



**THE EFFECTS OF CONFUCIUS MANAGEMENT CULTURE
ON WORK ENGAGEMENT AND CAREER GROWTH:
A CASE OF PUBLIC UNIVERSITIES OF
SHANDONG PROVINCE, CHINA**

ZHU LING

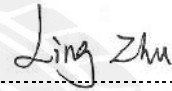
**A dissertation submitted in partial fulfillment of the requirements for
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DECLARATION

I, Ling Zhu (Student ID# 6419200002), hereby certify that the work embodied in this dissertation entitled "The Effects of Confucius Management Culture on Work Engagement and Career Growth: A Case of Public Universities of Shandong Province, China" is a result of original research and has not been submitted for a higher degree to any other university or institution.



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Abstract

Title : The Effects of Confucius Management Culture on Work Engagement and Career Growth: A Case of Public Universities of Shandong Province, China

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The objectives of this study were: 1) to analyze how Confucius' management culture of organizations affects staff's work engagement and career growth; 2) to explain the path analysis of Confucius' management culture through psychological contract fulfillment; 3) to explore the relationship between employees' attitude and behavior towards work and their career growth. The mixed-method research study used 402 valid surveys of the samples from public universities in Shandong Province to represent the quantitative research. Confirmatory factor analysis and structural equation modeling were used to evaluate the data and test the hypotheses. In addition, the qualitative method includes in-depth interviews and synthesized opinions of relevant educators in Shandong province about the impact of implementing Confucian culture in universities.

The empirical findings explain that university staff had higher approval of Confucius's management culture in their organization, individual work engagement is conducive to career growth, and Confucius's management culture has significant

direct and indirect effects on work engagement and career growth. The management culture encourages staff to be more engaged through psychological contract fulfillment.

Based on the findings of this study, it is suggested that universities integrate positive elements of Confucian culture into their organizational culture. It will improve the professional quality of the employees, enhance work engagement, and establish a fair and reasonable incentive mechanism. Universities can then help enhance employees' stable prospects of growth and career advancement.

Keywords: Confucius management culture, work engagement, psychological contract fulfillment, career growth, public university

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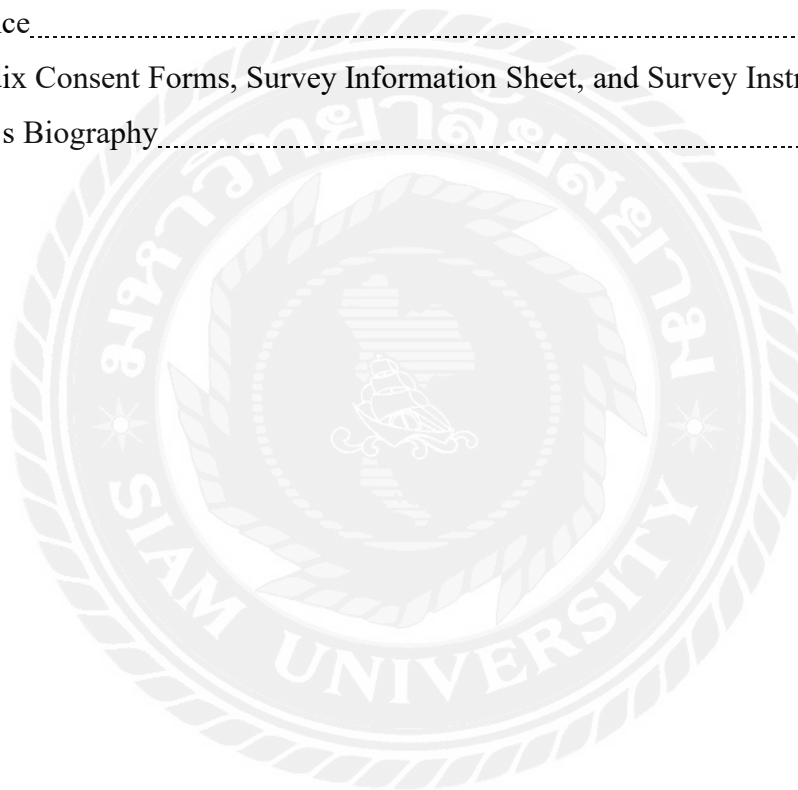
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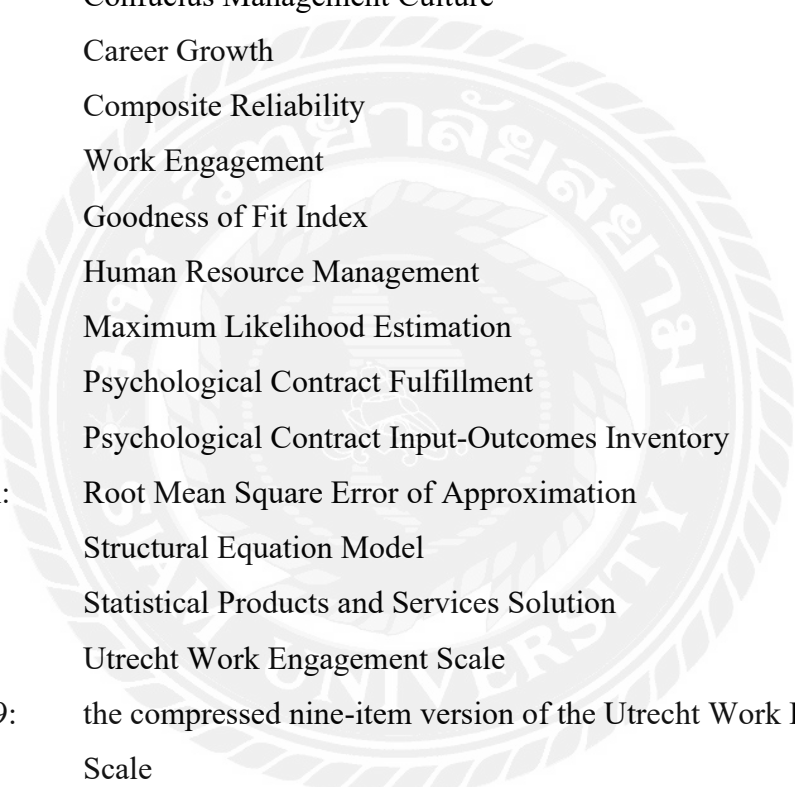
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List of Abbreviations



AMOS:	Analysis of Moment Structure
AVE:	Mean-Variance Extraction
CFA:	Confirmatory Factor Analysis
CFI:	Comparative Fitting Index
CHMS:	Confucius Harmonious Management Scale
CMC:	Confucius Management Culture
CG:	Career Growth
CR:	Composite Reliability
WE:	Work Engagement
GFI:	Goodness of Fit Index
HRM:	Human Resource Management
MLE:	Maximum Likelihood Estimation
PCF:	Psychological Contract Fulfillment
PCIOI:	Psychological Contract Input-Outcomes Inventory
RMSEA:	Root Mean Square Error of Approximation
SEM:	Structural Equation Model
SPSS:	Statistical Products and Services Solution
UWES:	Utrecht Work Engagement Scale
UWES-9:	the compressed nine-item version of the Utrecht Work Engagement Scale
WOS:	Web of Science

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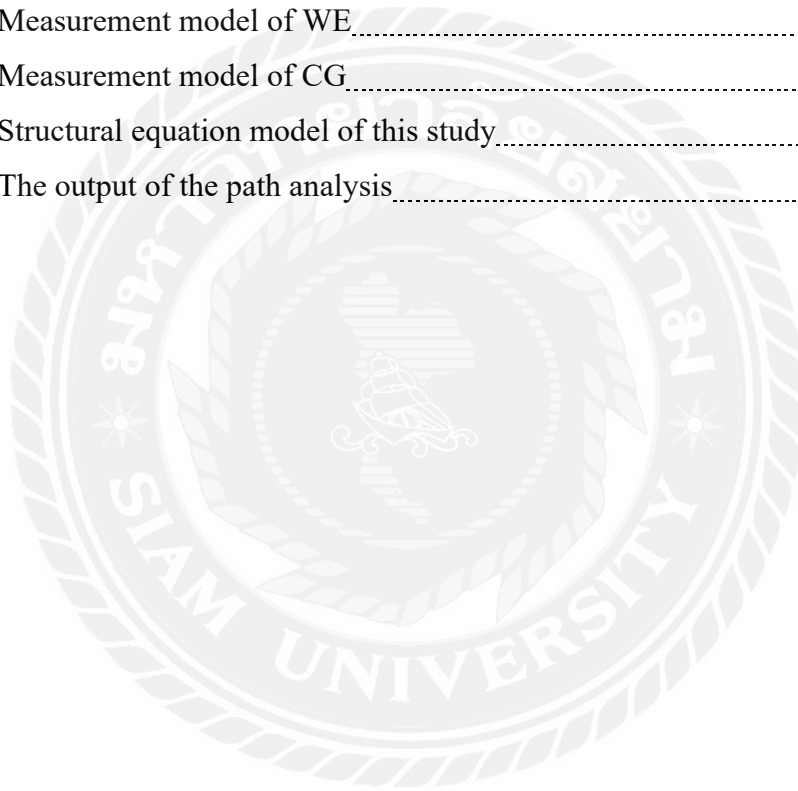
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Chapter 1

Introduction

1.1 Background of the Study

With a history of five thousand years, China has accumulated numerous excellent traditional Chinese cultures. China is now talking about the Chinese cultural renaissance and enhancing the influence of Chinese culture continuously, which is to attach importance to the value of excellent traditional Chinese culture. As a kind of historical experience, Chinese traditional culture is very farsighted. The mainstream and pillar of Chinese traditional culture is Confucian culture, and the core of Chinese cultural characteristics is harmony.

Confucianism is not only one of the most important parts but also one of the most influential quintessential cultures in Chinese traditional ideology and culture. Many thoughts in Confucianism have positive significance to modern life and the development of human culture throughout many parts of Asia and many parts of the world. Harmony is a representative concept in Chinese traditional culture. To realize harmony is a beautiful ideal and aspiration pursued by mankind in ancient times. At the same time, harmony is one of the contents of socialist core values, which was put forward at the 18th National Congress of the Communist Party of China in 2012 and is widely accepted and dominant values by employees at all levels. Core values are the core of organizational culture.

Harmony is not only the highest value standard of Confucianism but also the highest value principle of the whole traditional Chinese culture (Zhang and Cheng, 1997). Confucian harmonious culture provides important ideological resources to construct a socialist harmonious society today and can still play an irreplaceable important role if being used for reference scientifically and reasonably (Zhan, 2005). Professor Yu Dunkang, a famous Chinese philosopher and educator, pointed out that

the core value of Sinology is harmony, and Chinese culture is to replace struggle with harmony. Such an idea has set a model for the whole world. Harmony is an idea of universal value, which makes China play a very important role in the development of the world in the 21st century (Lu, 2014). Tang, Yijie, a famous contemporary Chinese philosopher, master of Sinology, historian of philosophy, and educator of philosophy, once pointed out that "if people can pay more attention to the Confucian concept of universal harmony, can interpret it to adapt to modern life, and put it into practice, the development of human society today and in the future can be greatly achieved" (China Confucius Foundation, 1996).

Simon and Zhan (2004) mentioned that "management is often used as the art of 'getting things done'" (Zhang, 2009). In this description, management activities depend on the organizational environment. Organization can be seen as composed of human and material elements. The fundamental purpose of management is to improve the economic efficiency of systems with human participation through better division of labor and cooperation.

From the perspective of management, if Chinese traditional culture is divided into two systems, namely, the people-people system and the people-objects system (Chen and Li, 1987), Confucian traditional culture attaches more importance to the control and management of the people-people system. Modern management culture emphasizes the personality development of "people" in the organization and the satisfaction of social and psychological needs, as well as spiritual enrichment, harmony, and intimacy of interpersonal relations. And these are concentrated in the organizational culture or corporate culture. Modern organizations may choose some thoughts of traditional culture as organizational culture factors. As we all know, Confucian culture is representative of traditional culture. For modern organizations, Confucian harmonious management thought is the best choice in the aspects of attaching importance to people's self-cultivation, moral concept, cultivation of value

concept, the harmony of interpersonal relationships, and satisfying people's social psychological needs (Chen and Li, 1987).

Confucian harmonious thought not only has great value to modern management but also has positive significance to the management of universities. A harmonious campus is an ecological system that conforms to the laws of human nature and education. A harmonious campus is a kind of school idea, a kind of management model, and a kind of humanistic environment. The significance of mobilizing all positive factors to build a harmonious and civilized campus environment will remain in the healthy development of education.

There are five basic elements of campus harmony, which are "people", "things", "objects", "scenery", and "feelings". The most critical factor is "people". Whether people are harmonious or not determines the success or failure of campus harmony. The people on the campus are mainly composed of staff and students, and the staff of universities are divided into leading cadres who represent the university organization and faculty members. Students are the objects of management, and university staff have two identities, both managers and objects of management. To build a harmonious campus, it is needed to do an in-depth study on the problem of "people". The Confucian harmonious culture has a high research value in the construction of harmonious campuses in universities.

National policies guide local universities to transform into application-oriented universities. The industry needs the output of highly skilled talents and high-quality social services. Application-oriented universities support regional economic and social development. Staff play a key role in the high-quality development of application-oriented undergraduate universities. How to ignite their work enthusiasm, stimulate their inner potential, and make them develop synchronously with the university is an important subject facing the administrators of universities (Ding, 2020). The development of "Double First-Class" and high quality is attached

importance in Chinese universities. As we know, the development of a university depends on its teachers, who put forward higher requirements in scientific research. At the same time, universities are constantly reforming their teaching, which is a new challenge for teachers. The requirements for university staff are also higher and higher. However, the development of universities cannot be separated from their staff. The staff also needs career growth. At present, some universities blindly ask staff for teaching results, scientific research achievements, etc., without considering what to offer to the staff. In this case, the staff in return don't engage in their work or even have the idea and practice of mudding through, which is not good for the development of individuals and universities. The research on what kind of management culture the university organization should provide is of great significance for the harmonious and high-quality development of the university.

According to Maslow's Hierarchy of Needs (Maslow, 1954), self-actualization need is the highest pursuit. There are many studies about career growth, but there are very few at present from the perspective of management culture. The study of management culture is basically from macroscopic aspects and little from micro aspects. But the management culture of each country and each industry is very different, only at the micro level of research, can better guide the organization to manage and improve competitiveness and sustainability. There are many studies on the Confucian management culture in corporate governance and leadership, but there are few kinds of literature on the career growth of university staff, and universities do not pay enough attention to the needs of staff's career growth. Work engagement is a kind of positive behavior. At present, there is a lack of research on the relationship between employee positive behavior and career growth and even less research on the relationship between these three. Individuals are indispensable resources for the development of organizations, it must be studied from the perspective of individual-organization fit to improve individual and organization. University administrators should pay enough attention to the career growth needs of

employees, provide more favorable organizational conditions, give them opportunities to improve themselves, let them improve work performance, and actively contribute to the development of the university. Hence, this study pays more attention to the influence of Confucian management culture in the organization on the cognition, value, and behavior of staff, as well as the influence on the career growth of an individual. From the perspective of Confucian harmony, this study hopes to provide more energy to staff from organizational management culture.

1.2 Significance of the Study

The modern organization focuses on people. Every working individual exists in an organization and is affected by the organizational management culture. There are only two goals for an individual in an organization: one is to meet the needs of the organization, to better engagement in work, to produce high-quality performance, and to satisfy the organization; the other is to meet the needs of an individual, to have better career growth, to improve the happiness index, and to satisfy himself or herself. To promote harmonious development, university organizations must make staff have harmonious career growth because the staff takes career growth as their career pursuit goal. The most important goal of the organization is how to select, retain, and employ people, and how to provide better service for individuals from the perspective of the organization so that the staff can actively work and meet the needs of career growth.

The study of the influence of organizational culture on individual values, attitudes, and behaviors promotes the study of the relationship between people and organizations, which provides strong support and reference for the process of selecting, employing, and retaining employees in organizations (Zhang, 2015). Culture also provides the basis for the harmonious management and development of the organization. The management wisdom representing Oriental culture is embodied in the harmonious management theory that attaches importance to the "human" factor. The core of management is to fundamentally improve the initiative of organization members, according to Oriental traditional wisdom, and build organizational culture and incentives that can stimulate the initiative and enthusiasm

of members based on the characteristics of "people" in the organization. The application of Confucius management culture, which represents the Oriental culture, to the organization can positively influence the individual's work engagement and career growth within the organization.

The study will provide crucial information that can be applied in organization management. The details are as follows.

1. Confucius management culture, which is people-oriented, etiquette promotes harmony, and rules of virtue, and appoints people by abilities, can promote the harmonious management of universities, promote the construction of a harmonious campus, and reflect the balance of educational ecology. From the perspective of Confucius harmonious management culture, this study explores the theory of individual career growth and further reveals the influence mechanism and specific action process of Confucian culture on individual career growth, which guides universities to further improve the content of organizational culture.
2. The study helps promote the harmony of body and mind among members of the organization, shape a sound personality, promote interpersonal relations, enhance organizational cohesion, form a good organizational culture, and promote bringing in talent to universities.
3. In practice, the study of the career growth of staff from the perspective of Confucian culture is not only related to the career development of staff in universities but also related to how to cultivate and retain backbone and excellent talents in universities, which is of urgent and important practical significance both for universities and individual staff. Meanwhile, the study puts forward feasible suggestions to guide realistic problems. And it will have a certain guiding effect on the organizational management of universities and have a reference effect on other similar universities.
4. This study will make university administrators understand the urgency of creating a harmonious atmosphere, promoting a better fit between staff and university to achieve win-win and common development, from the perspective

of organizational culture, universities need to establish the psychological foundation of psychological cohesion and harmonious development for staff, respect their career growth needs, provide positive growth opportunities, and promote staff to show themselves, develop themselves, and realize their value.

5. This study will make university administrators understand the necessity to provide organizational support mechanisms, think about what the employee wants, urgent what the employees worry about, provide sufficient teaching and research resources, establish incentive mechanisms to encourage staff to develop their talents, provide learning resources and access to further study, focus on improving the individual quality of staff to meet their demands for knowledge and progress, enhance their work enthusiasm and initiative to the university. A strong team of university staff will be built.

As a whole, this study makes university organizations understand the importance of organization is great and the influence of Confucious management culture on staff is great. Organizations should provide support mechanisms to encourage their staff to engage in the work. Organizational management cannot be separated from Confucius management culture. On the other hand, this study lets staff know that in addition to Confucius management culture and organizational support, their work engagement also positively affects career growth. The staff who want to grow their career must engage in their work. This is the significance of two-way.

1.3 Statement of the Problem

The topic of this study was raised during a period of downgrading the management of COVID-19. Most people worked from home during the pandemic, the absence of organizational discipline and an unsafe environment led to scattered work attitudes among the employees, and they could not see any prospects or goals for career development. Each organization must get back on track after the pandemic. How to make employees engage in work as soon as possible, and how to make employees get better career growth has become the biggest challenge facing

the organization. In this case, the management culture of the organization is especially important. In the post-pandemic, organizations need to manage their employees and develop their organizations with a harmonious culture. As it happens, Confucius management culture, which aims at harmony has been chosen.

In the organization, special attention should be paid to the human factor. People in the organization will, according to their perception and driven by motivation, carry out cognitive processing on the organization's management system and management mode and constantly revise their behavior. As we all know, to improve performance, it is necessary to improve the enthusiasm and engagement of employees. The fulfillment of psychological contracts between organizations and individuals is a way to improve work engagement, including the university organizations. There is a reciprocal exchange between organizations and individuals, and not only individuals should work for organizations, but also organizations should consider supporting individuals' career growth.

1.4 Research Questions

This study is mainly to explore the application of Confucius management culture in university organizations. The research question is " How does Confucius management culture affect employees' work engagement, how does it affect employees' career growth, and what role does psychological contract fulfillment play in the above relationships among public universities in Shandong Province in China?" Based on the research objectives, the research question can be divided into the following five sub-questions:

1. What are the components of Confucius management culture and what items are used to measure Confucius management culture?
2. What is the effect of Confucius management culture impacts employees' work engagement across each public university in Shandong Province?
3. What is the effect of Confucius management culture impacts employees' career growth across each public university in Shandong Province?

4. What kind of relationship does work engagement have with career growth in public universities in Shandong Province?
5. What role does psychological contract fulfillment play in the path of relationship from Confucius's management culture to work engagement and from Confucius's management culture to career growth?

1.5 Objectives of the Study

The study aims to analyze the impact of Confucius management culture on work engagement and career growth in public universities in Shandong Province. To achieve this aim, the study focuses on the following specific objectives.

1. To investigate the composition and measurement of Confucius management culture.
2. To discover the effect of Confucius management culture on employees' work engagement across each public university in Shandong Province.
3. To discover the effect of Confucius management culture on employees' career growth across each public university in Shandong Province.
4. To explore the relationship between work engagement and career growth across public universities in Shandong Province.
5. To explain the path analysis of Confucius management culture through psychological contract fulfillment that influences work engagement and career growth.

1.6 Scope of the Study

This section outlines the scope and limitations of the research conducted on the effects of Confucius management culture on work engagement and career growth: a case of public universities of Shandong province, China. The study aims to explore the positive role of Confucius management culture in university management and to demonstrate the importance of Confucius management culture and better spread Confucius management culture by verifying the positive impact on work

engagement and career growth. It can provide feasible guidance for the harmonious and sustainable development of university organizations.

