects of Transformational Leadership model on Teachers' Organizational Justice and Job Satisfaction in Private Universities in Shandong Province, China

To   Questionnaire Respondent

This questionnaire is divided into 2 parts. The first part deals with the characteristics of the dual system and organizational structures. The second part focuses on demographic and relational factors. The information you shared with the researcher today will be for the use of this study and academic purposes only. Personal information will be kept confidential. The use of other information you provide will be to develop the education innovation system in any participating private university.

I would like to thank you for your response, if you shall need further information or if there is anything can do to assist you to complete or improve this questionnaire, please do not hesitate to contact me.

Mr. Zuo Changlong, Ph.D. Student
Siam University

Part 1 Demographic information
Remark: Please choose by using ✓ in □ or fill information in the blank.

1. Gender   □ Male   □ Female

2. Age …………………………(year)

3. Education   □ 1. Bachelor's degree   □ 2. Master's degree
                   □ 3. Higher than the Master's degree

4. Position   □ 1. Operation   □ 2. Manager/senior
                   □ 3. Lecturer/instructor   □ 4. Other....................

5. Tenure in current position (year)
                   □ 1. Less than/or equal to 5   □ 2. Between 6-10
                   □ 3. Between 11-15   □ 4. 16 and over

Part 2 **Relational factors**

The questionnaire used Likert scale, ranging from 1 to 5 in which 1 = Strongly disagree/ 3 = neutral / 5 = Strongly agree

For Example:1. My supervisor does not seek personal gain and is honest. Choose 5 points when you strongly agree, 4 points when you agree, 3 points when you are neutral, 2 points when you disagree, and 1 point when you strongly disagree.

item	Your Manager/Executive…......	Alternative Answer				
		1	2	3	4	5
	Transformational leadership					
1.1	**Morality**					
1	My supervisor does not seek personal gain and is honest.					
2	My supervisor does his best to work hard for the development of the company.					
3	My supervisor puts the interests of others and the group before his own.					
4	My supervisor will not take over the fruits of other people's labor.					
5	My supervisor will not secretly retaliate against subordinates.					
1.2	**Vision motivation**					
6	My supervisor can let his subordinates understand the development prospects of the company/department.					
7	My supervisor can let subordinates understand the development goals and business philosophy of the company/department.					
8	My supervisor paints an exciting picture of the future for his subordinates.					
9	My supervisor can give subordinates direction and goals.					
10	My supervisor often discusses with subordinates the impact of their work on the company/department's overall goals.					
1.3	**Personalized care**					
11	My supervisor will consider the actual situation of the subordinates in the process of communicating with them.					
12	My supervisor can often communicate with his subordinates to understand their family, lives, and work conditions.					
13	My supervisor is willing to help his subordinates solve family and life difficulties.					

item	Your Manager/Executive…...	Alternative Answer				
		1	2	3	4	5
14	My supervisor sincerely cares about his subordinates and creates conditions for their development.					
15	My supervisor pays attention to creating conditions for subordinates to develop their personal expertise.					
1.4	**Leadership charisma**					
16	My supervisor has excellent professional skills and is constantly improving.					
17	My supervisor is open-minded and has a strong sense of innovation.					
18	My supervisor loves the job he is doing and is very ambitious and aggressive.					
19	My supervisor puts his heart into his work and maintains a high level of enthusiasm.					
20	My supervisor dares to grasp and manage, and is good at dealing with work problems.					
	Psychological capital					
2.1	**Task-based**					
21	My supervisor affects my work ethic.					
22	I always expect good things to happen in my future work.					
23	I am not afraid of difficult new jobs.					
24	I trust my supervisor to help me when I encounter work difficulties					
25	I hope that I can undertake a certain job independently.					
2.2	**Relational**					
26	I know why my mood changes.					
27	I can understand the nonverbal messages my supervisor sends me.					
28	I can understand my supervisor's emotions well.					
29	I appreciate my supervisor pointing out problems to me.					
30	I remember the help and support I receive from my supervisor.					