This study is centered on three thematic areas of Confucius management culture, work engagement, and career growth within public universities in Shandong province. The study employs a mixed method to gather and analyze data from full-time teachers and administrative staff of public universities in Shandong province. Key concepts such as Confucius management culture, work engagement, psychological contract fulfillment, and career growth will be central to the analysis.

While the study aims to provide valuable insights into the effects of Confucius management culture on work engagement and career growth, it is important to note certain limitations, including self-reporting of respondents, static cross-section data, and geographical constraints. This study is limited to only public universities in Shandong province. Other public universities outside Shandong province and private universities within Shandong province will not be included in this study. Nonetheless, the findings of this research are expected to contribute significantly to the understanding of the effects of Confucius management culture on work engagement and career growth and its implications for other types of universities in Shandong Province or universities in other provinces.

1.7 Definition of the Terms

This study gives definitions of four terms as follows.

Confucius management culture	Confucius management culture refers to the behaviors that bind the people of an organization together using the ideas of Confucius, the core of which is to take Confucius culture as the value of management.
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- Psychological contract fulfillment** The psychological contract fulfillment is the evaluation of the degree to which the organization provides coordination for what the individual expects to gain from the perspective of employees.
- Work engagement** Work engagement is a positive, fully emotional, and cognitive state of mind, which is characterized by vigor, dedication, and absorption.
- Career growth** Career growth refers to the rate at which individuals move up a series of jobs within an organization that are more valuable to them.

1.8 Structure of the Study

This section sets out an outline of the main chapters of the study, explains the contents of all chapters, provides a clear direction for this study, and the chapter structure of this study is shown in Figure 1.1.

Chapter One: This chapter mainly puts forward the research question. On the premise of describing the practical background and the theoretical background, this paper puts forward the problems to be studied and expounds on their theoretical and practical significance. This chapter also highlights the research questions, research objectives, and the research scope, introduces the concept of related terms, and concludes with the chapter arrangement of the study.

Chapter Two: this chapter is a theoretical literature review that aims to discuss the relationship between Confucius management culture, work engagement, and career growth, and how Confucius management culture impacts work engagement and career growth by taking detailed insight from the existing literature. This chapter commences with the theoretical review linking the concepts with the theories. It reviews Confucius management culture theory, work engagement theory, career growth theory, and psychological contract fulfillment theory. This chapter also summarizes the existing relevant research on these four variables, analyzes and comments on them, and evaluates the existing cross-research among them. Finally,

the conceptual framework of the study is presented.

Chapter Three: This chapter explains the methodology and methods of study. The methodology section treats a mixed method as a general paradigm for presenting the theory. A research design is developed, based on the methodology, and systematically follows the analysis step by step. This chapter explains the methods of the scientific study in detail, including population and samplings, data collection, variables analysis, and statistical methods of data analysis. This chapter also prepares questionnaires and purifies the items using the data from a per-survey.

Chapter Four: This chapter analyzes the sample data and discusses the results of the work. The analysis includes four parts: the preliminary analysis, confirmatory factor analysis (CFA), the verification analysis of the hypothesis, and the qualitative analysis part. Firstly, this chapter introduces preliminary analysis, including basic statistics information of respondents, and descriptive statistics such as mean, standard deviation, and percentage distribution of constructs. It also demonstrates validity and reliability by conducting CFA, inter-factor correlation, average variance extracted (AVE), and composite reliability (CR). Model fitting of measure models and structure models are carried out. Then, Hypothesis testing analyzes various influence relationships between variables and verifies whether the hypothesis is supported or not. Finally, the qualitative method part of the study includes in-depth interviews, synthesizing the opinions of relevant educators in Shandong province about the impact of implementing Confucius culture in universities, discussing the influence relationships between variables, and sorting out the key arguments of the research.

Chapter Five: The conclusion chapter summarizes and analyzes the results of the previous chapters and puts forward the overall conclusion of this study. It also discusses the theoretical contribution of the research and its guiding significance to practice. Finally, this chapter puts forward policy suggestions, research limitations, and the direction of further research.

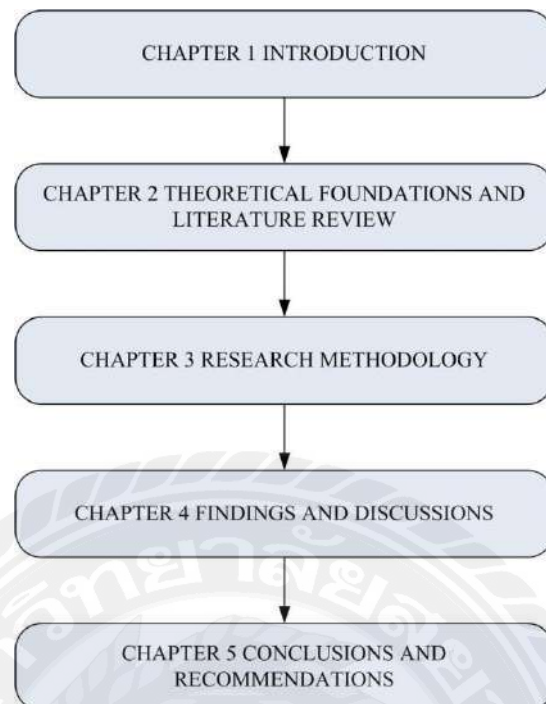


Figure 1.1 Chapter structure of this study
(Resource: Researcher, 2023)

Chapter 2

Literature Review

2.1 Introduction

The chapter discusses the effect between Confucius management culture (CMC), work engagement (WE), and career growth (CG) by taking detailed insight from the existing pieces of literature. The chapter expounds and reviews Confucius management culture theory, work engagement theory, career growth theory, and psychological contract fulfillment theory. This chapter also summarizes the existing relevant research on Confucius management culture, psychological contract fulfillment (PCF), work engagement, and career growth analyzes and comments on them, and evaluates the existing cross-research among them. Finally, the hypotheses of the study are formulated according to the research objectives and questions, and the conceptual framework is constructed. It is important to note that according to Yao et al. (2020), the observations on Chinese careers in the context of Confucius culture (at least the ones published in English-language journals) are mainly published by Chinese scholars who have been educated or worked in China. Therefore, the introduction of Confucius management culture and the review of the career study in the context of Confucius management culture in this paper mostly use articles published by Chinese scholars.

2.2 Theoretical Framework

2.2.1 Confucius Management Culture Theory

It is generally believed that management culture is a subculture derived from the organizational culture system. Peter F. Drucker, the father of modern Management, explicitly linked management with culture in his book *Management: Tasks, Responsibilities, Practices* in 1973, and believed that management is not only a discipline, but also a culture with its values, beliefs, tools, and language. As the standards and behaviors that bind the people of an organization together, management culture mainly refers to management thought, management philosophy, and management style, its core is the value of management, which represents the

goal, belief, philosophy, ethics, and values of an organization, and is the most core and essential component of management spirit. The culture of a certain society, nation, and cultural circle will inevitably penetrate and reflect in a certain management process. Management culture is the embodiment of certain cultural characteristics in management, so Confucius management culture is the embodiment of Confucius cultural characteristics in management.

Confucius management thought is an important component of traditional Chinese management thought and constructs a harmonious and unified management theory system. Confucius management culture is mainly embodied in the management of humans and summarized in four aspects, which are people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities. The management culture of an organization imperceptibly socializes members, so that members can achieve physical and mental harmony, and interpersonal harmony, and finally build a harmonious organization and a harmonious society. Next, the four aspects of Confucius management culture will be elaborated.

People-Oriented Thought

People-oriented means the survival of human beings is fundamental or using people as the capital of social success. The "people" in "people-oriented" describes the species of mankind or an individual of a group.

The first is the concept of man. In philosophy, 'man' is often opposed to two things, one is God, the other is things, and man is relative to God and things. Therefore, put forward the people-oriented, either as opposed to the God-based or as opposed to the object-based. Humanistic thought in Chinese history mainly emphasizes that people are more valuable than things, and only people are more valuable in all the universe. The second is the concept of 'Ben'. In philosophy, 'Ben' can be understood in two ways, one is the 'origin' of the world, and the other is the 'root' of things. People-oriented, not the 'original', is the 'fundamental', It is the opposite of the 'end'. People-oriented is a philosophical axiological concept, not a philosophical ontological concept. The idea of putting people first is to answer the question of what is most important, fundamental, and worthy of our attention in the

world. Compared with God and things, people are more important and more fundamental.

The idea of people-oriented management is embodied in Confucianism. *In The Analects of Confucius* records, the stable caught fire. Confucius asked if anyone was hurt. And he did not ask the horse. This shows that in the view of Confucius, people are more important than horses. In modern society, no matter in the West or China, as a development concept, the thought of humanism is mainly put forward relative to the thought of things. Xunzi believes that human beings are the noblest in the world. Man's subjective initiative plays a decisive role in dealing with the relationship between man and society, man, and nature, and maintaining harmonious development (Luo, 2016). A strong people-oriented approach is needed to re-examine human resource practices in the context of rapidly changing organizations, work, and the way work is organized (Van Dierendonck, 2015). Bergman et al. (2006) presented the modern people-oriented approach from theoretical and methodological facets. The people-oriented theoretical view was of great significance to the management of an organization. The management of people is the most basic and important in an organization. Organizations treat everyone as the most important, fundamental, and worthy of organizations first to be considered, and people-oriented is the guiding ideology and foundation to achieve harmonious management.

Etiquette Promotes Harmony Thought

"Li Zhi Yong, He Wei Gui" (礼之用，和为贵) in *The Analects of Confucius Xue Er* mains that a major function of etiquette ('Li') is harmonization, that is, everything is done according to courtesy so that the relationship between people is properly reconciliation, peaceful coexistence, mutual respect, and integration. Etiquette generally refers to social rules and regulations and moral norms. The etiquette of Confucius refers not only to the "rites of Zhou", etiquette and ritual but also to the moral norms of people. "He" is harmony. The application of etiquette should be based on harmony. Harmony advocated by Confucius is not unprincipled. Confucius advocated to use of etiquette to determine people's social identity and standardize people's behavior and believed that the indoctrination of

etiquette could make the organization and social relations reach an orderly and harmonious state of coordination. This Confucian thought and value orientation is enlightening to the construction of harmonious organization and harmonious society today.

Mencius attached great importance to harmony (li, 2008), commented that the harmony of people is the most important of the three conditions for fighting, and said, "The advantage of geographical location is better than the good time, and human harmony is better than the advantageous geographical location." In *Mencius· Gongsun Chou* (Xia) the weather and seasons conducive to fighting are not as good as the geographical situation conducive to fighting, and the geographical situation conducive to combat is not as good as the popular desire and internal unity in combat. Mencius emphasized the harmony of social groups and advocated realizing the harmony of interpersonal ethics through the practice of etiquette. Xun Zi also concurs with Confucius on the importance of etiquette to harmony (li, 2008), Xun Zi said "when following etiquette is one harmonized and regulated" in *Xunzi· Xiushen* and "etiquette regards conforming to the people's heart as the fundamental" in *Xunzi· Dalue*. Xun Zi argues that the purpose of formulating an etiquette system is to conform to the wishes of human beings for an orderly, harmonious, and stable society. Etiquette mainly regulates and guides people's behavior, which can be used from country to individual. Confucius believed that if a country wanted to be harmonious and stable, it must conform to etiquette. Confucius said "guiding the people with morality and assimilating them with ritual, the people will not only feel ashamed but will also feel satisfied" in *The Analects of Confucius·Wei Zheng*, where etiquette is put forward as a basic element of the state. From a small perspective, etiquette is to cultivate people's sentiments, so that people can broaden their vision, and know how to regulate their behavior. Etiquette puts forward positive and guiding requirements on the behavior and words of members of society.

Used in organizations, the starting point of the methodology of etiquette to solve problems is individual cultivation, and the endpoint (the final goal) is harmony between individuals and groups. In the process of managing members, the emphasis

is on individual compliance with ethics and organizational norms. Both managers and other employees should abide by etiquette, and self-control, not be reckless, and form organic coordination with the development of the organization. It is a strategy to achieve harmonious management to promote harmony with etiquette.

Rules of Virtue Thought

It is one of the most important basic characteristics of Chinese traditional political philosophy to govern by virtue and rule by virtue. Confucius promoted the notion of "Rule by virtue" which referred to the goal of building a society governed by virtue. When people have virtue, they are civilized; When they are civilized, they are in harmony (Li, 2008). In *The Analects of Confucius ·Wei Zheng*, Confucius said, "To govern a country by moral principles is like the North Star, which is in a certain position; all the stars revolve around it." Confucius advocated moral education as the principle of governing, the goal of which was to build a harmonious society in which people cared for each other and were cared for. In such a caring society, people live in harmony. This is a valuable part of Confucius theory.

The thought of "rule by virtue" put forward by Confucius is the result of deep reflection on realistic politics and a plan of governing the country designed to adapt to the trend of social development. Rule by virtue mainly revolves around two aspects, one is the relationship between the politician and morality, and the second is how to deal with how to manage the common people. Confucius repeatedly emphasized the relationship between political and moral cultivation and national political stability as well as the role of moral demonstration for the common people. Confucius said in *The Analects of Confucius·Zi Lu* that "When the ruler is virtuous, even if he does not issue an order, the people will carry it out. On the contrary, people will not obey orders even if they have bad morals." For the problem of public management and education, the ruler should first meet the survival needs of the people, solve their most basic living conditions, and then improve their moral cultivation. The core point of the two problems is the emphasis on the ruler's self-cultivation as a prerequisite for the realization of the rule of virtue. The thought of rule by virtue laid the keynote of Chinese traditional political thought and culture. No matter whether Zhongshu Dong's cosmology or the Song and Ming Neo-

Confucianism's ontology, only demonstrated the importance and inevitability of rule by virtue on the theoretical level. Today, although the ancient rule of virtue thought cannot be directly used, its ideological essence and reasonable core still have significant value significance, it can provide the necessary ideological resources for the organization of harmonious management.

At the Great Hall of the People on March 17, 2018, Xi Jinping pressed the Constitution with his left hand and raised his right fist as he read the oath to nearly 3,000 delegates, saying "virtue is fundamental to being human." (ZuozhongTongzhan, 2022) This sentence came from *DaXue*, and the original sentence is "De Zhe, Ben Ye." Xi (2014) pointed out that virtue is of fundamental significance to individuals and society, and the first thing to do is to worship virtue and cultivate oneself.

In the same way, the administration of organizational affairs should be governed by virtue. A person's talents be used in the right place and have value if he understands great morality, kept public morality, and strict private virtue. Managers should be virtuous, and make themselves examples first, to convince the members of the organization. It is the wrong approach is that the style of managers is not democratic, only managers have the final say, and managers do not listen to the opinions of the organizational members. The right approach is for managers to allow harmony without sameness and harmony in diversity. Confucius advocated that a gentleman could listen to different opinions from the public and unite most people. Virtuous managers should allow their members to express different views, and fully mobilize the enthusiasm of the members of the organization so that they can contribute their talents to the position. A manager's virtue can affect the enthusiasm of the members of the organization. Rules by virtue is the measure to realize harmonious management.

Appoint People by Abilities Thought

In traditional Chinese culture, the thought of employing people can be summarized by the following idioms: "ZhiRenShanRen" (知人善任), "RenRenWeiXian" (任人唯贤), "WeiCaiShiJu" (唯才是举), "RenJinQiCai" (人尽其

才).

"ZhiRenShanRen", "RenRenWeiXian", and "WeiCaiShiJu", mean that discovering able people, choosing them according to their ability, and only competent people should be appointed and recommended (Baiké, n.d.). "RenJinQiCai", means a man will do their best using his talent. An organization must be good at discovering talents, recommending talents, uniting talents, and using talents, to promote the continuous development of the career. The most important principle of employment is to appoint people on their abilities. The organization is required to select talents, not consider the status of the talent, the background, and the relationship with their own, dare to use the talent with shortcomings, and can be able to use people without a doubt, meaning if you use a man, don't suspect him and if you suspect him, don't use him.

Confucian thought of appointing people by abilities can be reflected in the sentence "Assess someone's ability to do something before assigning him to do it" which came from *The Analects of Confucius · Zi Lu*. Appointing people based on merit is the guiding ideology of the Confucian selection of people. In *The Analects of Confucius · Xian Jin*, Confucius preferred to choose those who had learned etiquette but had no status, rather than choose those who had not learned etiquette but had status. Xun Zi said in *Wang Zhi* that it is not necessary to consider the rank of official positions when appointing people. Respecting those who are below you is a basic idea of Confucianism in choosing people. Confucianism believed that etiquette was a good norm for benevolence, and repeatedly pointed out that talents should be obtained by respecting them. From the perspective of modern psychology, everyone has a psychological need to be respected. The practice of respecting those who are below you is in line with psychological principles. How to appoint people after choosing them? The Confucian principle of appointing people is to use their strengths. Confucius said in *The Analects of Confucius* "Don't ask a man to be perfect", which means a person has advantages and shortcomings, you will not choose talent with the vision of perfection, Confucius advocated appointing people by abilities in the recommendation criteria. As Xun Zi suggested in *Xun Zi · Jun Dao*, ranking a man according to his virtue and measuring his ability before giving

him office. It is the most important principle of employment. The practice of discovering, recommending, and employing people who have abilities can promote the continuous development of the organization. The way to realize harmonious management is to appoint people by abilities.

Summary

It is easy to do well in an organization if it is people-oriented. It's like when the ground is fertile, it's easier for trees to flourish. " (Zhu, 1983). Etiquette belongs to the external norms of behavior, and virtue belongs to the requirements of internal cultivation. From the above analysis, it can be known that none of the four aspects of Confucius management culture is indispensable. The development of the organization needs a harmonious and stable environment, and so does the development of the individual. This section introduces the four aspects of Confucius management culture in detail, emphasizing that everyone in the organization should abide by the etiquette and improve virtue, the organization should be people-oriented, appoint people by abilities, and finally achieve the goal of harmony. Confucius management culture is not only a precious heritage but also a valuable resource that can inspire us. The application of excellent management culture to the organization provides a theoretical basis from the macro level and courses of action from the micro level, which can better guide the effective management of the organization.

Confucius culture is a collection of excellent management ideas from ancient China, expresses an essential understanding of the laws of nature and human society in Chinese culture, and extends to many other places in Asia and around the world. The study examined domestic and international research on Confucianism through the number of articles published in the two databases from 2012 to 2022. Using the keywords "Confucius", "Confucian", and "Confucianism", related studies were retrieved from WOS journals. The number of published papers was 2,119. Using the keywords "孔子" (Confucius), "儒家" (Confucian), and "儒学" (Confucianism), 89,443 literature were received from CNKI journals in the same period. The study of Confucianism outside China shows an obvious uptrend, and the study of Confucianism in China has been continuously focused on. Scholars inside and

outside China have never stopped studying Confucius management culture. Through continuous development and transformation, the value of excellent Confucius management culture is self-evident.

Harmony is foundational to Confucianism (Metz, 2016). In the view of Confucianism, all pressing issues, from micro to macro, can be summed up as harmony or disharmony. Confucius pays attention to harmony, and domestic scholars study CMC from different views. Xiong and Zhu (2017) expounded on the contemporary value of Confucian harmony. The influence of Confucius cultural thought is reflected in all aspects. In the field of higher education management, scholars mainly focus on the quality management of universities (Liu, 2008), management innovation of universities (Chen, 2008), and the construction of unique features of universities (Li, 2011). The rich legacy of Confucianism can provide Chinese teachers with the necessary moral strengths and philosophical convictions (Qu, 2022), which has a great influence on the personality formation of college students (Zhang, 2012). The excellent traditional Chinese culture should be used to cultivate enterprise culture. With China's Belt and Road Initiative, more than 550 Confucius Institutes have been established in more than 160 countries and regions. The study of Confucius culture has been internationalized with the export of culture, there is a growing demand for harmony around the world. Harmony is a common value in Western and Asian countries (Chin et al., 2021). Scholars have begun to use Confucian values to understand individual and organizational behaviors in China. For example, Wong et al. (2010) argued that Confucian thought influences organizational management styles, as well as employee attitudes and behaviors such as organizational citizenship behavior and job satisfaction (Chin, 2015). Warner (2010) believed that Confucian culture has a great influence on China's HRM methods, such as an emphasis on collective responsibility and harmony at work, at the same time, interpersonal harmony has a great impact on the creativity of Chinese employees (Chen et al., 2015). The use of Confucian values in these empirical studies is encouraging. Confucian harmony is essentially a fusion of different elements, where differences are not only respected, but also integrated, which can be said that "Harmony is a positive process in which different elements are brought into

a mutually balancing, cooperatively enhancing, and often commonly benefiting relationship" (Li 2014).

Through the literature review of Confucius management culture, the excellent Confucius culture has been integrated into our lives and has a great influence and application to various industries, various scopes, and countries. However, scholars regard Confucius management culture as an abstract values-based concept that can only be studied qualitatively. It is weak in quantitative research, the studies on the measurement of Confucius management culture are scarce. Tang (1997) pointed out that traditional Chinese culture is often content to put forward some meaningful ideas without considering their operability. Therefore, the case of "be an armchair strategy" should be abandoned and excellent culture should be transformed into real power. Gravetter and Forzano (2018) pointed out that although constructs cannot be directly observed and measured, external factors and behaviors that are theoretically associated with constructs can be observed and measured. The quantitative measurement of Confucius management culture is one of the objectives of this project. This study explores and determines the connotation and characteristics of Confucius management culture from four aspects: people-oriented, etiquette promotes harmony, rules of virtue, and appoint people by abilities.

2.2.2 Work Engagement Theory

Kahn (1990), who first proposed the concept of engagement in work, defined personal engagement as the harnessing of organization members' selves to their work roles. In Kahn's opinion, engagement was the use of their role in the work, in the process of dynamic and mutual transformation between individuals and work roles, showing physical, cognitive, emotional, and psychological performance. When personal engagement is high, individuals will devote physical and mental efforts to the role behavior and self-expression in the role; On the contrary, when personal engagement is low, individuals will pull themselves away from the work, to avoid creating the performance required by the work role and may have the turnover intention.

Schaufeli et al. (2002) took a different perspective, arguing that work burnout

and work engagement are opposite concepts and should be measured independently with different tools. He took work engagement on a more understandable classification system of pleasure and activation, the two dimensions of well-being, and adopted another approach to define work engagement, defining work engagement as a positive, completely emotional, and cognitive state of mind characterized by vigor, dedication, and absorption. Vigor refers to the individual who has abundant energy and good mental toughness, voluntary efforts for their work, and not tired, and in the face of difficulties can persevere; Dedication refers to the individual who has a strong sense of meaning, pride, and is full of enthusiasm for work, can wholeheartedly into the work, and the courage to accept the challenges in the work; Absorption is characterized by the individual's concentration in his work, the ability to take pleasure in it, the sense that time passes quickly and the reluctance to disengage from the work. work engagement was participation in daily life, commitment, passion, absorption, commitment, concentration, and energy (Schaufeli, 2012; Akif, 2016). Subsequent studies have tended to consider engagement as an independent concept to be more specific, work engagement represents a positive and spirited mentality. The Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002), which included three evaluation items of engagement defined by Schaufeli: vigor, dedication, and absorption, has been verified in many countries (Bakker and Demerouti, 2008) including China (Zhang and Gan, 2005), and was widely applied in quantitative studies of engagement (Schaufeli and Bakker, 2010).

Britt et al. (2001) took Schlenker et al. (1994) triangular model of responsibility as the theoretical basis, work engagement is thought to include perceived responsibility, commitment, and perceived influence on job performance. Accordingly, work engagement is defined as an individual's strong sense of responsibility and commitment to his work performance, and he feels that the quality of work performance is closely related to himself. "Mobilize the enthusiasm of employees" is to improve the individual attitude to work and increase work engagement. Employees with a positive and identification attitude towards work tend to have a high work commitment, high attendance rate, and low turnover rate;

however, employees who lack a sense of identity with their work often show low enthusiasm, high absenteeism rate, and high turnover rate.

The definition of work engagement by other scholars includes that work engagement is the positive attitude of employees towards their work, in which they are energetic, committed to their work, and passionately engaged in their work (Kanten and Yesiltas, 2013), and is a positive behavior or mental state that led to positive outcomes, effective, and positive cognitive states, vigor, dedication, and absorption (Roozeboom and Schelvis, 2015).

The research of the above scholars has rich connotations of work engagement, which mainly focuses on personality characteristics, mental state, attitude, and behavior typology (Lyu, 2020). The construction and measurement of work engagement are summarized in Table 2.1.

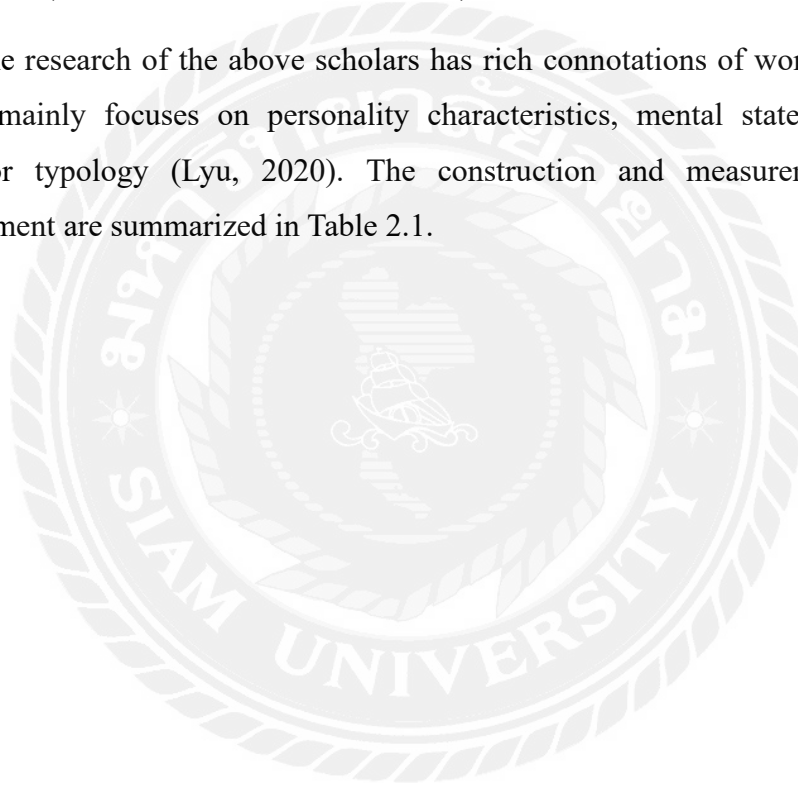


Table 2.1 Summary of construction and measurement of work engagement

Scholar	Measurement questionnaire	Dimensions of measure	Descriptions
Kahn (1992)		Physical, Cognitive, and Emotional	Each of these structures asks (or empowers) organization members to involve more of their selves, in terms of sharing thoughts, feelings, and ideas in collaborative settings.
The Gallup Organization (1992-1999), Harter et al. (2009)	Gallup Workplace Audit (GWA)	The survey contains 12 questions.	Total 12 items, which can best reflect the four indicators of employee retention, productivity, profitability, and customer satisfaction (Buckingham and Coffman, 2014).
Schlenker et al. (1994)	the Triangular Model of Responsibility (TMR)	Identity, Prescription, and Event	Responsibility acts as a psychological adhesive that joins the three elements and provides a basis for judgment and sanctioning.
Britt et al. (2001)		Perceived responsibility, Commitment, and Perceived influence on job performance	There are 6 items with $\alpha = 0.88$, which overemphasize the motivational role of responsibility and job identity and deviate from the concept of engagement itself.
Rothbard (2001)		Attention, and Absorption	focused only on the cognitive dimension of work engagement as defined by Kahn (1990).

Scholar	Measurement questionnaire	Dimensions of measure	Descriptions
Schaufeli et al. (2002), Schaufeli and Bakker (2003)	the Utrecht Work Engagement Scale (UWES)	Vigor, Dedication, and Absorption	The vigor dimension has six items with $\alpha = 0.72$, the dedication dimension has five items with $\alpha = 0.89$, and the absorption dimension has six items with $\alpha = 0.72$. UWES is widely cited.
Shirom (2003)	Shirom Melamed Vigor Measure (SMVM)	Physical strength, Emotional energy, and Cognitive liveliness	Criticized the UWES model and argued that engagement should only focus on vigor.
May et al. (2004)		Cognitive, Emotional, and Physical energy	Three psychological preconditions (security, meaning, and availability) were first empirically studied, based on Kahn's (1990) work engagement concept.
Zhang and Gan (2005), Wang et al. (2009)	UWES (Chinese vision)	Vigor, Dedication, and Absorption	The Chinese version of UWES was formed by revising UWES with different samples, which has relatively high reliability and validity.
Schaufeli et al. (2006)	UWES – 9	Vigor, Dedication, and Absorption	UWES-9 is a shortened version of UWES. All measurements were scored on a Likert-style 7-point scale.

Scholar	Measurement questionnaire	Dimensions of measure	Descriptions
Maslach and Leiter (2008)	Maslach Burnout Inventory General Survey (MBI-GS)	Exhaustion, Cynicism, and Lack of Professional efficacy	The opposite pattern of scores was assessed, with low scores on exhaustion and cynicism and high scores on professional effectiveness representing high work engagement.
Zeng and Zhao (2009)	the Multiple Employee Engagement Inventory (MEEI)	Task focus, Vitality, Active participation, Value introjections, Efficacy, and Active support	Good reliability and validity based on the test of employees of 6 enterprises.
Rich et al. (2010)		Cognitive, Emotional, and Physical energy	Every dimension has six items. The first-order three-factor structure and second-order single-factor structure were obtained through factor analysis,
Guo (2012)		Work involvement, Organizational identification, and Active Participation	The study takes college teachers as samples.
Lyu (2020)		Loyalty to the work, Commitment to the working relationships, Positive emotion, Initiative action, and Priority for mixed roles.	The study takes Chinese Civil Servants as samples and considers Confucian Culture.

According to the review of the concept, construction, and measurement of work engagement, it is obvious that work engagement, as a typical manifestation of positive organizational behaviors, has received extensive attention in academia (Lyu, 2020). There are many pieces of literature on work engagement with a wide range of study fields. Nearly 5,000 articles on "work engagement" have been published in the database of WOS in the past decade. The perspectives that scholars focused on work engagement were "job crafting", "job resources", "mental health", "turnover intention", and "self-determination theory". Further analysis shows that China had the largest number of publications in the past decade, more than 1,000. Although the research on work engagement in China is still in its infancy, more Chinese scholars devote themselves to researching work engagement and publishing articles (e.g., Su, 2021; Sun et al., 2022). Studies on work engagement outside China are relatively experienced and fully-fledged. Scholars have formed a vast cooperative network centered around experts such as Arnold B. Bakker, Wilmar B. Schaufeli, and Evangelia Demerouti. There is a scholar named Nicolas Gillet, who is impressive with a total of 38 published articles, 20 as the first author, and formed a small cooperative network with Alexandre J. S. Morin and other scholars, mainly studying the dimensions of work engagement (Gillet et al., 2019; Huyghebaert-Zouaghi et al., 2021), work engagement, work burnout, and job needs by person-centered methodologies (Gillet et al., 2020, 2022).

What are the factors that influence work engagement? In general, the factors affecting work engagement involved in the existing literature research can be divided into three categories. The first category is individual characteristics, for example, individual psychological state, personality traits, and efficacy all have a certain influence on work engagement. The second category is job-related factors, such as job crafting, organizational culture, job resources, interpersonal relations, social support, etc. Some of these factors have direct effects, while others play their roles through certain mediating variables. Finally, there are family-related factors (Fiorilli et al., 2019). According to the existing literature, the outcome variables of work engagement can be divided into individual variables and organizational variables. work engagement first affects work attitude, which is widely expressed as job

satisfaction, organization commitment, turnover intention, work performance, and work behavior, and causes occupational strains, etc., ultimately, affecting organizational performance and the organization's HRM, leading to organizational talent loss.

To summarize work engagement from the perspective of research objects, most research focuses on the field of medical nursing, with the nurse as the research object. Research on teachers in universities mainly about work commitment, job burnout, and job involvement. Figurska's (2015) research focuses on employees in enterprises and takes teachers as knowledge workers together, so there is little research directly on the work engagement of teachers in universities. It is exciting that in recent years, more and more scholars have conducted studies directly on the work engagement of teachers in universities, such as Sun et al. (2022) studied teachers' professional identity and burnout, Van Der Want et al. (2019) studied the influencing factors of teachers' work engagement, and Fute et al. (2022) studied psychology and behavior management and pointed that teachers are one of the professionals who experienced professional hardship during the pandemic. Jin et al. (2022) investigated how a teacher's satisfaction with basic psychological needs affects the relationship between strengths use with work engagement. During COVID-19, the abrupt shift from traditional face-to-face to distance Teaching has greatly increased teachers' workload and the introduction of online teaching has caused teachers stress and anxiety, especially for those with low information and communication technology competence (Fute et al., 2022). Therefore, it is important to evaluate teachers' work engagement and mental health and to find ways to avoid negative consequences and provide positive experiences of work engagement for teachers (Bezuidenhout and Cilliers, 2010).

University staff are the most important and closest contacts before students enter the society. The formation of students' world outlook and view on life has a great relationship with the education of their teachers. University teachers not only take on the task of teaching but also have the goal of educating people. Scientific research is one of the important responsibilities of university staff and an important driving force for the sustainable development of universities. It is a prerequisite for

the healthy and sustainable development of universities to let staff work actively and conscientiously in a peaceful emotional state. So, it is very important to study the work engagement of university staff.

2.2.3 Career Growth Theory

The origins of career studies are often traced to the mid-1970s (Gunz and Peiperl, 2007). The concept of career is widely drawn in psychology, social psychology, sociology, anthropology, economics, political science, history, and geography Arthur et al. (1989). Career pervades the management literature. Careers can be described in two different ways: subjective careers and objective careers (Arthur et al., 2005). Subjective careers reflect the individual's sense of his career and what it is becoming (Stebbins, 1970), and objective careers reflect publicly observable positions, situations, and status (Barley, 1989).

The term 'career' has different definitions. This paper focuses on the working definition of a career. Arthur et al. (1989) defined career as the evolving sequence of a person's work experiences over time and pointed out that careers reflect the relationships between employees and institutions or organizations, and how these relationships fluctuate over time. A career, a kind of psychological contract, can be regarded as the result of psychological negotiation between an organization and an individual (Tzabbar et al., 2003). Sullivan and Baruch (2009) defined a career as an individual's work-related and other relevant experiences, both inside and outside of organizations, that form a unique pattern over the individual's life span. The term career is associated with an individual's entire working history, reflecting his career development track and course (Weng, 2010).

From a Confucian perspective, careers can be seen to achieve social outcomes such as reputation, status, face, wealth, and social harmony (Yao, 2014). A career is a dynamic process, based on the development of human potential, work content as the determination and change, work performance evaluation, salary, title, and position change as the standard, to meet the needs as the goal of work experience and inner experience. Barley (1989) wrote that a comprehensive history of career theory required an intellectual history of sociology and psychology. Moore et al. (2007)

reviewed careers literature and summarized four main areas of career study in sociology and psychology, which are the sociological perspective, individual differences perspective, developmental perspective, and life cycle perspective, later overview of career has expanded into anthropology, economics, politics science, and history, examining transdisciplinary influences. In the field of psychology, according to Maslow's motivation theory (1954) which rests on a five-step hierarchy of needs, individuals are motivated by their most salient and unmet at the time. Once a set of needs has been met, the next higher level of needs becomes greater salience and acts as a motivator for the individual. Self-actualization is the highest demand of Maslow's hierarchy of needs, and a popular goal of career counseling, representing the psychological proxy for career "success" (Sackett, 1998). Maslow's work has been reinterpreted by career theorists as a series of sequential career stages.

As a dynamic and changing process, careers include career success, career development, and career growth, which are different and related to each other. Career success is an outcome of individual career experiences and defined career success as the desired work-related outcomes achieved at any point in a person's work experiences over time (Arthur et al., 2005). Career success cannot be achieved without career development and career growth. Career development is a continuous dynamic development process, in which individuals face different situations, problems, and tasks (Greenhaus et al., 2010). There are few studies on the definition of the concept of career growth. Argyris (1957) first proposed that career growth is the process of an individual's transformation from a passive state to an active state, from dependence on the organization to independent management, and from lack of self-control to active consciousness. Baruch & Rosenstein (1992) considered career growth to refer to the career development that occurs through a person's experiences working both within and across an organization. Graen et al. (1997) pointed out that career growth refers to the rate at which individuals move along a series of jobs that are more valuable to them. Loscertales (2007) viewed career growth as a process in which an individual can obtain more resources and higher status within the organization. Weng and Xi (2010a, 2010b, 2011) defined career growth as the career progress rate of an employee within the current organization, including the

development rate of an employee's career ability, progress rate of career goals, promotion rate, and remuneration growth rate within the organization. The relationship between career growth and career development is both related and different. career growth is different from career development. Career development, as we mentioned earlier, is a continuous process and all about a long-term vision for a career, reflected in work experience, while career growth is work performance at a certain point. Therefore, compared with career growth, career development is a broader and more holistic concept, individual career development is composed of individual career growth at various periods.

Based on the literature review of career growth, the research structure of career growth is divided into four categories: one-dimensional structure, two-dimensional structure, three-dimensional structures, and four-dimensional structures. Table 2.2 lists the dimensions and measurements of career growth. Although different scholars have different understandings of the concept of career growth, career growth is an incremental concept. According to McElroy and Weng (2016), career development encompasses not only what is currently happening in an individual's career but also what has happened in the past and what might happen in the future (career prospects). Career development can occur in any organization that an individual is a part of, but career growth generally involves an organization and can be seen as career development within an organization, which was called organizational career growth by Weng (Weng & McElroy, 2012). This study focuses on career growth within organizations.

Table 2.2 Summary of dimensions and measurements of career growth

Structural dimensions	Scholars	Dimensions of measure	Descriptions
one-dimensional structure	Nkereuwem (1996)	Career growth prospects	Career growth opportunities represent career growth.
	Dockel (2003), Dockel et al. (2006)	Careers of achievement	Individuals are realizing their careers in terms of lateral moves and opportunities for new knowledge. The reliability and validity of the measurement items are higher.
two-dimensional structure	Choy and Savery (1998), Savery and Choy (1999)	Vertical promotion and lateral mobility	Career growth has both vertical promotion and horizontal flow, structural growth, and content growth (Yuan, 2009)
	Weer (2006)	Structural growth and content growth	Cronbach's alpha coefficient of structural growth is 0.95, while Cronbach's alpha coefficient of content growth is 0.88, indicating high reliability in both dimensions.
three-dimensional structure	Tharenou (1999)	Managerial promotions, managerial level, and pay	The integration of one-dimensional structure and two-dimensional structure is equivalent to the integration of external career growth and internal career growth. The influence of family structures on men's and women's managerial career advancement is predicted.

Structural dimensions	Scholars	Dimensions of measure	Descriptions
four-dimensional structure	Weng and McElroy (2012)	Career goal progress, professional ability development, organizational reward	Combined the promotion speed and remuneration growth of Weng et al.'s (2010) four-factor model into one factor of organizational rewards. The Cronbach's α for the three scales were 0.86, 0.85, and 0.85.
	Metz and Tharenou (2001)	Managerial promotions, managerial level, pay, and number of subordinate employees	Based on the three-dimension structural career growth scale proposed by Tharenou (1999), the "number of subordinate employees" is added to form four dimensions of career growth.
	Weng (2010)	Career goal progress, professional ability development, promotion speed, and remuneration growth	The five-level Likert scale was adopted, and the reliability analysis was conducted on the data obtained from the survey of about 1200 questionnaires. The Cronbach's alpha coefficients were 0.860, 0.848, 0.796, and 0.783, respectively.
	Fu (2015)	Career goal progress, professional ability development, career remuneration growth, social capital accumulation	Taking the staff of large commercial banks as the research object, through in-depth interviews, questionnaires, and empirical analysis, four dimensions are obtained, among which the dimension of social capital accumulation is expansive.

From the existing literature, there is not much literature on career growth. Although the study of career growth is still in its infancy, some recent research trends show substantial promise (McElroy and Weng, 2016). Researchers have looked at the career growth of workers in a variety of occupations. Most of these studies focus on female employees, specifically including women mid-career faculty, women employees in the airline industry, female scientists, and women surgeons. The literature on career growth shows that studies include career growth potential, career growth prospect, career growth facilitation, career growth opportunity, and organizational career growth. Son and Kim (2021) identified the role of organizational career growth with career commitment. Most literature on career growth mainly studies the outcome of career growth, that is, the direct influence and mediating effect on the outcome variable, rather than the antecedents of career growth as the outcome variable. For example, Lu et al. (2015) and Johnston et al. (2015) suggest that career growth and development have an impact on employee attitudes and behavior. Career growth can have a positive impact on an individual's well-being and life satisfaction.

The ability to retain employees is one of the pillars of any business's long-term success, as a result, employee retention and employment continuity have been topics of interest to researchers in the fields of business, human capital, and psychology (Tetteh et al., 2021). There are many reasons why employees leave, but the number one reason why employees leave or consider leaving their current employer or organization is a lack of opportunities for career development and advancement. Scholars inside and outside China have also been studying the relationship between career growth and turnover, that is career growth negatively influences turnover intentions. It has been demonstrated that career growth has an impact on organizational commitment, organizational citizenship behavior, and organizational performance. Shang et al. (2021) indicated that there was a significant positive correlation between career growth and both individual-oriented organizational citizenship behavior and organization-oriented organizational citizenship behavior and recommended that organizational managers should pay attention to employees' career growth and establish high-quality exchange relations when motivating

organizational citizenship behavior.

With the growing global focus on sustainable career growth, more attention should be paid to the factors that influence career growth. However, the research literature on the influencing factors of career growth has not received much attention from scholars, although some scholars have given a few influencing factors. There is no doubt that the COVID-19 pandemic impedes personal opportunities for career growth and advancement (Heggeness, 2020).

From an organizational perspective, Poor mentoring, heavy workload, and little training were the major obstacles in the career growth of early career scholars (Udegbe, 2016). Some studies have found that employee performance (Yoopetch et al., 2021) and supervisor support and job relevance (Creed et al., 2022) were associated with organizational career growth. So, if organizations can well assume social responsibility for employees (working benefits, working environment, working hours, and training), it could promote employees' career growth.