item	Your Manager/Executive….....	Alternative Answer				
		1	2	3	4	5
2.3	**Learning**					
31	I believe in my ability to translate what I have learned into skills.					
32	I believe I can master the knowledge provided by my supervisor					
33	I will learn and improve my job skills spontaneously.					
34	I take the initiative to learn from my supervisor's experience and expertise.					
35	I am willing to share my experience with my colleagues.					
2.4	**Innovative**					
36	I can achieve the goals I set out in new ways.					
37	I am willing to try new methods and ideas in my work.					
38	I can take the initiative to adjust and change the original working method.					
39	I can deal with several tasks at same time.					
40	I can break the traditional way of thinking and working in my work.					
	Organizational Justice					
3.1	**Procedural justice**					
41	Managers make work decisions with rules to follow.					
42	The company's system can be well implemented.					
43	Employees of the company can participate in the decision-making process.					
44	The implementation of the company system will not vary from person to person.					
45	The formulation and implementation of decisions in the company are transparent and open.					
3.2	**Distribution justice**					
46	The company pays me a salary that reflects how hard I work.					

item	Your Manager/Executive….....	Alternative Answer				
		1	2	3	4	5
47	My salary reflects my contribution to the company.					
48	My salary is reasonable and fair based on job responsibilities and workload.					
49	Based on work performance, my salary is reasonable and fair.					
50	Compared with the work performance of my colleagues, my salary is reasonable.					
3.3	**Interpersonal Justice**					
51	My supervisor can treat me with courtesy.					
52	In terms of ideas and opinions, my supervisor respects me.					
53	My supervisor has not judged me inappropriately.					
54	The work I do is recognized by the company's superiors.					
55	My supervisor can provide me with the help and support I need for my work.					
3.4	**Information Justice**					
56	The leader can communicate with me frankly.					
57	My supervisor explained my work-related decisions to me in detail and comprehensively.					
58	Your supervisor's explanations for work decisions are reasonable.					
59	The supervisor can communicate with me in time about the details of work decisions.					
60	The supervisor will communicate with employees based on their specific needs.					
	Job Satisfaction					
61	If I must now do the choice of whether to engage in my current job, of course I will continue to be engaged in the job.					
62	If a friend asked me whether he (she) should look for a job like mine, I would strongly suggest that he (she) should.					
63	My job is very close to my ideal job.					

item	Your Manager/Executive….....	Alternative Answer				
		1	2	3	4	5
64	My job is very much in line with some of the characteristics I gave it when I first met it					
65	I'm very pleased with the job now.					
66	Overall, I like the job I have now very much.					

Author's Biography

Name and Surname	:	Mr. Zuo Changlong
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Education

Bachelor's Degree	:	Bachelor of Engineering
Major	:	Major in Mechanical Design, Manufacturing and Automation
Institution	:	Hei Longjiang Bayi Agricultural University
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Year	:	2008-2012

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Publishing Research

Zuo, CL. (2020). A Study on the Brand Development Strategy of Weifang Cultural and Creative Industries Park-Taking "Fangze Eurotown" as an Example. *The 1st National and International Academic Conference Innovation and Management for Sustainability*. 9-10 July, 2020, Eastin Grand Hotel, Bangkok, Thailand, pp. 1519-1528.

Zuo, CL & Chollathanrattanapong, J. (2021). The Effects of the Psychology State of Employees on Enterprise Innovation Management in The Period of Covid-19. *National and International Academic Conference "Empowering Innovation and Sustainability in the Next Normal"*. 27-28 November, 2021, Siam University, Bangkok, Thailand, pp. 1875-1886.

Zuo, CL, Wongvanichtawee, C. & Chollathanrattanapong, J. (2024). The Effects of the Transformational Leadership Model on Teachers' Organizational Justice and Job Satisfaction in Private Universities in Shandong Province. *International Journal of Asian Business and Information Management (IJABIM), 15*(1), 1-15. (SCOPUS Q2 / Major Business and International Management Q3)