From a personal perspective, Zhao et al. (2016) pointed out that self-efficacy is an indicator of internal career growth, discussed why some employees achieve self-development and career growth under pressure, while others do not, and suggested that managers could moderately increase the work pressure on employees with a highly proactive personality to promote their inter career growth. In addition, honesty brings long-term benefits, such as career growth (Li and Jain, 2021), leadership is a valuable skill that develops strong working relationships, earns respect, and supports colleagues, leading to greater opportunities and career growth (Robles, 2014). The job search strategy is a mechanism through which individual differences, affect the career growth of mid-career professionals (Da Motta Veiga, 2015). Work by van der Horst et al. (2021) showed partaking in the intervention had a significant effect on participants' career growth through enhanced career adaptability. Waters et al. (2014) claimed that protean career orientation after re-employment was significantly related to career growth, and the relationship between protean career orientation and career growth was mediated by job improvement.

From the perspective of the profession, Ni et al. (2022) identified the factors at the organizational, individual, and social levels that influenced the career growth of

nurses. Ge et al. (2022) examined five antecedent conditional variables affecting the career growth of general practitioners, which included professional identity, self-efficacy, achievement motivation, training mechanism, and incentive mechanism. Reputation is an important social construct in the field of science, which can reliably evaluate the informed quality of scientists' publications and careers in the absence of complete systemic information (Petersen 2014), and scientific output is an important indicator of their career growth (Singh and Patwardhan, 2015). Destructive tendencies towards sustainable development in universities and higher education institutions may limit access to resources and career growth for teachers (Volchik et al., 2021), teaching quality, teacher evaluation, and continuous professional development were increasingly a concern, and school leaders could use differentiated methods to promote and support teachers' career growth (Brandon and Derrington, 2019). Oliveras-Ortiz and Simmons (2019) believe that the professional method of teacher evaluation can support teacher growth through formative evaluation. Oliveras-Ortiz and Simmons explored a tiered approach to promote teacher growth (Brandon and Derrington, 2019).

According to the literature review from the perspectives of organizations, individuals, and professions, organizational support behaviors can best promote employees' career growth, such as training programs. Kucherov and Manokhina (2017) claimed that training improved the subsequent professional development and/or career growth of employees. DeRosier et al. (2013) tracked the career achievements of trainees before and nine months after the career-development conference, including publications, participation in research projects, honors and funding awards, collaborations, and scientific reports, and believed that the career-development conference supported the career growth of trainees. Participants in the College of Physicians and Surgeons, Pakistan (CPSP) and Irish Health Services Executive (HSE) program believe that the CPSP/HSE program has improved their professional level and communication skills and increased their opportunities for future career growth (Gondal et al., 2016). Cassell et al. (2022) acknowledged the positive impact of the intensive training program from the Vanderbilt Institute for Research Development and Ethics on career growth and leadership, with 88% of

respondents making progress in their career stage. A market study of the perceived value of the certification in infection prevention and control showed that certification demonstrated professional competence and promoted career growth (Marx et al., 2019). Fults et al. (2021) noted that veterinary students tend to develop Advanced Practicing Registered Veterinary Nurse (APRVN) to support their career growth. Kittel (2022) claimed that a project called "Education Improvement - UCT Priority Project" at the University of Chemical Technology would contribute to better employability of fresh graduates and faster career growth.

To sum up, there are many benefits of career growth. For university staff, growing a career can help them achieve a healthier financial position, encourage staff to seize new career growth opportunities, reach staff capabilities and potential, bring more motivation to work, make better performance, and have higher job satisfaction, which means staff are more likely to stay in their university organization and will have better career prospects. For the university organization, it can retain talent, ensure the continuity of employment, improve organizational performance, and promote sustainable development. Therefore, it is important to study the influence factor of career growth, and university organizations should take effective measures to promote the career growth of staff.

2.2.4 Psychological Contract Fulfillment Theory

The psychological contract has attracted wide attention both empirically and theoretically. Psychological contract theory is developed based on the social exchange theory, which is commonly used to describe the perceived relationship between an organization and its employees. The concept of the psychological contract was first described in the 1960s, Chris Argyris (1960) proposed the concept of "Psychological work Contract" in the book understanding organizational behavior, used to describe employees' perception of the leader's leadership style (Ntalianis, 2006). Schein (1971) had already started thinking about psychological contracts and how organizations (work) and individuals consider each other in his article, "The Individual, the Organization, and the Career" (Moore et al., 2007). Researchers studied psychological contract evaluation, construction dimension, and the relationship to other structures, such as organizational support, personality, Job

satisfaction, Performance, and citizenship behavior.

A psychological contract is an implicit idea about the relationship between employees and organizations (Freese and Schalk, 2008). The conceptual understanding of psychological contracts is not uniform and can be divided into unilateral (employee perspective) and bilateral (employee perspective and employee perspective). The unilateral view holds that a psychological contract is an employee's belief in an exchange agreement between the employee and the organization (Argyris, 1960; Levinson et al., 1962; Rousseau, 1989, 1995; Schein, 1965), which was formed by implicit or explicit commitments made between parties (Miles, 2012), further shaped the relationship, and governed the behaviors undertaken in exchange for the commitments (Freese and Schalk, 2008). For example, when a company offers a job opportunity to an employee, he or she will accept the position or pass up other job offers, which binds the employee to the organization in perception (Rousseau and Tijoriwala, 1998). Rousseau (1989) defined and limited psychological contract as an employee's perception of the exchange of obligations between the employee and the organization based on mutual commitment, which extended the definitions of Argyris (1960) and others to include the mutuality of obligations (Hes and Jepsen, 2009). The psychological contract in employment refers to the belief system held by an individual and his or her employer about the terms of their exchange agreement (Rousseau, 1995). These beliefs were influenced by pre-employment factors (e.g., values, motives), on-the-job experiences (e.g., socialization), and societal context (e.g., norms) (Dabos and Rousseau, 2004). Feature-approach researchers (e.g., McLean Parks et al., 1998) defined the psychological contract as a set of special reciprocal expectations held by employees for their obligations and rights (Freese and Schalk, 2008). The above unilateral view mainly refers to the narrow definition, that is psychological contract is a variety of beliefs of responsibility and obligation formed between employees and the organization on the premise of their relationship with the organization and based on commitment and perception. From the bilateral view of the psychological contract, psychological contracts were the whole perceptions of exchanged obligations and commitment between the employer and employee (Levinson et al., 1962). Schein

believed that a psychological contract is a coordination between what an individual will contribute what the organization hopes to gain, and what the organization will provide for what the individual expects to gain (Schein and Chou, 1992). The bilateral perspective can also be broadly defined as a series of intangible, implicit, and unwritable expectations existing between organizations and members, which are psychological expectations widely existing at all levels and among members without formal written provisions at any time. Ideally, a psychological contract was perceived to be a mutual and reciprocal agreement (Dabos and Rousseau, 2004). Mutuality describes the behavior of both individuals and organizations based on the perceived fulfillment of commitments between the organization and individuals (Argyris, 1960; Rousseau, 1989). Reciprocity refers to the degree of agreement about the reciprocal exchange, given that commitments or contributions of one party obligate the other party to fulfill its commitments or responsibilities (Dabos & Rousseau, 2004).

According to the definition of a psychological contract, a complete psychological contract includes the content of the psychological contract (employee obligation, employer commitment, employer obligation, employee commitment) and evaluation (psychological contract fulfillment and psychological contract breach/violation). The content refers to the explicit and implicit commitments made by the parties in the exchange agreement, which are part of the psychological contract, and evaluation refers to the employee and employer's perceived degree of compliance with these commitments (Freese and Schalk, 2008).

There are many different types of measurements of the psychological contract. Content can be measured either from a unilateral view of employer commitment and employee obligations or from a bilateral view of all, Freese and Schalk (2008) believed that unilateral measurement was preferable, that is, it was limited to assessing employees' perceptions from a unilateral perspective. Evaluation can be measured as a whole or separately for each commitment or obligation item. Some researchers measured the content of psychological contracts at the item level but evaluated the psychological contract from the overall perspective (e.g., Tekleab and Taylor, 2003). Such as using the following items: 'How well does your employer

fulfill its commitments to you? ' (from 'not at all' to 'to a great extent'). Some scholars choose to use subscales or item levels to measure psychological contract performance or violation as the preferred way, and was done in the questionnaires of Kickul et al., (2002), Coyle-Shapiro and Kessler (2000), and Guest and Conway (2002). Of course, it can be done in a combination of two ways, such as Deas and Coetzee (2022).

Most scholars' (e.g., Rousseau, 1995; Ntalianis, 2006) research supports Argyris's (1960) unilateral view from the perspective of employees, that is, employees' various beliefs about their responsibilities and obligations formed between themselves and the organization. After the formation of a psychological contract, employees choose whether to honor their commitments in return by evaluating whether the employer does. The focus of psychological contract research is to demonstrate how the employee's perception of the employer's breach of obligation leads to the adjustment of the employee's attitude and behavior (Seeck and Parzefall, 2008). More research on psychological contract assessment focuses on dysfunctional employment relationships, i.e., contract breach/violation and its associated consequences (e.g., Robinson and Wolfe Morrison, 2000; Hartmann and Rutherford, 2015; Griep and Bankins, 2022). Relatively, few scholars focus on positive or favorable outcomes associated with psychological contract fulfillment, except Coyle-Shapiro and Kessler (2000) and Ahmad and Zafar (2018). Psychological contract fulfillment means that the organization can fulfill the psychological contract to the employees, meet the expectations and commitments of the employees, enhance the perception of organizational support and job satisfaction of the employees, and have other positive effects on the employees and the organization.

Psychological contracts may be simple and short-term or complex and long-term. Employee beliefs about psychological contracts were shaped by factors at three stages or levels, namely pre-employment factors (motives and values), on-the-job experiences (socialization and training), and broader societal and cultural factors at the community or national level (norms and values) (Dabos & Rousseau, 2004). Much of the value in creating psychological contracts was the ability to reduce

insecurities anticipate future exchanges, and help individuals and organizations meet their needs (Rousseau, 1995; Shore and Tetrick, 1994).

A total of 214 articles with type “journal” on the subject of “Psychological Contract Fulfillment” were searched on the WOS database, from 2012 to February 2023. Among them, 124 articles were published in the “management” journal. According to the literature publication, although there has been little research on psychological contract fulfillment for nearly 11 years, the trend of gradual rise shows that scholars are paying more and more attention to the positive impact of psychological contract fulfillment. Further analysis shows that the research keywords related to psychological contract fulfillment are perceived organizational support, work engagement, organizational culture, organizational climate, career, supervisor support, work attitudes, and so on. Psychological contract fulfillment has the most research on enhancing the perceived organizational support of employees. Perceived organizational support and psychological contracts are interdependent (Aselage and Eisenberger, 2003). The better the psychological contract fulfillment, the higher the perceived organizational support of employees, thus improving employee performance and job satisfaction and reducing the employee turnover rate. In addition, psychological contract fulfillment can also improve the reputation and image of the organization, and attract more outstanding talents to join the organization, thus improving the performance and efficiency of the organization.

Existing studies have confirmed that, in most cases, psychological contract fulfillment acts as a moderator or a mediator. For example, psychological contract fulfillment plays a positive mediating role between Confucianism task crafting and cognitive crafting (Liu and Zhang, 2022). When job demands do not match appropriate levels of job control and support, perceptions of psychological contract fulfillment are adversely affected, which may lead to reduced job satisfaction and organizational commitment (Birtch et al., 2016). Psychological contract fulfillment is a mediator in the relationship between performance management system effectiveness and employee outcomes (Sharma et al., 2022). Organizational support affects employee performance through psychological contract fulfillment (Elsouk et

al., 2021). Gu et al. (2022) verified that the indirect effect of returnee status on turnover intention and job satisfaction through psychological contract fulfillment is significant among Chinese university teachers. According to the evaluation scale, employees' evaluation of organizational psychological contract fulfillment can be evaluated from the whole (Tekleab and Taylor, 2003), and can also be evaluated separately from each specific content item (Kickul et al., 2002). Specific item measures can determine which items are being fulfilled and which are not but are unlikely to reflect how employees mentally aggregate experiences (Conway and Briner, 2005; Freese and Schalk, 2008).

A psychological contract has mutuality and reciprocity between employees and employers (Dabos & Rousseau, 2004). There is little literature to study psychological contract fulfillment in universities, but it is importance to study them. The evaluation of psychological contract fulfillment is mostly analyzed from a unilateral point of view. So, this work will evaluate the psychological contract fulfillment of university organizations from the perspective of staff and study the mediating role of psychological contract fulfillment.

Achieving and maintaining the psychological contract should take a harmonious and upward organizational culture as the atmosphere. A healthy and upward organizational culture can create an enterprise atmosphere and spirit of striving, enterprising, harmonious, and equality in the enterprise, and create a strong spiritual pillar for all employees. Create a good atmosphere and space for reaching and maintaining the psychological contract, enhance the enthusiasm and faith of employees to work hard, and inspire both enterprises and employees to abide by the corresponding commitment implied by the contract. The establishment of a psychological contract should recognize the specific needs of employees and effective incentives (including material incentives and spiritual incentives). The modern theory of mind holds that human behavior is a controlled system. It is effective, with the help of psychological methods, to study and analyze human behavior, give affirmation and incentives, maintain their motivation, and promote the maintenance and development of these behaviors. Individuals need career growth, and the organization should consider supporting and providing growth opportunities,

such as training and other measures.

2.2.5 Effect of Confucius Management Culture on Work Engagement

Organizational culture influences the behavior of organizational members, cultural forces (i.e., values) can directly guide members' actions (Swartz et al., 1992). The four dimensions of CMC, reflecting the excellent traditional culture of China, are important factors to guide organizational behavior, and the effect can be directly observed at the individual level. The study of Chatman and Caldwell (1991) can help clarify the impact of cultures on individuals. CMC has a great impact on the working attitude and behavior of members in an organization. The people-oriented culture places a high priority on the management of human resources and talents. An important common characteristic of organizational culture in the four companies (LG Electronics, Samsung Electronics, Woong-Jin Group, and Shinhan Bank) in Kang's (2015) study is that they are people-oriented. Putting people first can foster a strong sense of psychological belonging, ownership, and empowerment of employees, who are motivated highly to share the vision and dreams of the company's leaders and engage their work with passion. Work engagement is a process behavior, and the degree of work engagement is dynamically regulated by individual motivation, as Lyu (2020) said, motivation from external resources can promote individual behavior from external regulation to internal regulation, and gradually strengthen the core role of self-determination in work engagement based on satisfying basic psychological needs.

Positive work behaviors can be influenced by organizational culture (Suharti and Suliyanto, 2012). In the process of socialization, individual cognition and behavior are imperceptibly influenced and shaped by cultures. If the organizational culture and values were in line with employees' expectations, employees would have positive emotions towards the organization, and they were often willing to make positive behaviors (e.g., higher work engagement) for the benefit of the organization (Pu et al., 2022). Organizational culture is a major predictor of work engagement (Arifin et al., 2014). The research of Suharti and Suliyanto (2012) supported the hypothesis that organizational culture has an impact on employee engagement. Guchait et al. (2018) investigated the influence of mismanagement culture on

employees' work engagement. Arifin et al., (2014) proved that there is a direct and positive correlation between organizational culture, work engagement, and teacher performance. Khan (2016) also confirmed that organizational culture was a significant predictor of teachers' WE, and there was a strong correlation between organizational culture and work engagement. The organization needs to focus on the teacher's role, behaviors, values, and deeper motivations and driving forces to promote them to exhibit higher engagement in the work.

Work engagement is related to the cultural characteristics of the workplace, and it is necessary to rethink work engagement in a specific cultural context (Lyu, 2020). Acknowledging the importance of a cultural lens in the study of Chinese phenomena (Yao et al., 2020), scholars around the world pay more attention to Confucius culture. Confucius culture fosters a positive and harmonious relationship, which is evident in Chinese organizations, as an organizational culture influences individual attitudes and behaviors in work. Much research has been done in the context of Confucius culture, which can be learned from the existing literature. The research of Burke et al. (2009) contributed to understanding the work engagement of managers in a large Confucian country in transition to a market economy. Gao et al. (2018) studied employees' reactions to corporate social responsibility in the Chinese or Confucian context and confirmed that employees perceived corporate social responsibility had a direct and positive impact on their work engagement. Lyu (2020) studied the work engagement of Chinese Civil Servants in the context of Confucian culture and discussed the psychological and behavioral states of integrating work engagement. Shaheen et al. (2020) tested that organizational cronyism negatively affects work engagement, and organizational cronyism is exactly the opposite of appointing people by abilities, which is a dimension of Confucius management culture. Based on the above analysis, the hypothesis that Confucius management culture has a positive effect on work engagement (H1) is proposed.

H1: Confucius management culture has a positive effect on work engagement.

2.2.6 Effect of Confucius Management Culture on Career Growth

One of the challenges in human resources was to establish a culture and work environment that encouraged employees to flourish in optimal performance, self-development, and personal growth, with an emphasis on creating conditions for the continued growth and development of all people within the organization (Van Dierendonck, 2015). Individuals attach the most importance to career growth, which is part of career management, they also consider whether they can achieve career growth in an organization and whether they need to change the organization to promote their career growth. Organizations that cater to employee career growth benefit from a more committed workforce, which reduces turnover (McElroy and Weng, 2016). And a low level of career growth always restricts the realization of their service value (Ge et al., 2022), and affects the quality of employees' work life (Freitas and Maciel, 2019), and employee career development sustainability. Aydogmus (2019) recommended that human resource professionals should create an organizational culture around career development and provide opportunities for career growth to retain talent. If the management culture of the organization is not conducive to the career growth of employees, they may choose to quit. Therefore, the organization needs to retain talents through the management culture. Specific management culture influences the career growth of individuals, which in turn influences turnover.

Confucius culture is a cornerstone for injecting further empirical and theoretical energy into Chinese career literature (Yao et al., 2020). The recognition of CMC by employees can stimulate the enthusiasm and work enthusiasm of employees so that their development is getting better and better, they are constantly satisfied in the work and gradually realize career growth in the organization. Enterprise managers should give more attention to Confucius culture. Wong and Slater (2002) outlined some salient factors of Chinese culture, particularly aspects of Confucius culture, and found that the inheritance of the Chinese cultural tradition had a significant impact on career growth in the subjects' view. Yao et al. (2020) summarized a profile of the current development of career research in China from a theoretical perspective of Confucius. Through their analysis of the relevance of time and space in Chinese career research, the author found that scholars approached career differently, many

pieces of literature referred to Confucian harmony values, for example, Li and Walder (2001), Bu and Roy (2005), Gong and Chang (2008), Weng et al. (2010), Lin-Stephens et al. (2015), Cho and Ryu (2016). Confucius harmony has a great influence on career goals, career choice, and career mobility. Harmony represents stability, and individuals in organizations with the Confucian value of harmony will reduce career mobility and promote their career growth. Based on the above analysis, the hypothesis that Confucius management culture has a positive effect on career growth (H2) is proposed.

H2: Confucius management culture has a positive effect on career growth.

2.2.7 Effect of Work Engagement on Career Growth

The previous literature review mentioned many times that organizations need to balance the needs of the organization and the needs of employees. Previous studies in applied psychology and organizational behavior have suggested that there is a social exchange relationship between employees and organizations, who provide mutually beneficial benefits to each other (Nouri and Parker, 2013). Employees' work engagement can better create performance, and employees' career growth can achieve career development. work engagement and career growth are not in conflict but interact.

As for the relationship between work engagement, which is the demand of organizations, and career growth, which is the demand of individuals, researchers have given different answers. Mohsin (2015) tested the mediating role of work engagement in the process of organizational career growth affecting organizational citizenship behavior. Valencia (2012) investigated the moderating effect of career growth on the work engagement of factory workers. Bai and Liu (2018) revealed the internal mechanism of career growth affecting work engagement and introduced organizational identity as a mediating variable to study how career growth affects work engagement. Son and Kim (2021) divided organizational career growth into intrinsic and extrinsic functions, supporting the hypothesis that the intrinsic function of organizational career growth was positively correlated with WE, in addition, work engagement played a mediating role between the intrinsic function of organizational

career growth and career commitment. Zhu and Song (2022) divided two dimensions: employee engagement into organizational engagement and WE, analyzed the positive impact of career growth on employee engagement in detail by taking knowledge workers as samples, and gave the following conclusions: (1) career growth has a positive impact on organizational engagement; (2) career goal progress and professional ability development promote work engagement; (3) career growth influences employee engagement though the effect of affective commitment. The positive relationships between career growth and work engagement were also found in the research for researchers (Weng et al., 2017), hotel employees (Feng, 2015), Neozoic employees (Jiang, 2017), knowledge workers (Wang, 2020), and middle managers (Li, 2012). These pieces of literature have confirmed the positive relationship between career growth and work engagement. Nevertheless, scarce scholars (Chen and Wu, 2018; Chen et al., 2018) focus on the impact of work engagement on career growth. Arifin et al., (2014) confirmed that there was a direct positive correlation between teachers' work engagement and performance, and Yoopetch et al. (2021) found that employee performance had a significant positive impact on career growth. This also confirmed the positive correlation between work engagement and career growth. Individuals will be more engaged in their work if they can achieve career growth in an organization, and individuals with a high level of work engagement in an organization will also accumulate various resources and improve their skills to achieve career growth. The effect between them is reciprocal. Verifying the impact of work engagement on career growth is regarded as one of the research goals of this study, and the following hypotheses (H3) are proposed.

H3: Work engagement has a positive effect on career growth.

2.2.8 Effect of Psychological Contract Fulfillment

Achieving and maintaining the psychological contract should take a harmonious and upward organizational culture as the atmosphere. A healthy and upward organizational culture can create an enterprise atmosphere of striving, enterprising, harmonious, and equality in the enterprise, and create a strong spiritual pillar for all employees. Organizations should create a good atmosphere and space for reaching and maintaining the psychological contract, enhance the enthusiasm and

faith of employees to work hard and inspire both organizations and employees to abide by the corresponding commitment.

Confucianism is the basis of psychological contract fulfillment and has a positive effect on psychological contract fulfillment (Liu and Zhang, 2022). As Confucianism is characterized by humanism, there is an emphasis on harmonious relations, interpersonal trust, and avoidance of conflict (Redding, 1990). This kind of harmonious culture can promote the long-term employment relationship between the organization and the employees and is conducive to the fulfillment of the psychological contract between the two sides. Organizations should attach importance to Confucius management culture to maximize the psychological contract fulfillment of the organization. When Confucius management culture is internalized, the Chinese workplace environment can be effectively managed through relational psychological contracts (Kwon et al., 2018). Therefore, the following hypothesis (H4) is proposed.

H4: Confucius management culture has a positive effect on psychological contract fulfillment.

The psychological contract is the psychological link between employees and the organization. Blau (1964) emphasized that psychological contract fulfillment is an essential determinant of employees' attitudinal, and behavior based on social exchange theory. If the employees' expectations are met, they would like to increase the level of work engagement in reciprocation (Rayton and Yalabik, 2014). It is pointed out that a direct connection exists between psychological contract fulfillment and work engagement although relatively limited research in the existing literature pointed to psychological contract fulfillment as an important determinant of work engagement (Bal et al., 2013; Kim et al., 2020). The psychological contract fulfillment has an incentive effect on employees, which will make them have a high degree of trust and satisfaction in their work, to stimulate their stronger motivation and higher work engagement. Therefore, this study proposes that psychological contract fulfillment positively impacts work engagement. The following hypotheses (H5, H6) are proposed.

H5: Psychological contract fulfillment has a positive effect on work engagement.

H6: Psychological contract fulfillment mediates the effect of Confucius management culture on work engagement.

The achievement of career growth requires not only the efforts of the employees themselves but also the support of the organization. According to the literature review from the perspectives of organizations, individuals, and professions, organizational support behaviors can best promote employees' career growth. The acquisition of an employee's career growth is a kind of reciprocal behavior between the organization and the employee and is also a kind of psychological contract, which can be regarded as the result of psychological negotiation between an organization and an individual (Tzabbar et al., 2003). There is limited research on the effects of psychological contract fulfillment and career growth. The professional development of teachers in universities is affected by the psychological contract. Zhang (2022) suggested that universities should fulfill the psychological contract to improve the job satisfaction and professional development level of their teachers. Excellent organizational culture promotes psychological contract fulfillment, which in turn enables employees to develop better and better in the organization and achieve career growth in the organization. The following hypotheses (H7, H8) are proposed.

H7: Psychological contract fulfillment has a positive effect on career growth.

H8: Psychological contract fulfillment mediates the effect of Confucius management culture on career growth.

Based on the literature review, this section mainly formulates the initial hypotheses, taking Confucius management culture as an independent variable, psychological contract fulfillment as a mediator, and work engagement and career growth as dependent variables. Each variable includes different dimensions (See Chapter 3 for details). The corresponding hypotheses proposed in this study are shown in Table 2.3.

Table 2.3 Summary of main hypotheses

Hypotheses	Description
H1:	Confucius management culture has a positive effect on work engagement.
H2:	Confucius management culture has a positive effect on career growth.
H3:	Work engagement has a positive effect on career growth.
H4:	Confucius management culture has a positive effect on psychological contract fulfillment.
H5:	Psychological contract fulfillment has a positive effect on work engagement.
H6:	Psychological contract fulfillment mediates the effect of Confucius management culture on work engagement.
H7:	Psychological contract fulfillment has a positive effect on career growth.
H8:	Psychological contract fulfillment mediates the effect of Confucius management culture on career growth.

2.3 Conceptual Framework

This study constructs a theoretical model from organizational value to individual value identification and attitude behavior and will carry on the empirical analysis, based on the literature review and hypothesis of the relationship between the above variables. The specific contents are as follows.

1. The Influence of Confucius management culture on work engagement.
2. The Influence of Confucius management culture on career growth.
3. The Influence of work engagement on career growth.
4. Analysis of the mediating role of psychological contract fulfillment.

The basic conceptual framework of this study is proposed in Figure 2.1. The framework explains the model employed in the research process and shows the linkages and the relationships between the various constructs used in the study. It also explains the relationship between Confucius management culture, work engagement, career growth, and psychological contract fulfillment.

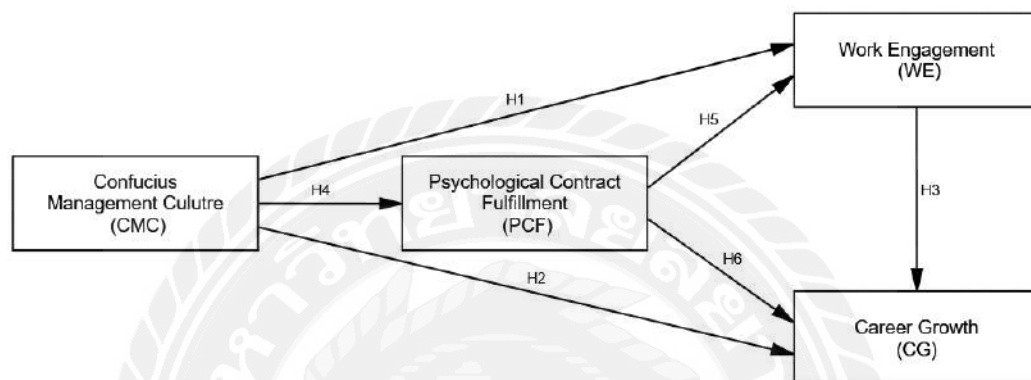


Figure 2.1 Conceptual framework diagram
(Resource: Researcher, 2023)

Chapter 3

Research Methodology

3.1 Introduction

This chapter explains the methodology of the research. This study takes a mixed method as a general paradigm for presenting theories. Research design is based on methodology and systematically follows analytical steps. This chapter introduces in detail the scientific research methods such as population and sampling, data collection methods, variable analysis, scale design, and data analysis methods. The validity of questionnaires is tested by screening and purifying the items in the scale and modifying someone according to the experts' assessment. A small range of pre-survey is conducted on questionnaires used in this study to further test the reliability of the questionnaires. The details in this chapter are separated into the eight parts as follows:

- 3.1 Introduction
- 3.2 Research method
- 3.3 Research design
- 3.4 Population and sample for the study
- 3.5 Data collection method
- 3.6 Measurement tools
- 3.7 Test of measurement tools
- 3.8 Statistical methods of data analysis

3.2 Research Method

Qualitative and quantitative research strategies are the two main types of research strategies in social science research (Cobbinah, 2021). This study adopted these two analysis methods, the qualitative method helps to find the components of Confucius management culture and form the preliminary measuring scale, quantitative method helps to measure and present empirical results in the form of numbers and statistics to define the relationships between various aspects of the phenomenon (Hultman, 2008). Specifically, including literature research, in-depth

interviews, and questionnaires.

Literature research method

The research literature on Confucius management culture, work engagement, career growth, and psychological fulfillment are sorted out and comprehensively analyzed to ensure that this research is always at the forefront in terms of concept, theory, and method, and the research hypothesis and conceptual framework are proposed based on literature analysis.

In-depth interviews

Through interviews, the preliminary structural dimensions and evaluation indicators of Confucius management culture are determined based on literature research. After the theoretical model is constructed, the accuracy of the model is preliminarily verified, and the model is modified.

Questionnaires survey

Through questionnaire survey and statistical analysis, the structure dimensions of Confucius management culture and the influence mechanism of Confucius management culture on employees' work engagement and career growth are tested and verified. The main statistical methods used include confirmatory factor analysis, multiple regression, analysis of variance, structural equation model, and so on.

Based on the hypotheses and conceptual framework proposed in Chapter 2, this study proposes to use qualitative and quantitative methods to discuss the mechanism of the influence of Confucius management culture on work engagement and career growth. There is little research on the relationship between organizational culture and employees' career growth in academia (e.g. Zhang, 2015), let alone Confucius management culture. Therefore, part of the hypotheses proposed in this study is exploratory hypotheses and this part of the study is the beginning of new research. Behavior is driven by emotion, which is a response to psychological perception and state. According to social exchange theory and psychological contract theory, employees perceive the organization's fulfillment of contract and organizational support, and in return, employees will respond positively. This study also tests the

mediating role of psychological contract fulfillment in this relationship and provides effective explanations through comparative analysis of data. Although existing literature has proved that career growth affects work engagement, this study aims to verify that work engagement also affects career growth and measures the degree of influence.

A qualitative study on the management culture of Confucius is conducted through interviews. Quantitative studies examine the relationships between variables that are analyzed by numerical measurements and using statistical techniques (Saunders et al., 2012). This study uses questionnaires as a data collection tool, which is permitted by quantitative methods. Quantitative analysis techniques would assist in testing hypotheses empirically and achieving research aims objectively through robust and rigorous statistical analysis (Cobbinah, 2021). Qualitative studies of in-depth interviews supplemented the relationship between variables. Following the above purposes of this study, the mix analysis method is selected.

3.3 Research Design

Firstly, based on the background, significance, and purpose of the research, this paper first proposes the research questions and gives relevant definitions (Chapter 1). Secondly, specific research variables (4 variables in total) were identified through theoretical research and literature reading, as well as the interaction between variables. Based on the objective of the research question, the review of relevant literature, and the relationship between variables, the research hypotheses and theoretical framework are generated (Chapter 2). Thirdly, the research methodology (Chapter 3) is introduced, including method, design, population, samples, measurement tools, and data analysis methods. It also states the role of each variable in the study and explains the design and preprocessing of questionnaires. This is followed by the operationalization phase, which includes data collection, result analysis, and hypothesis testing (Chapter 4). Finally, the conclusion, significance, and recommendations are given (Chapter 5). The technical route demonstrates the process of the study in Figure 3.1.

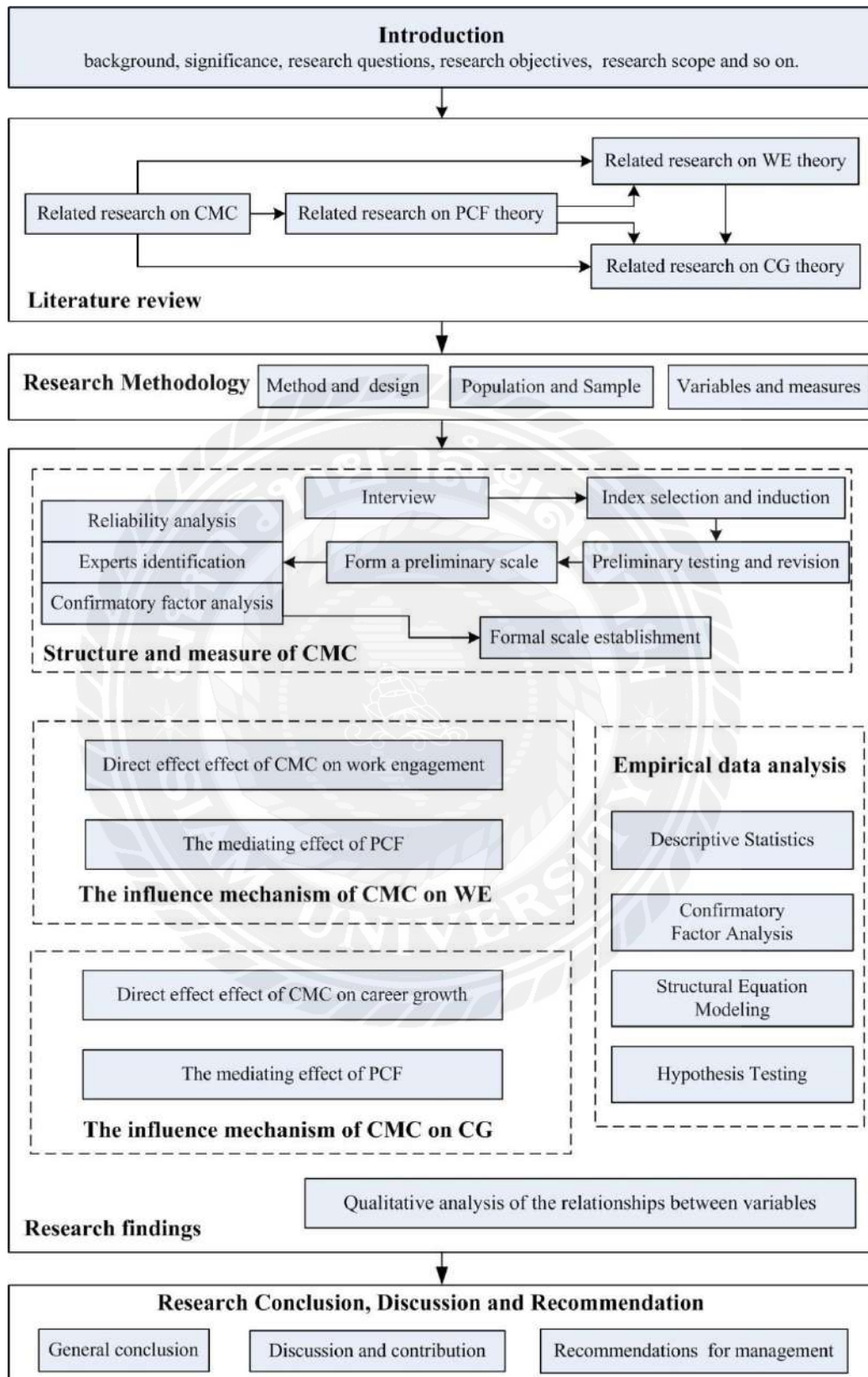


Figure 3.1 Technical route of the study process
(Resource: Researcher, 2023)

3.4 Population and Sample for the Study

3.4.1 Population

According to the website of the Ministry of Education of the People's Republic of China, there is a total of 45 public universities in Shandong province. There are about 90,000 staff in Shandong's public universities (the data comes from the official websites of each university). So, the Population of this study is 90,000.

3.4.2 Sample Size

When statistical techniques are used for data analysis, such as multiple regression analysis, confirmatory factor analysis, or structural equation modeling, a minimum sample size is required (Cobbinah, 2021). The target quantity of the survey is the mainly proportional index, so this study adopts the method of estimating sample size by population proportion of simple random sampling. There are four factors affecting the sample size (n): population size, confidence interval, marginal error, and population variance (Jin et al., 2021). The most conservative and minimum sample size is calculated according to Yamane's (1973) formula, with a confidence interval of 95%, a margin error of 5%, and a population is 90,000.

$$n = \frac{N}{1 + Ne^2} = \frac{90000}{1 + 90000 \times 0.05^2} \approx 400$$

Where: n is the sample size.

N is population.

e is a Marginal error.

The purpose of this study is to select a sample of an appropriate size that not only meets the requirements of the analysis method but also adequately represents the population. Therefore, this study will use no less than 400 valid copies to do further research, which can represent the population of this study. Probability sampling is a reliable technique for research using survey methods because "the resulting sample is likely to provide a representative cross-section of the whole."

(Denscombe, 2002). In this study, probability sampling is used to obtain the relevant major cross-sectional data of the respondents. Simple random sampling was used to scope the public university by choosing only two universities in each region (a total of 8 universities) and quota sampling was used to choose samples from these eight public universities.

To further prove the relationships between the four variables, this study also selected 10 interviewees for in-depth interviews and selected tripartite representatives of university staff including 2 managers, 5 full-time teachers, and 3 administrative staff.

3.5 Data Collection Method

The survey method is a worthwhile method for collecting primary data from large-scale or geographically widespread populations that cannot be specifically observed. This study adopts a closed-end questionnaire and network survey as data collection methods. A closed-end questionnaire would give the respondents a chance to give a straightforward answer, which would encourage many respondents to participate in the research (Leddy-Owen, 2015). This can ensure the recovery rate of the questionnaire because the closed questionnaire can guide the respondents to choose the answers relatively easily. In addition, the items pre-determined by the closed questionnaire are related to the research and will not deviate from the research. Distributing electronic questionnaires via the network can shorten the time required to complete the survey, better control the sample, and reduce the survey cost. The network survey can directly recover the data files of the respondents and reduce input errors. This study used a five-point Likert scale, with respondents answering each item from 1 (strongly disagree) to 5 (strongly agree). The design of the questionnaire allows the item to capture all variables of interest in the study (Cobbinah, 2021). The questionnaire consists of five parts numbered A to E. Part A consists of the demographic characteristics of the respondents with 12 items. Part B deals with issues related to Confucius management culture using 13 items. Part C is about work engagement and has 9 items. Part D discusses psychological contract fulfillment with 5 items. Part E has 15 items about career growth. It is necessary to point out that some of the above measurement scales are developed by this study

(e.g., B), some are modified based on the existing scales (e.g., D, E), and some are mature scales with a wide application (e.g., C). Each of the measured structures has been purified and validated. The structure of the variable measurement, scale sources, and scale purification are described in Section 3.5, and detailed structure and measurement sources of each scale are attached as an appendix.

Quantitative research was conducted through open in-depth interviews. The interviewees were selected from the managers, full-time teachers, and administrative staff in public universities in Shandong Province.

3.6 Measurement Tools

3.6.1 Quantitative Research

There are four variables in this study, including one independent variable, two dependent variables, and one mediating variable. A self-reported questionnaire of a total of 51 items (excluding Part A of demographic characteristics) is used to estimate the effect of each scale. All the items were ranked on a five-point Likert scale ranging from "strongly disagree = 1" to "strongly agree = 5". All the variables and measures of this study are as follows.

3.6.1.1 Independent Variables

In the literature on Chinese management, A recurring theme is the influence of culture, particularly values derived from Confucianism, on Chinese management practices (Wong and Slater, 2002). The existing literature has documented more evidence supporting the influence of organizational culture on individual attitudes, behavior, and performance, Culture can serve as the compass of individual behavior. Ezirim et al. (2012) believed that organizational culture is very essential in realizing the organizational vision. Managers should develop, nurture, and maintain a culture that is conducive to the career development of employees and caters to the benefit of both employees and the organization. According to Yao et al. (2020), "Confucianism is used to define proper behavior and human relationships in the Chinese and other Eastern contexts."

In this study, CMC is used as the independent variable. The questionnaire used

is the Confucius Harmonious Management Scale (CHMS), which was developed by the author of this study. It contains four dimensions, named people-oriented, etiquette promote harmony, rules of virtue, and appoint people by abilities, with a total of 13 items. Sample items consist of "My organization knows what I can do" (appoint people by abilities). The specific development process is introduced here.

This study is based on the reading of a large number of Confucius-related journals and books, mainly Chinese scholars, such as Dai-nian Zhang (modern Chinese philosopher who served as the president of the China Confucius Research Institute), Huai-jin Nan (Chinese contemporary litterateur, educator, master of traditional Chinese studies), Yi-jie Tang (a famous contemporary Chinese philosopher, master of sinology, and served as Vice President of the Confucius Association of China), and Zhao-ming Yang (Confucian scholars, historians, and a professor at the Confucius Institute of China), etc. Through the above scholars' introduction and interpretation of Confucius culture (see Zhang, 1986; Nan, 1990, 2015; Tang, 2009, 2019; Yang and Song, 2010; Yang, 2013), especially the sayings of Confucius and his disciples, such as *The Analects of Confucius*, the reading of Chinese scholars' books on Chinese management thoughts and cultures (e.g., Su, 2005; Xu, 2007; Jiang et al., 2011; Wu, 2012; Ge, 2013), and according to the Xi's (2003) He-Xie (harmonious) management theory, it has obtained the four dimensions of Confucius harmonious management, namely, people-oriented, etiquette promote harmony, rules of virtue, and appoint people by abilities (the source is introduced in Chapter 2). Under the correct expression of these concepts, this study designs the items that can be observed and measured.

These items come from Confucius and revolve around four dimensions, for example, the item "My university respects my different opinions and working methods" came from "harmony without sameness" (*The Analects of Confucius · Zi Lu*), there is a difference between "He" (harmony) and "Tong" (sameness) (*Zuo Zhuan · Shao Gong*), only by recognizing and allowing differences and forming harmony based on differences can things develop; otherwise, they will decline (Tang, 1997); the item " My boss doesn't assign me anything he or she doesn't want to do" came from "Do unto others as you would be done" (*The Analects of*

Confucius · Weiling Gong).

3.6.1.2 Mediating Variables

psychological contract fulfillment is used as the mediating variable.

Psychological contract fulfillment considers the employee's overall perception of the fulfillment of organizational obligations from a unilateral perspective. The scale is modified from the fulfillment dimension of Deas and Coetzee's (2022) Psychological Contract Input-Outcomes Inventory (PCIOI) with five items. In this study, two items are modified, and two new items are added, which are "I feel my organization fulfilled my needs for work environment" and "I feel my organization fulfilled my extra contribution", the choice of these two items is related to the characteristics of university work. The scale consists of 5 items.

3.6.1.3 Dependent Variables

There are two dependent variables in this study, which are work engagement (WE) and career growth (CG).

In essence, engaged employees work hard because work is challenging and fun for them (Schaufeli, 2012). The Utrecht Work Engagement Scale (UWES) developed by Schaufeli et al. (2002), as the most often used instrument to measure employees' work engagement level, has been validated in Europe, North America, Africa, Asia, and Australia. A compressed 9-item version of the UWES (UWES-9) (Schaufeli et al., 2006) includes three dimensions: vigor, dedication, and absorption, with three items for each dimension, also satisfying cross-national validity, which is popular and applied all over the world. UWES-9 is used to measure the work engagement of university staff in this study. A sample item was "I am immersed in my work" (absorption).

In this study, career growth is referred to as organizational career growth (Weng and McElroy, 2012), which refers to the assessment of one's career growth within the current organization, rather than over one's total career in the workforce. University staff includes full-time teachers and administrators, and their career direction has a different emphasis. The most important thing for full-time teachers is teaching and

research, and the most important thing for administrators is management and research, which are always denoted by career. Full-time teachers pay attention to the promotion of professional titles, and administrative staff pay attention to the promotion of job titles, which are uniformly expressed by promotion. Combined with Weng & McElroy's (2012) three-dimensional structural model of career growth and Li's (2013) four-dimensional career growth of university teachers and considering that universities emphasize scientific research and staff often participate in academic activities, this study modifies some items and adds a new dimension named social resources access, which is also regarded as an aspect of career growth of university staff. So, the scale consists of 15 items associated with the four dimensions of career growth of university staff, namely career goal progress, professional ability development, organizational reward, and social resources access. To distinguish it from other career growth scales, this career growth scale of university staff is named the career growth scale of Zhu (CGSZ). This construct includes items such as "I feel that my professional ability is constantly exercised and improved" (professional ability development).

3.6.2 Qualitative Research

The interview outline of this study comprises 13 issues and is divided into two parts. The first part focuses on the components of Confucian culture aimed at harmony, with 6 issues (issues 1 to 6), while the second part delves into the influence relationships between the four variables, with 7 issues (issues 7 to 13). The interviewees were selected from the managers, full-time teachers, and administrative staff in public universities in Shandong Province, as the staff composition in these universities primarily consists of these three groups, with a small number of other roles. The first three identities effectively represent the university organization. The same interview outline was used for all three parties involved in the interviews. The detailed interview outline is provided in the appendix.

3.7 Test of Measurement Tools

3.7.1 Quantitative Research

This part is about the questionnaire pretest and item purification.

Before the scale is distributed, items of the scale need to be purified, to check whether the items in the questionnaire are ambiguous, whether the respondent's understanding of the questions, and whether the wording, sequence, and structure of the questions are reasonable. The reliability of the questionnaire used should be tested. The real value of pre-surveys is to help eliminate potential problems and shortcomings of measuring instruments (Ticehurst and Veal, 2000). To purify and ensure the operability of the measuring scale, a pilot study is planned. After the scale items have been purified and checked, the cross-sectional data will be collected.

The validity of the questionnaire is tested. Each item is evaluated and guided by relevant experts from Shandong Technology and Business University (including Professor Dr. Yan-ming Wang, Professor Dr. Jia-zhen Yang, Professor Dr. Jian-qi Mao, associate Professor Dr. Yan-hui Wei, associate Professor Mis. Shou-fang Zhang), the wording of some items was revised to make their meaning clearer, and a few items with low representation have been deleted. Finally, the questionnaire is created (see Appendix).

In April 2023, a preliminary survey with a small sample was conducted. A total of 60 questionnaires are collected randomly from the staff of Shandong Technology and Business University, and the feedback on the questionnaires is received. Reliability analysis is mainly to check the value of Cronbach's Alpha (α). The closer the α value is to 1, the higher the reliability will be. The criterion is that α value between 0.70 and above means high reliability, α value between 0.35 and 0.70 means passable, and α value below 0.35 indicates low reliability (Gilford, 1954).

Reliability analysis is performed by the software named SPSS. The Cronbach's Alpha coefficient of variables and their dimensions are shown in Table 3.1. The reliability is high with the total Cronbach's Alpha value of each variable reaching 0.900, with α value of each dimension of the CMC, work engagement, and career growth greater than 0.700. After item purification, the reliability values of all questionnaires are very good, and the remaining items can be formed into formal questionnaires for follow-up investigation. All information on variables and measurement questionnaires is shown in Table 3.2.

Table 3.1 Cronbach's Alpha coefficient of variables and dimensions

Variable	Total Cronbach's Alpha	Dimensions	Number of Items	Cronbach's Alpha
CMC	0.945	People-Oriented	3	0.799
		Etiquette Promote Harmony	4	0.911
		Rules of Virtue	3	0.772
		Appoint People by Abilities	3	0.862
PCF	0.943	-	5	0.943
WE	0.929	Vigor	3	0.905
		Dedication	3	0.877
		Absorption	3	0.850
CG	0.954	Career Goal Progress	4	0.905
		Professional Ability Development	3	0.944
		Organizational Reward	5	0.953
		Social Resources Access	3	0.949

Table 3.2 The measurement of the research variables

Variable	Role	Scales	Resources	Memo
CMC	Independent variables	Confucius Harmonious Management Scale (CHMS)	The author of this study	13 items
PCF	Mediator	Psychological contract scale	Deas and Coetzee's (2022) PCIOI	5 items
WE	Dependent variable	UWES-9	Schaufeli et al. (2006)	9 items
CG	Dependent variable	Career growth scale of Zhu (CGSZ)	Weng& McElroy (2012)	15 items

3.7.2 Qualitative Research

The qualitative measurement tool used in this study adopts the triangulation method. Triangulation refers to the process of mutually verifying responses from different interviewees regarding the same phenomenon. Firstly, data was collected from three parties in public universities: managers, full-time teachers, and administrative staff, to mutually verify the information. This process not only validates the data but also expands its breadth. Secondly, more than two respondents from each group were selected for in-depth interviews.

3.8 Statistical Methods of Data Analysis

In this study, the software of Statistical Products and Services Solution (SPSS) will be used to sort out the data and test the reliability of the questionnaires, and the software of Analysis of Moment Structure (AMOS) will be used to perform confirmatory factor analysis and test hypotheses. The most prominent feature of SPSS is that it has a very friendly operation interface, which uses a similar way to EXCEL to input and manage data, the data interface is relatively general, and it can easily read data from other databases, and the output is neat and beautiful (presented in tabular form). SPSS is the preferred statistical software for non-professional statisticians. AMOS is a powerful structural equation modeling software developed by IBM. The following statistical methods are used in this study.

3.8.1 Descriptive Statistics

Descriptive statistical analysis is used firstly for the research samples. Descriptive statistical analysis is a method to estimate and describe the distribution state of data, numerical characteristics, and the relationship between random variables. Descriptive statistics are divided into three parts: central tendency analysis, dissociation trend analysis, and correlation analysis. The commonly used indicators are mean, median, quartile, variance, and standard deviation.

3.8.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a statistical analysis of social survey data. It tests whether the relationship between a factor and the corresponding

measure term conforms to the theoretical relation designed by the researcher.

CFA consists of the following six steps:

1. Defining factor model: selecting factor number and defining factor load.
2. Collection of observational values: the observational values are collected according to the research purpose.
3. Obtaining correlation coefficient matrix: obtain the variance-covariance matrix according to the original data.
4. Fitting model: select a method such as maximum likelihood estimation to estimate freely varying factor loads.
5. Evaluation model: when the factor model can fit the data, the factor load should be selected to minimize the difference between the correlation matrix implied by the model and the observed matrix.
6. Modify the model: if the fitting effect of the model is not good, the model should be modified.

The commonly used statistical parameters in the model fitting evaluation include the Chi-square fitting index (χ^2), comparative fitting index (CFI), the goodness of fit index (GFI), and root mean square error of approximation (RMSEA). CFA is used to verify the dimensionality of the scale, or the factor structure, to determine the most effective factor structure, to test the hierarchical relationship of the verification factors, and to evaluate the reliability and validity of the scale. CFA is often tested by structural equation modeling.

3.8.3 Correlation Analysis

Correlation analysis is a statistical method used to study the correlation between random variables by studying whether there is a certain dependency between phenomena and exploring the correlation direction and degree of correlation of specific interdependent phenomena. Generally, no distinction is made between independent or dependent variables.

Linear correlation analysis is used to study the degree of linear relationship

between two variables. It is described by the correlation coefficient r . $r > 0$ indicates a positive correlation; $r < 0$ indicates negative correlation; $r = 0$ means no linear correlation. According to the size of $|r|$, the correlation degree was determined, and there was a significant correlation between $|r| > 0.95$. $|r| \geq 0.8$ indicates highly correlated; $0.5 \leq |r| < 0.8$ indicates moderately correlated; $0.3 \leq |r| < 0.5$ indicates low correlation; $|r| < 0.3$, the relationship is too weak to be considered relevant. There are three kinds of calculation for r , which are the Pearson correlation coefficient, Spearman correlation coefficient, and Kendall correlation coefficient.

3.8.4 Regression Analysis

Regression analysis is a statistical analysis method to determine the interdependent quantitative relationship between two or more variables. Regression analysis is one of the most widely used data analysis methods. Based on the observed data, it establishes the appropriate dependence relationship between variables to analyze the inherent law of the data and can be used for forecasting, control, and other problems.

A statistical method that studies the relationship between one or more random variables Y_1, Y_2, \dots, Y_i and some other variables X_1, X_2, \dots, X_k is called multiple regression analysis. Y_1, Y_2, \dots, Y_i is the dependent variable, X_1, X_2, \dots, X_k is the independent variable. Regression analysis is a kind of mathematical model, especially when the dependent variable and the independent variable are linear, it is a special linear model. The simplest case is one independent variable and one dependent variable, and they are generally linearly related, this is called linear regression, that is, the model is $Y = a + bX + \varepsilon$, where X is the independent variable, Y is the dependent variable, and ε is the random error.

The main problems of regression analysis are: (1) To determine the expression of the quantitative relationship between Y and X . This expression becomes the regression equation; (2) The reliability of the obtained regression equation is tested; (3) Determine whether the independent variable X has any effect on Y ; (4) Using the obtained regression equation for prediction and control.

3.8.5 Structural Equation Model

Structural Equation Model (SEM), as an important tool for multivariate data analysis, is a statistical method to analyze the relationship between variables and the covariance matrix of variables and is a method to build, estimate, and test causal relationship models. There are observable explicit variables and latent variables that cannot be directly observed and only be measured indirectly by some observable indicators. SEM is chosen because it is a comprehensive statistical method, that can replace many traditional statistical analysis methods, and has the following characteristics and advantages. SEM can simultaneously process multiple dependent variables, allow independent variables and dependent variables to contain measurement errors, estimate factor structure and factor relationship, and estimate the fit degree of the whole model. Traditional statistical methods cannot deal with latent variables effectively, but SEM can deal with latent variables and their indexes simultaneously. SEM can use measurement models to measure the relationship between indicators and latent variables, as well as structural models to measure the relationship between latent variables. SEM can replace multiple regression, path analysis, factor analysis, covariance analysis, and other methods, and analyze the effect of individual indicators overall and the relationship between individual indicators. SEM is often used in CFA. In this study, the software of AMOS is selected as the SEM analysis software.

Maximum Likelihood Estimation (MLE) is the most used method for structural equation analysis. The precondition of the MLE method is that the variables are normally distributed in multiple variables. The non-normality of data can be represented by skew and kurtosis. Skewness indicates the symmetry of data and kurtosis indicates the flatness of data. Theoretically, the bigger the sample size, the better. Hair, et al. (2010) suggested that MLE should be carried out and the sample size should be at least 200. This study satisfies the sample size requirement of MLE.

Chapter 4

Research Findings

The objective of this study was to study factors of Confucius management culture that affect work engagement and career growth through psychological contract fulfillment in public universities in Shandong province in China. The data has been analyzed using descriptive statistics, confirmatory factor analysis (CFA), structural equation modeling (SEM), and hypotheses testing. This study used CFA to create the measurement models and test the reliability and validity of the questionnaires. Once the factors meet the criterion, they are used in the analysis in the following step with the AMOS program to build an appropriate model. To present the results of data analysis and summarize the study results, this chapter is divided into six parts as follows:

- 4.1 Structure of Confucius Management Culture
- 4.2 Descriptive Statistics: Univariate Description
- 4.3 Percentage Distribution of Constructs
- 4.4 Reliability, Validity, and Primary Confirmatory Factor Analysis
- 4.5 The Structural Equation Models and Hypotheses Test
- 4.6 Qualitative Analysis of the Relationships Between Variables
- 4.7 Conclusion

4.1 Structure of Confucius Management Culture

The description in this part is to fulfill objective number 1, that is, to investigate the composition and measurement of Confucius management culture among public universities in Shandong province. Summary of in-depth interviews of 10 Chinese interviewees who study Confucian culture and Chinese traditional culture can summarize the main issues into 6 groups as follows:

Point 1: The book *The Analects of Confucius* best embodies Confucius' idea of

harmony.

The cultural thoughts of Confucius are mainly embodied in the book *The Analects of Confucius*. *The Analects of Confucius* is a classic book that records the words and deeds of Confucius and his disciples. It shows Confucius' ethical and moral concepts, educational ideas, and political opinions through dialogues. The book emphasized the importance of personal cultivation, good ways to govern the country, and social order, and had a profound influence on traditional Chinese culture and thought. The harmony of Confucius culture has been fully reflected in *The Analects of Confucius*. Confucius mentioned the concept of "harmony without sameness", emphasizing the harmony between individuals and the harmony of the whole. This kind of thought reflects Confucius' emphasis on the balance between social harmony and individual free development and embodies his idea of respecting ethics and pursuing harmonious interpersonal relations. In management, staff of universities can be respected for the balance between work and life, but also require teachers to seek a proper balance between teaching and research, individual and collective. *The Analects of Confucius* provide a profound cultural foundation for the management of university staff and help to build a harmonious and positive educational environment.

Point 2: There are four main characteristics of Confucius culture from the perspective of harmonious management, once Confucius culture is applied to the management of public universities in Shandong Province. They are people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities,

According to these 10 interviewees, they agree that there are four characteristics of Confucius culture. The application of Confucius culture in university management is mainly reflected in the following aspects: emphasis on humanistic care and benevolence, taking people first, advocating the thought of etiquette and promoting harmony with etiquette, advocating teamwork and continuous learning, value virtue and management by virtue, understand individual abilities and allocate resources rationally. The characteristics of Confucius culture can be summarized as people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities. The following issues elaborate on these four characteristics.

Point 3: The people-oriented management culture is embodied in three aspects of the organization of public universities in Shandong Province.

Confucius advocated people-oriented and benevolence, that is, care and understanding for others. In teacher management, it is advocated that leaders and staff, teachers, teachers, and students should treat each other with benevolence, establish a relationship of mutual support and cooperation, encourage managers to pay attention to the personality development and mental health of employees, respect the academic freedom and professional development of teachers, encourage independent thinking and academic exploration of teachers, and provide a good environment for academic research and development. In general, three items can describe people-oriented, such as organizations caring about staff mental health, organizations being open to hearing staff's diverse viewpoints, and organizations acknowledging staff abilities while assigning tasks.

Point 4: The etiquette that promotes harmony is embodied in four aspects of the organization of public universities in Shandong Province.

Confucius emphasized the role of etiquette and believed that social order and harmony could be achieved by following etiquette. In teacher management, it is advocated that mutual respect and understanding between leaders and teachers, between teachers and teachers, and to establish a good teaching and working atmosphere. University leaders and managers actively advocate and create a respectful, inclusive, and harmonious working atmosphere, adhere to the principles of fair, transparent, and clean management, no favoritism, impartial handling of affairs, and ensure that the rights of each faculty and staff are fully respected and protected. In general, four items can describe etiquette that promotes harmony, such as organizations providing opportunities for both sides to express their views and not take sides in handling workplace conflicts, emphasis on rule compliance percent, and value regarding cooperation.

Point 5: The rule of virtue culture is embodied in three aspects of the organization of public universities in Shandong Province.

Confucius advocated honesty and virtue as the basis for maintaining harmony

in human relations. In teacher management, the moral character and behavioral norms of managers are emphasized, and the role of managers as role models of staff is emphasized. Managers consciously practice the traditional virtues of integrity, honesty, modesty, and tolerance, and become a good example for staff. Through words and deeds, the university can create a positive, responsible, and appealing leadership image. In general, three items can describe rules of virtue, which are leaders emphasize task allocation, leaders make authority secure in staff minds, and leaders set a good example.

Point 6: The appointing people by abilities culture is embodied in three aspects of the organization of public universities in Shandong Province.

Managers should appoint people by abilities in public universities. Managers are encouraged to invest time and energy to deeply understand the personality, ability, and potential of the staff, understand the professional expertise, teaching style, personal interests, and career development expectations of the teachers, based on the understanding of the staff, reasonable assessment of their talent and potential, allocate the right talents to the right positions, so that they can maximize their advantages and improve work efficiency. In general, three items can describe appointing people by abilities, such as the organization's knowledge of staff behavior patterns, the organization's understanding of staff capabilities, and the organization's adherence to meritocracy in appointments.

Confucius management culture emphasizes the values of people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities. Confucius management culture advocates teamwork, emphasizes the spirit of collectivism, encourages cooperation and resource sharing among teachers, advocates continuous learning, emphasizes the importance of learning, encourages staff to constantly pursue knowledge and self-improvement, and promotes an atmosphere of lifelong learning. By emphasizing these characteristics, universities can cultivate the cooperative spirit and common values among leaders and teachers in Shandong Province, promote harmonious development within the public university, improve the quality of education and the professional development of staff, and jointly promote the overall development of the public university.

4.2 Descriptive Statistics: Univariate Description

This study conducted a questionnaire survey through an online link where to access the survey in February 2024, and a total of 429 samples were collected in this study. After screening, 402 samples were valid, which were used for subsequent analysis.

4.2.1 Basic Statistics Information of Respondents

To have a preliminary understanding of the demographic characteristics of university staff in Shandong Province, this study used the software SPSS to analyze the basic information of respondents, such as gender, role, age, marital status, degree, professional titles, training times in the last five years, years of working, and the highest level of education.

Table 4.1 shows the basic statistics information of 402 respondents. The ratio of male respondents to female respondents is approximately two to three, with 38.3% male and 61.7% female. The percentage of full-time teachers is 71.1%, with 23.9% administrative staff, and 5.0% other roles, which is consistent with the actual situation of universities. In the past, it was easier to enter universities with a master's degree, but with the development, universities recruit staff with doctorate degrees. Moreover, it is stable to work in universities, and a few staff quit universities, which can be well explained by the distribution of age, degrees, and working years.

Most of the respondents are 41-50 years old accounting for 51.2%, followed by 31-40 years old accounting for 29.9%. In terms of degree, most university staff still have master's degrees (62.7%), followed by doctoral degrees (26.6%). According to the working years, nearly half of the respondents have worked for more than 15 years, and the number of respondents who have worked for 5 years or less is close to that of those who have worked for 11 to 15 years, relatively few respondents worked for 6 to 10 years. In other words, the main force of universities are people with master's degrees who were previously recruited by universities and have long service years, in recent years, universities have focused on hiring people with doctoral degrees, and, normally, staff with working year of less than five years account for nearly one-fifth (18.7%). In addition, the staff with master's degrees also

study for doctoral degrees, so the proportion of doctoral degrees is also increasing.

Table 4.1 Basic statistics information of respondents

Items	Category	Frequency	Percentage
Gender	Male	154	38.3%
	Female	248	61.7%
Role	Full-time teacher	286	71.1%
	Administrative staff	96	23.9%
	Another role	20	5.0%
Age	30 years and below	45	11.2%
	31-40	120	29.9%
	41-50	206	51.2%
	Above 50	31	7.7%
Marital Status	Married	336	83.6%
	Unmarried	52	12.9%
	Divorced	9	2.2%
	Other status	5	1.2%
Degree of Educational Attainment	Bachelor	43	10.7%
	Master	252	62.7%
	Doctor	107	26.6%
Professional Titles	Senior title	145	36.1%
	Intermediate title	214	53.2%
	Primary title	43	10.7%
Years of Working	5 years and below	75	18.7%
	6-10	55	13.7%
	11-15	72	17.9%
	Above 15	200	49.8%
Highest Level of Education Offered by the University	Bachelor	154	38.3%
	Master	168	41.8%
	Doctor	80	19.9%

There are 83.6% of respondents are married, 12.9% of respondents are unmarried, and only 2.2% of respondents are divorced, indicating that the marriage of the staff working in universities is stable. A little more than half of respondents are intermediate titles, accounting for 53.2%, followed by senior titles (36.1%), and a small number of primary titles (10.07%). Nearly 90% of the respondents have participated in vocational training in the past five years, indicating that universities care about the career growth of their staff. From the perspective of cultivation level, there are 154 respondents whose universities only cultivate undergraduates, accounting for 38.3%, 168 respondents from universities with master's degrees, accounting for 41.8%, and 80 respondents from universities with doctoral degree cultivation programs, accounting for 19.9%, which fully demonstrates that public universities in Shandong Province have higher cultivation level.

4.2.2 Descriptive Statistics Analysis of Each Variable

This study performed a descriptive statistical analysis of each variable. Means, SD, correlations, and the reliability of all variables are presented in Table 4.2. For a 5-point Likert scale, the mean value of each variable is above 3, even close to 4, indicating that respondents are satisfied with the content of these four variables overall. What the respondents recognize most is their work engagement with the highest mean of the four variables.

Table 4.2 Means, standard deviations, correlations, and reliability.

Variable	N	Mean	S.D.	CMC	PCF	WE	CG
CMC	402	3.655	0.750	(0.961)			
PCF	402	3.551	0.849	0.849*	(0.945)		
WE	402	3.790	0.749	0.744*	0.792*	(0.953)	
CG	402	3.465	0.776	0.822*	0.868*	0.780*	(0.967)

Alpha values (bold values) are shown on the diagonal in parenthesis.

* $p < 0.01$.

Each variable was tested for significance at the $p < 0.01$ level (bilateral) and is represented by one star (*) in the table. CMC was significantly and positively correlated with PCF ($r = 0.849$), WE ($r = 0.744$), and CG ($r = 0.822$). PCF was positively related to WE ($r = 0.792$) and CG ($r = 0.868$), and WE was positively correlated to CG ($r = 0.780$).

4.3 Percentage Distribution of Constructs

This part presents a descriptive statistical analysis of a survey regarding staff's perceptions of Confucius management culture, psychological contract fulfillment, work engagement, and career growth. The survey comprises a series of statements, designed to gauge employees' opinions on various aspects. For each statement, the responses are categorized into Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree, along with the corresponding mean values, standard deviations (S.D.), overall level of agreement, and rank numbers.

According to Best (1981), The interpretation of the score would be

Mean	Significance Level
1.00 - 1.80	Strong Disagree
1.81 - 2.60	Disagree
2.61 - 3.40	Neutral
3.41 - 4.20	Agree
4.21 - 5.00	Strong Agree

4.3.1 Confucius Management Culture

This section describes the respondents' perceptions of their organizations on the implementation of Confucius management culture, consisting of four dimensions and thirteen questions (Table 4.3-4.7).

Table 4.3 Percentage distribution of people-oriented (PO)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My organization cares about my mental health	3.48	7.21	41.54	33.08	14.68	3.48	0.948	Agree	3
My organization is willing to listen to my different opinions	2.29	8.96	37.56	35.82	14.68	3.50	0.951	Agree	2
My ability is considerable from my organization while assigning me a job	2.49	7.96	27.11	46.27	16.17	3.66	0.927	Agree	1
Total of PO	2.99	8.04	35.41	38.39	15.17	3.55	0.842		

Table 4.3 outlines the results of a survey aimed at assessing how staff perceives their organization's approach towards several crucial aspects of people-oriented. Nearly half of 47.76 percent felt their organization cares for staff's mental health, 50.5 percent agreed that the organization is open to hearing staff's diverse viewpoints, and 62.44 percent claimed that organizations acknowledge their abilities while assigning tasks. The document also includes an aggregate analysis of all surveyed aspects of people-oriented, providing an overall perception of the organization. 53.56 percent of respondents agree that their organization can put people first.

According to Table 4.3, the percentage of respondents who agree or highly agree mostly answers in part to the people-oriented dimension. The staff in public universities have a positive evaluation of their organization in Confucius management culture. Particularly, the highest mean score (3.66) and the lowest ranking (1) were obtained in terms of the organization's recognition of staff's abilities, indicating that staff generally believe the organization considers their capabilities when assigning work. Additionally, the organization also received relatively high levels of recognition for listening to staff's opinions and caring for their mental health, with mean scores of 3.50 and 3.48 respectively, both falling within the "Agree" category. Overall, the survey results reflect a positive outlook among staff towards the Confucius management culture in public universities in Shandong province.

Table 4.4 is a percentage of etiquette that promotes harmony with four items to question the respondents. The organization provides opportunities for both sides to express their view during conflicts at 70.90 percent, employees also perceived the organization as neutral in conflict resolution at 67.16 percent, and the organization could emphasize rule compliance at 62.94 percent and values regarding cooperation. The overall assessment at 64.18, demonstrating a high level of satisfaction with using etiquette to promote harmony.

Table 4.4 Percentage distribution of etiquette promotes harmony (ETI)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My organization gives both sides a chance to argue their case when there is a conflict at work	1.49	3.73	23.88	50.25	20.65	3.85	0.841	Agree	1
My organization doesn't take sides when there is a conflict at work	0.50	3.48	28.86	48.01	19.15	3.82	0.795	Agree	2
My organization emphasizes playing by the rules	1.74	7.96	34.58	37.56	18.16	3.62	0.929	Agree	4
My organization values cooperation	1.24	3.73	32.09	44.03	18.91	3.76	0.845	Agree	3
Total of ETI	1.24	4.73	29.85	44.96	19.22	3.76	0.761		

According to Table 4.4, the percentage of respondents who agree or highly agree mostly answers in part that the etiquette promotes harmony dimension. The staff in public universities have a positive evaluation of their organization in Confucius management culture. Particularly, the similar two higher mean scores (3.85 and 3.82) were obtained in terms of the organization's attitude and action in handling workplace conflicts, indicating that staff generally believe the organization provides opportunities for both sides to express their views and doesn't take sides in handling workplace conflicts. Additionally, the organization also received relatively high levels of emphasis on rule compliance and values regarding cooperation, with mean scores of 3.62 and 3.76 respectively, both falling within the "Agree" category. Overall, the survey results reflect a positive outlook among staff towards the Confucius management culture in public universities in Shandong province.

Table 4.5 outlines the results of staff's perceptions about the organization's approach towards several crucial aspects of rules of virtue. A majority of 54.98 percent agreed that leaders were fair in task allocation, not imposing personal preferences, 68.16 percent trusted in leaders' ability to uphold organizational order and authority, and 68.11 percent believed that leaders could set a good example. The aggregate analysis of all surveyed aspects of rules of virtue, provides an overall perception of the organization at 53.56, indicating a generally positive sentiment towards the leader's virtuous approach among employees.

According to Table 4.5, the percentage of respondents who agree or highly agree mostly answers in part to the rules of virtue dimension. The staff in public universities have a positive evaluation of their organization in Confucius management culture. Particularly, the highest mean score (3.82) and the lowest ranking (1) were obtained in terms of a leader's ability to lead by example, reflecting a positive perception of leadership abilities and role modeling. Additionally, the organization also received relatively high levels of emphasis on the leader's task allocation and perception of leadership authority with mean scores of 3.56 and 3.76 respectively, both falling within the "Agree" category. Overall, the survey results indicated a positive sentiment among staff towards the Confucius management culture in public universities in Shandong province.

Table 4.5 Percentage distribution of rules of virtue (VIR)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My leader doesn't assign me anything he or she doesn't want to do	3.73	8.71	32.59	38.06	16.92	3.56	0.993	Agree	3
My leader makes authority secure in my mind	2.49	4.48	27.36	46.77	21.39	3.76	0.904	Agree	2
My leader can lead by example	1.74	3.73	26.37	46.72	21.39	3.82	0.868	Agree	1
Total of VIR	2.65	5.64	28.77	43.62	19.32	3.70	0.808		

Table 4.6 outlines the results of staff's perceptions about the organization's approach towards several crucial aspects of appointing people by abilities. A majority of 56.96 percent had an overall tendency towards an agreement that the organization understands their behavior pattern, only 48.01 percent of respondents perceived the organization's understanding of staff capabilities, and Approximately 50% of 50.74 percent believed the organization's adherence to meritocracy in appointments. The aggregate analysis of all surveyed aspects of appointing people by abilities, provides an overall perception of the organization at 51.91 percent, indicating a generally positive sentiment towards the practice of meritocracy in appointments among employees.

According to Table 4.6, the percentage of respondents who agree or highly agree mostly answers in part to the appointing people by abilities dimension. The staff in public universities have a positive evaluation of their organization in Confucius management culture. Particularly, the highest mean score (3.67) and the lowest ranking (1) were obtained in terms of organizational perception of staff behavior patterns, suggesting that employees generally perceive the organization to have a good understanding of their behavior. The organization also received relatively high levels of perception of the organization's understanding of staff capabilities with mean scores of 3.53, and a mean of 3.49 suggesting some doubt among employees about meritocracy, but it also falls within the "Agree" category. Overall, the survey results indicated a positive sentiment among staff towards the Confucius management culture in public universities in Shandong province.

Table 4.6 Percentage distribution of appointing people by abilities (APA)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My organization knows how I act	0.50	6.22	36.32	39.80	17.16	3.67	0.868	Agree	1
My organization knows what I can do	1.49	7.96	42.54	32.34	15.67	3.53	0.849	Agree	2
My organization follows the principle of meritocracy in appointing	4.98	7.96	36.32	35.07	15.67	3.49	0.902	Agree	3
Total of APA	2.32	7.38	38.39	35.74	16.17	3.56	0.837		

Table 4.7 outlines the results of staff's perceptions about the organization's approach towards four crucial aspects of CMC. In general, 58.61 percent of respondents recognized Confucius management culture in their organizations, 32.85 percent of respondents held a neutral attitude, 54.56 percent of them believed that their organizations are people-oriented, 64.18 percent claimed that their organizations are using etiquette to promote harmony, 62.94 percent believed that leaders are virtuous, and 51.91 percent agreed that the organization has a correct understanding of their staff, and can appoint staff based on the ability. Overall, less than 10 percent of the respondents do not think that their organizational culture includes the Confucius management culture, and even fewer respondents think that the organization does not value harmony, which shows that universities have inherited the Confucius management culture aimed at harmony and applied it to their organizations.

According to Table 4.7, the staff in public universities have a positive evaluation toward their organization in Confucius management culture with a mean score of 3.65. Particularly, the two highest mean scores (3.76 and 3.70) were obtained in terms of etiquette and virtue, suggesting that employees generally perceive that the organization is doing a good job of following etiquette and ethics for harmonious management. The organization also received relatively high levels of perception of the organization's approach in people-oriented and appointing people by abilities with mean scores of 3.55 and 3.56 respectively, both falling within the "Agree" category. Overall, the survey results indicated a positive sentiment among staff towards the organizational culture in public universities in Shandong province.

Table 4.7 Percentage distribution of CMC

Constructs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
People-Oriented (PO)	2.99	8.04	35.41	38.39	15.17	3.55	0.842	Agree	4
Etiquette Promotes Harmony (ETI)	1.24	4.73	29.85	44.96	19.22	3.76	0.761	Agree	1
Rules of Virtue (VIR)	2.65	5.64	28.77	43.62	19.32	3.70	0.808	Agree	2
Appointing People by Abilities (APA)	2.32	7.38	38.39	35.74	16.17	3.56	0.836	Agree	3
Total	2.22	6.31	32.85	41.01	17.60	3.65	0.750		

4.3.2 Psychological Contract Fulfillment

This section has the purpose of finding the fulfillment degree of psychological contract of organizations to create the psychological contract fulfillment design which content of five items of measurement. This section defines the respondents' perception of organizational psychological contract fulfillment in a public university.

Five questions measure psychological contract fulfillment. Table 4.8 outlines the results of a survey aimed at assessing how staff perceive their organization's fulfillment of psychological contracts. A majority 59.95 percent felt their organization fulfilled for staff's expectations as a whole, 54.47 percent agreed that the organization fulfilled the staff's desire for career growth opportunities, 45.27 percent claimed that organizations fulfilled staff's needs for fair and attractive rewards, 55.20 percent believed that organizations fulfilled staff's needs for the work environment, and Approximately 50% of 50.49 percent supported that organizations fulfilled staff's extra contributions. The document also includes an aggregate analysis of all surveyed aspects of psychological contract fulfillment, providing an overall perception of the organization. 53.08 percent of respondents agreed that their organization fulfilled the psychological contract.

According to Table 4.8, the staff in public universities have a positive evaluation of their organization in psychological contract fulfillment. Particularly, the highest mean score (3.66) and the lowest ranking (1) were obtained in terms of the organization's fulfillment of staff's expectations as a whole. Additionally, the organization also received relatively high levels of recognition in fulfilling the needs for career growth opportunities, work environment, and extra contributions, with mean scores of 3.56, 3.57, and 3.51 respectively, falling within the "Agree" category. The Mean of 3.37 is the lowest among the five, suggesting some doubt among employees about the organization's fulfillment of staff's needs for fair and attractive rewards, the standard deviation (S.D.) of 1.02 is the highest of the five statements, indicating that staff's opinions on this statement are the most divided. Overall, the survey results reflect a positive outlook among staff towards the organization's fulfillment of psychological contracts in public universities.

Table 4.8 Percentage distribution of psychological contract fulfillment (PCF)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
I feel my organization as a whole has fulfilled my expectations	1.24	7.71	31.09	44.03	15.92	3.66	0.880	Agree	1
I feel my organization fulfilled my desire for career growth opportunities	1.49	10.45	33.58	39.30	15.17	3.56	0.922	Agree	3
I feel my organization fulfilled my needs for fair and attractive rewards	4.23	13.93	36.57	31.34	13.93	3.37	1.02	Neutral	5
I feel my organization fulfilled my needs for the work environment	2.24	8.71	33.83	40.05	15.17	3.57	0.927	Agree	2
I feel my organization fulfilled my extra contribution	2.24	10.20	37.06	35.32	15.17	3.51	0.945	Agree	4
Total of PCF	2.29	10.20	34.43	38.01	15.07	3.55	0.848		

4.3.3 Work Engagement

This section describes the respondents' performances in work engagement, consisting of three dimensions and nine questions (Table 4.9-4.12).

Three questions measure vigor (Table 4.9). Among all these questions, the item describes the positive state of staff when they are at work. A majority of 77.11 percent felt bursting with energy at work, 69.40 percent felt strong and vigorous at work, and 58.21 percent claimed that they wanted to go to work when getting up in the morning. An aggregate analysis of all surveyed aspects of vigor provided an overall perception of the feeling at 68.25. These findings show that the respondents agreed and strongly agreed with their performance in terms of vigor.

According to Table 4.9, the staff in public universities have a positive evaluation of their performances in vigor. Particularly, the highest mean score (3.96) and the lowest ranking (1) were obtained in terms of the respondent's energy, indicating that staff believe they burst with energy at work. Additionally, the staff also felt strong and vigorous with a mean score of 3.86, and they felt like going to work when getting up, with a mean score of 3.64. Overall, the survey results reflect a positive attitude among staff towards work engagement in public universities in Shandong province.

Three questions measure dedication (Table 4.10). Among all these questions, the item describes respondent's enthusiasm about their job at 73.4 percent significantly. The respondent's job can inspire the employee at 67.17 percent. Finally, the respondent feels proud of their work at 71.89 percent. An overall perception of the respondent's dedication at 70.73. These findings show that the respondents agreed and strongly agreed with their performance in terms of dedication.

Table 4.9 Percentage distribution of vigor (VIG)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
At my work, I feel bursting with energy	0.50	3.23	19.15	53.73	23.38	3.96	0.774	Agree	1
At my job, I feel strong and vigorous	0.75	3.98	25.87	47.51	21.89	3.86	0.828	Agree	2
When I get up in the morning, I feel like going to work	1.49	9.20	31.09	40.55	17.66	3.64	0.928	Agree	3
Total of VIG	0.91	5.47	25.37	47.27	20.98	3.82	0.787		

Table 4.10 Percentage distribution of dedication (DED)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
I am enthusiastic about my job	0.75	5.47	20.65	50.25	22.89	3.89	0.843	Agree	2
My job inspires me	1.00	4.98	26.87	44.78	22.39	3.83	0.868	Agree	3
I am proud of the work that I do	0.50	5.47	22.14	43.53	28.36	3.94	0.876	Agree	1
Total of DED	0.75	5.31	23.22	46.19	24.54	3.88	0.803		

According to Table 4.10, the staff in public universities have a positive evaluation of their performances in dedication. Particularly, the highest mean score (3.96) and the lowest ranking (1) were obtained in terms of the respondents' pride, indicating that staff believe they are proud and satisfied with their work. Additionally, the staff are enthusiastic about their job and claim their job can inspire them with mean scores of 3.89 and 3.83. Overall, the survey results reflect a positive attitude among staff towards work engagement in public universities in Shandong province.

Three questions measure absorption (Table 4.11). Among all these questions, the item described the respondent's happy experience while working intensely at 50.24 percent. The respondent got carried away while working at 53.98 percent. Finally, the respondent could be immersed in his work at 76.12 percent. An overall perception of the respondent's absorption at 60.10. These findings show that the respondents agreed and strongly agreed with their performance in terms of absorption.

According to Table 4.11, the staff in public universities have a positive evaluation of their states in absorption at work. Particularly, the highest mean score (3.95) and the lowest ranking (1) were obtained in terms of the respondent's immersion, indicating that most staff are highly engaged and enjoy themselves at work. Additionally, the staff get carried away while working and feel happy while working intensely with mean scores of 3.58 and 3.47. the standard deviation (S.D.) of 1.03 is the highest of the three statements, indicating that the staff's feeling of happiness while working intensely is the most divided. Overall, the survey results reflect a positive attitude among staff towards work engagement in public universities in Shandong province.

Table 4.11 Percentage distribution of absorption (ABS)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
I feel happy when I am working intensely	3.23	13.93	32.59	33.08	17.16	3.47	1.03	Agree	3
I get carried away when I am working	1.49	10.45	30.08	36.82	17.16	3.58	0.942	Agree	2
I am immersed in my work	1.00	2.24	20.65	52.74	23.38	3.95	0.787	Agree	1
Total of ABS	1.91	8.88	29.11	40.87	19.23	3.67	0.826		

Table 4.12 Percentage distribution of work engagement (WE)

Constructs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
Vigor (VIG)	0.91	5.47	25.37	47.26	20.98	3.82	0.787	Agree	2
Dedication (DED)	0.75	5.31	23.22	46.19	24.54	3.88	0.803	Agree	1
Absorption (ABS)	1.91	8.87	29.10	40.88	19.24	3.67	0.826	Agree	3
Total	1.19	6.55	25.90	44.78	21.59	3.79	0.750		

The percentage of distribution of three sub-dimensions of work engagement is given in Table 4.12. Overall, two-thirds of the respondents agree they have a high level of work engagement (66.37 percent), with 68.24 percent of vigor, 70.74 percent of dedication, and 60.12 percent of absorption, fewer than 10 percent of the respondents answered disagree or strongly disagree to work engagement (7.74 percent). Compared with the answers of the other four variables, more respondents think that they have a higher work engagement, the proportion of respondents who answer agree or strongly agree is the highest, and the proportion of respondents who answer disagree or strongly disagree is the lowest.

According to Table 4.12, the staff in public universities have a positive engagement toward their work with a mean score of 3.79. Particularly, the two highest mean scores (3.88 and 3.82) were obtained in terms of dedication and vigor, suggesting that employees generally enjoy themselves at work. The organization also received relatively high levels of perception of staff's absorption at the work with a mean score of 3.6. Overall, the survey results indicated a positive engagement in the work among staff in public universities in Shandong province.

4.3.4 Career Growth

This section has the purpose of finding the level of career growth of respondents toward their organizational management culture to create their career growth design which content of four dimensions and fifteen questions of measurement (Table 4.13-4.17).

Four questions measure career goal progress (Table 4.13). A majority (60.45 percent) agreed that their current job brings them closer to their career goals. 66.67 percent of respondents perceived high congruence between their job and career aspirations. 62.68 percent agreed that their current job lays a foundation for future growth. 57.22 percent agreed that their job offers better development opportunities, this is lower than other statements. An overall perception of the respondent's career goal progress at 61.75, indicates a generally positive perception of current work. These findings show that the respondents agreed and strongly agreed with their perception of current work in terms of career goal progress.

Table 4.13 Percentage distribution of career goal progress (CGP)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My current job brings me closer to my career goals	1.00	6.22	32.34	43.53	16.92	3.69	0.859	Agree	3
My current job is related to my career goal and career ideal	0.75	4.98	27.61	48.51	18.16	3.78	0.824	Agree	1
My present job has laid the foundation for my future development	0.50	5.97	30.85	45.52	17.16	3.73	0.832	Agree	2
My present job offers me a better opportunity for my development	0.75	7.71	34.33	40.80	16.42	3.64	0.871	Agree	4
Total of CGP	0.75	6.22	31.28	44.59	17.16	3.71	0.789		

According to Table 4.13, the staff in public universities have a positive evaluation of their current work in career goal progress. Particularly, the highest mean score (3.78) and the lowest ranking (1) were obtained in terms of relevance to career goals and ideals, indicating a strong sense of alignment. Additionally, the evaluation of the foundation for future development, proximity to career goals, and opportunities for development with mean scores of 3.73, 3.69, and 3.64. With an average score of 3.71 and SD of 0.789, the overall career goal progress (CGP) reflects a generally positive perception among staff towards career growth in public universities in Shandong province.

Three questions measure professional ability development (Table 4.14). A majority (69.65 percent) agreed that their current job encourages acquiring new job-related skills. 71.89 percent of respondents agreed that their job encourages constant updating of job-related knowledge. The item received the strongest positive response, with 72.14 percent that their professional ability is constantly exercised and improved. An overall perception of the respondent's development of professional ability at 71.23, indicates a generally positive perception of current work. These findings show that the respondents agreed and strongly agreed with their perception of current work in terms of professional ability development.

According to Table 4.14, the staff in public universities have a positive evaluation of their current work in professional ability development. Particularly, professional ability improvement and knowledge update encouragement had similar mean scores of 3.88 and 3.87, suggesting a positive and relatively consistent attitude at these two items. Additionally, the staff also received relatively high levels of perception in skill acquisition encouragement with mean scores of 3.83. With an average score of 3.86 and SD of 0.747, the overall professional ability development (PAD) reflects a generally positive perception among staff towards career growth in public universities in Shandong province.

Table 4.14 Percentage distribution of professional ability development (PAD)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My present job encourages me to acquire new job-related skills	0.50	3.73	26.12	51.49	18.16	3.83	0.781	Agree	3
My current job encourages me to constantly update my job-related knowledge	0.50	3.73	23.88	51.74	20.15	3.87	0.787	Agree	2
I feel that my professional ability is constantly exercised and improved	1.00	2.99	23.88	51.49	20.65	3.88	0.801	Agree	1
Total of PAD	0.66	3.48	24.63	51.58	19.65	3.86	0.747		

Five questions measure the organizational reward dimension (Table 4.15). Of these items, only one item has an equal proportion (37.81 percent) of respondents who agree and who are neutral in terms of the great possibility of respondent's job promotion. There are more neutral respondents than agree with the other four items of organizational reward. Only 36.32 percent agreed that their current job titles are promoted fast, with 41.79 percent neutral. 34.83 percent agree and 39.05 percent are neutral in getting promoted at a faster rate compared with their colleagues. 32.34 percent agree and 41.79 percent are neutral about the idea that staff have a great possibility to get a salary increase. 31.10 percent agree and 37.06 percent are neutral on the item of staff having more research incentive payments. From an overall perception of the respondent's reward coming from the organization, the majority of employees, especially the neutral options (39.50 percent), have some reservations about their salary satisfaction, while the relatively low proportion of agreement (34.48 percent) that there is still some room for improvement in organizational reward.

According to Table 4.15, the staff in public universities have a neutral level toward their current organizational reward. Particularly, the mean scores of these five items were concentrated between 3.03 to 3.21, suggesting that the respondents hold a neutral attitude toward the speed of their job promotion, perceive the possibility of promotion as neutral, hold a neutral stance on the likelihood of salary increases, and consider their promotion speed compared to colleagues as neutral, satisfaction with research incentive payments is also neutral. The standard deviation (S.D.) was greater than 1.00, indicating that there is a large difference in the evaluation of the respondents on these 5 items. The mean score of 3.14 likely represents an overall score for all surveyed items, indicating a neutral level of overall satisfaction with organizational reward among staff in public universities in Shandong province.

Table 4.15 Percentage distribution of organizational reward (ORe)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
My job position/job title is promoted fast	5.72	16.17	41.79	23.88	12.44	3.21	1.04	Neutral	1
There is a great possibility for my job promotion	4.98	19.40	37.81	25.87	11.94	3.20	1.04	Neutral	2
Compared with my colleagues, I am getting promoted at a faster rate	5.22	20.90	39.05	24.13	10.70	3.14	1.03	Neutral	3
I have a great possibility to get a salary increase	5.72	20.15	41.79	20.90	11.44	3.12	1.04	Neutral	4
I have more research incentive payments	6.97	24.88	37.06	20.40	10.70	3.03	1.08	Neutral	5
Total of ORe	5.72	20.30	39.50	23.04	11.44	3.14	0.978		

Three questions measure the social resources access dimension (Table 4.16). Of these items, only one item has more respondents who agree (42.28 percent) than neutral (41.04 percent) in terms of the opportunities to meet more scholars in the same field. There are more neutral respondents than agree with the other two items of social resource access. When asked about encountering recognized scholars in the same field, the average response was also neutral with 36.32 percent of agree and 42.29 percent neutral. 37.56 percent agree and 42.29 percent are neutral about the idea that staff can meet more advanced organizations in the same field. From an overall perception, the majority of employees, especially the neutral options (41.87 percent), have some reservations about social resources access, while the relatively low proportion of agreement indicates (38.72 percent) that there is still some room for improvement in social resources access.

According to Table 4.16, across all statements of academic and organizational interactions, the staff in public universities revealed a neutral overall sentiment. Particularly, the mean scores of these five items were concentrated between 3.23 to 3.36, suggesting that many do not frequently have such encounters. The standard deviation (S.D.) was around 1.00, indicating a diversity of opinions on the opportunities for scholarly interaction and exposure to advanced organizations. The mean score of 3.28 likely represents an overall score for all surveyed items, indicating a neutral level of overall satisfaction with social resources access among staff in public universities in Shandong province.

Table 4.16 Percentage distribution of social resources access (SRA)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
I have opportunities to meet more scholars in the same field	2.49	14.18	41.04	29.10	13.18	3.36	0.964	Neutral	1
I meet recognized scholars in the same field	4.73	16.67	42.29	23.88	12.44	3.23	1.02	Neutral	3
I meet more advanced organizations in the same field	4.73	15.42	42.29	25.62	11.94	3.25	1.01	Neutral	2
Total of SRA	3.98	15.42	41.87	26.20	12.52	3.28	0.937		

The percentage of distribution of four sub-dimensions of career growth is given in Table 4.17. Nearly half of the respondents answered agree or strongly agree about their career growth within their current organization (49.95 percent), with 12.24 percent of respondents answered disagree or strongly disagree and 34.81 percent of respondents uncertain. For the dimension of career goal progress, 61.75 percent of respondents agree with 6.97 percent disagree. For the dimension of professional ability development, 71.23 percent of respondents agree with 4.14 percent disagree. However, in terms of organizational reward, only 34.47 percent of respondents recognize that organizational rewards have been raised, with 26.02% disagreeing. For the social resources access dimension, 38.72 percent of respondents agree that they could access social resources, but 19.40 percent disagree. From this analysis, in terms of organizational reward and social resource access, respondents' answers are not optimistic. Overall, the percentage of respondents who agree on career growth is the lowest among the five variables, while those who disagree are indeed the highest. It also indicates that organizations should find ways to support and meet the needs of their staff's career growth, especially in the aspects of organizational reward and access to social resources.

According to Table 4.17, the staff in public universities have a generally positive attitude toward their career growth with a mean score of 3.47. Particularly, the two highest mean scores (3.86 and 3.71) were obtained in terms of career goal progress and professional ability development, suggesting that employees generally perceive career development in the current organization. A neutral attitude towards organizational reward and social resources access is received with a mean score of 3.14 and 3.28 respectively. Overall, the survey results indicated a relatively positive satisfaction toward career growth in their organizations among staff in public universities in Shandong province.

Table 4.17 Percentage distribution of CG

Constructs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D.	Level	Rank No
Career Goal Progress (CGP)	0.75	6.22	31.28	44.59	17.16	3.71	0.789	Agree	2
Professional Ability Development (PAD)	0.66	3.48	24.63	51.58	19.65	3.86	0.747	Agree	1
Organizational Reward (ORe)	5.72	20.30	39.50	23.04	11.44	3.14	0.978	Neutral	4
Social Resources Access (SRA)	3.98	15.42	41.87	26.20	12.52	3.28	0.937	Neutral	3
Total	3.03	12.21	34.81	35.12	14.83	3.47	0.776		

4.4 Reliability, Validity, and Primary Confirmatory Factor Analysis (CFA)

4.4.1 Measurement model

This study used AMOS to analyze the research model. The measurement model of all variables first captured its construct. This study checked item reliability, construct reliability, and convergent validity before testing the hypotheses. This study used CFA of the first order and the second order to the CMC model respectively. According to Marsh and Hocevar (1985), the target coefficient could be used to decide the fitness with data compared CFA of the first order and the second order. The closer the value of the target coefficient is to 1, the more representative the second-order model is, and it can replace the first-order model, making the model more concise (Lai et al., 2010). the target coefficient is the ratio of the chi-square of the first-order model to the chi-square of the second-order model. In this case, the chi-square of the first-order model is 277.863 and the chi-square of the second-order model is 278.809, so the target coefficient of CMC is 0.997, closer to 1, which provides the fitness index of second order model of CMC reveals the fitness is good. Therefore, the measurement model of CMC can take the results of the second-order model to the structural model analyses.

The second-order CFA of CMC is shown in Figure 4.1, including 13 items within four sub-dimensions. The measurement model of psychological contract fulfillment is shown in Figure 4.2 with 5 items, the measurement model of work engagement is shown in Figure 4.3, a total of 9 items within three sub-dimensions, and the measurement model of career growth is displayed in Figure 4.4, a total of 15 items within four sub-dimensions.

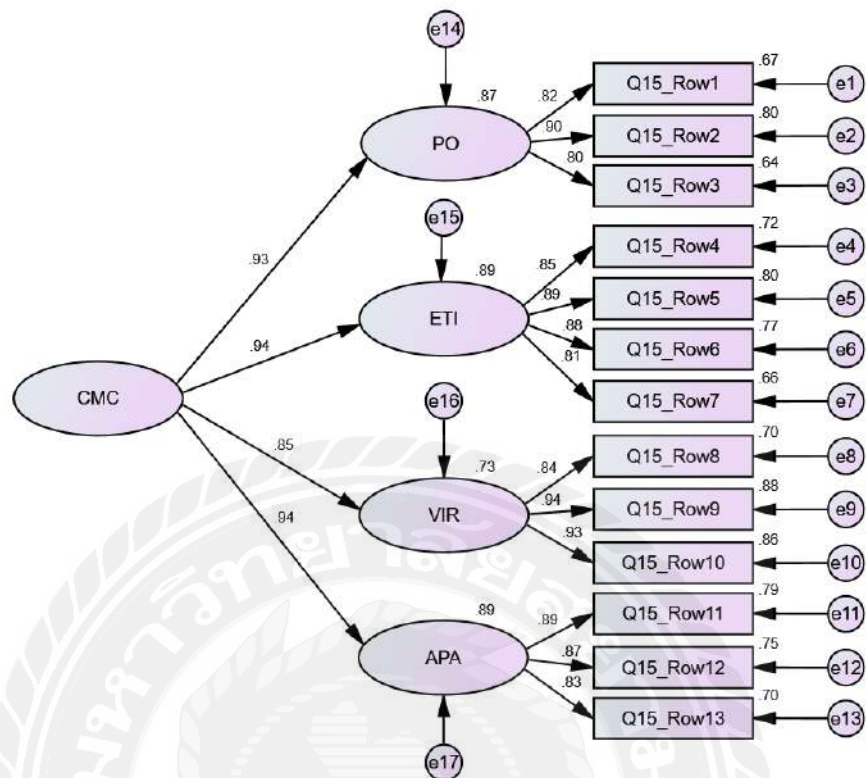


Figure 4. 1 Measurement model of CMC
(Resource: Researcher, 2024)

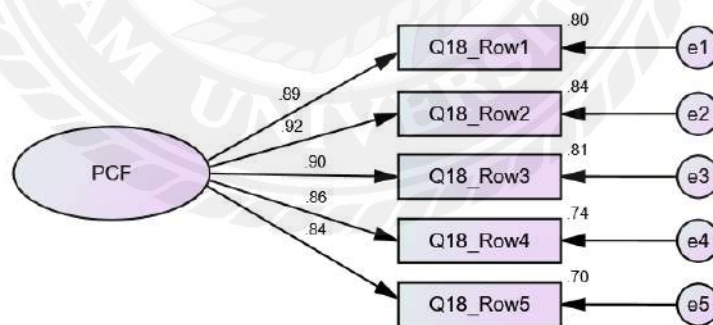


Figure 4.2 Measurement model of PCF
(Resource: Researcher, 2024)

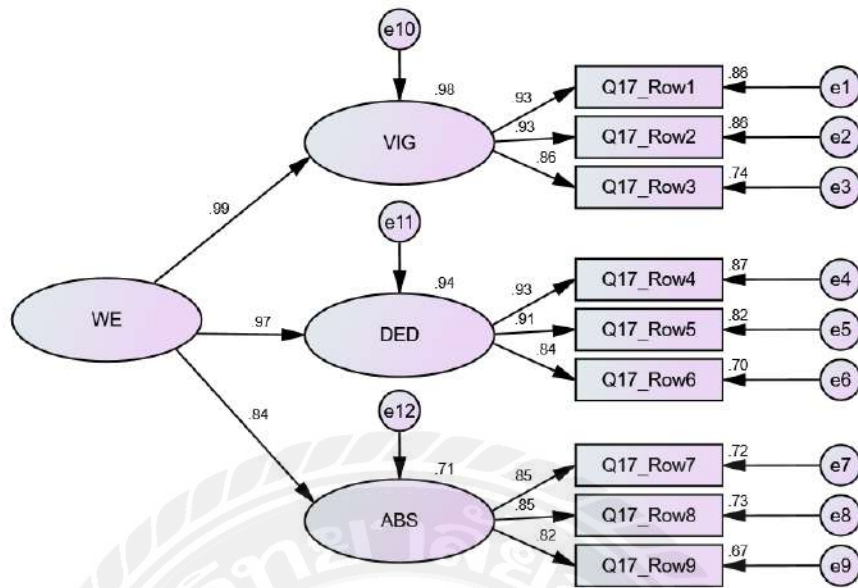


Figure 4.3 Measurement model of WE
(Resource: Researcher, 2024)

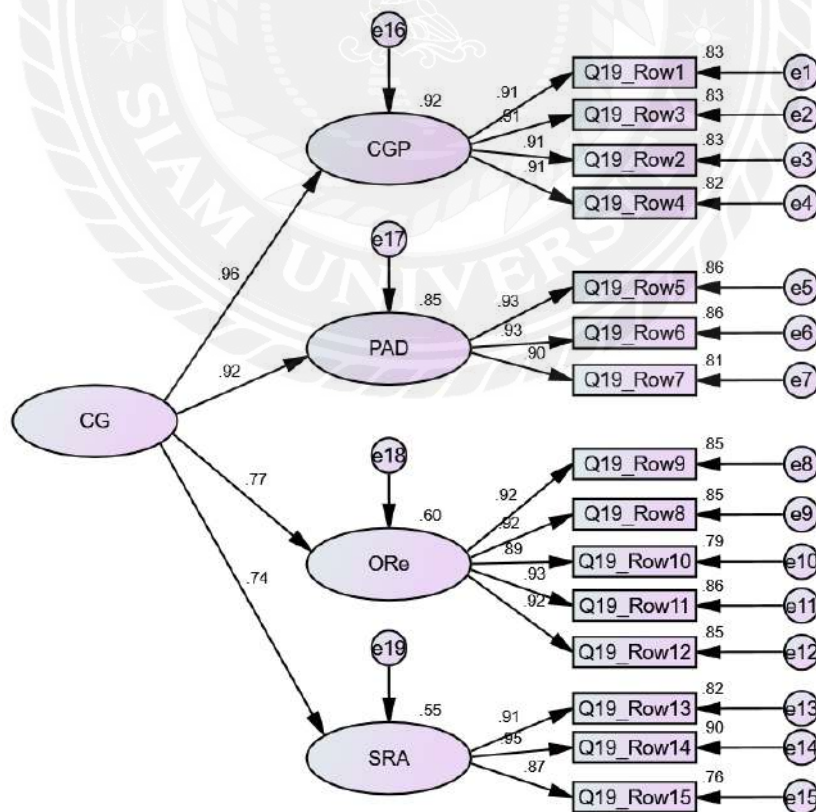


Figure 4.4 Measurement model of CG
(Resource: Researcher, 2024)

The measurement models should have good fitness indicators before the structural model analyses. This study tests the model fit using indicators such as the ratio of the chi-square to freedom (χ^2/df), TLI, IFI, CFI, AGFI, GFI, and RMSEA. The criteria for indicators are as follows. It is acceptable if $\chi^2/df < 5$, and it is good if $\chi^2/df < 3$; the value of TLI, IFI, GFI, CFI, and AGFI should be above 0.9 and RMSEA should be lower than 0.08. The fitness of all five variables' measurement models is displayed in Table 4.18. The model fit of each variable's measurement model in this study has been verified, based on the criteria, which indicate that these models can be used for structural model analyses.

Table 4.18 The fitness of the measurement models

Measured Model	χ^2/df	TLI	IFI	CFI	AGFI	GFI	RMSEA
CMC	1.699	0.989	0.991	0.991	0.960	0.980	0.042
PCF	3.453	0.987	0.993	0.993	0.949	0.983	0.078
WE	1.857	0.929	0.995	0.994	0.906	0.988	0.046
CG	1.744	0.990	0.991	0.991	0.967	0.980	0.043

4.4.2 Discriminatory Power

CFA is used to obtain significance estimation of parameters, factor loading, and reliability values for each item of variables, and composite reliability (CR) and convergent validity for each construct of latent variables by the software of AMOS. There is sufficient reliability for each item if the factor loading is above 0.6 and the minimum squared multiple correlation (SMC) is above 0.36. The CR value is the combination of the reliability of all measured variables and indicates the internal consistency of the construct indicator, equivalent to Cronbach's Alpha, higher CR indicates higher internal consistency of the construct. $CR > 0.7$ represents high internal consistency for each construct of the variable and is an accepted composite reliability (Fornell and Larcker, 1981). The average of variance extracted (AVE) is calculated as the average of the explanatory power of the latent variables on the

measured variables, and a higher AVE indicates a higher convergent validity of the constructs. If the average variance extracted (AVE) of the latent variable is above 0.5, it indicates that the extracted measured variable can effectively reflect its latent variable and that the latent variable has good validity (Hall, 2004). So, this study used the criterion of $AVE > 0.5$. Table 4.2 also shows the Cronbach's Alpha (α) values of measurement variables. The closer the α value is to 1, the higher the reliability will be. The criterion is that α value between 0.70 and above means high reliability (Gilford, 1954), so this study used the criterion of $\alpha > 0.7$ mentioned in Chapter 3.

4.4.2.1 Confucius Management Culture (CMC)

The discriminatory power and reliability of the measurement of Confucius management culture (CMC) are shown in Table 4.19. The measured model of CMC is a second-order model, which includes four latent variables named people-oriented thought (PO), etiquette promotes harmony thought (ETI), rules of virtue thought (VIR), and appoint people by abilities thought (APA). The standardized estimated value of each construct of the CMC measured model is significantly under the level of $p < 0.001$. The construct of PO has three items, the factor loading of items is from 0.797 to 0.895, the squared multiple correlation (SMC) of items is from 0.635 to 0.801, the composite reliability (CR) value of PO is 0.875, and the average of variance extracted (AVE) value is 0.701. The construct of ETI has four items, the factor loading of items is from 0.810 to 0.893 with SMC from 0.656 to 0.797, the CR value of ETI is 0.917 with the AVE value at 0.735. The construct of VIR has three items, the factor loading of items is from 0.836 to 0.938 with SMC from 0.699 to 0.880, and the CR value of rules of virtue thought (VIR) is 0.928 with the AVE value at 0.813. The construct appoints people by abilities thought (APA) has three items, the factor loading of items is from 0.835 to 0.889 with SMC from 0.697 to 0.790, the CR value of APA is 0.898, and the AVE value is 0.745. The AVE value of the variable CMC is 0.748 though the AVE value of its four constructs. The items in the Confucius management culture questionnaire proposed in this study met the criteria. The Confucius management culture measurement can be used in structural equation model analysis.

Table 4.19 The result of CFA for the measured model of CMC

Construct	Item	Significance Estimation of Parameter				Factor Loading	Item Reliability	Composite Reliability	Convergent Validity
		Std.	S.E.	T-value	P-value	Std. (>0.6)	SMC (>0.36)	CR (>0.7)	AVE (>0.5)
PO	Q15_Row1	0.817				0.817	0.667	0.875	0.701
	Q15_Row2	0.895	0.051	21.385	***	0.895	0.801		
	Q15_Row3	0.797	0.052	18.217	***	0.797	0.635		
ETI	Q15_Row4	0.849	0.042	23.747	***	0.849	0.721	0.917	0.735
	Q15_Row5	0.893				0.893	0.797		
	Q15_Row6	0.875	0.045	25.318	***	0.875	0.766		
	Q15_Row7	0.810	0.044	21.683	***	0.810	0.656		
VIR	Q15_Row8	0.836	0.039	25.216	***	0.836	0.699	0.928	0.813
	Q15_Row9	0.938				0.938	0.880		
	Q15_Row10	0.927	0.029	32.951	***	0.927	0.859		
APA	Q15_Row11	0.889	0.04	22.418	***	0.889	0.790	0.898	0.745
	Q15_Row12	0.865	0.043	21.492	***	0.865	0.748		
	Q15_Row13	0.835				0.835	0.697		

Note: *** P<0.001; SMC>0.36 represents an item that has reliability; CR>0.7 represents the construct has a high internal consistency; AVE>0.5 represents the construct has a good convergent validity.

4.4.2.2 Psychological Contract Fulfillment (PCF)

The discriminatory power and reliability of the measurement of psychological contract fulfillment are shown in Table 4.20. The non-standardized estimated value of the psychological contract fulfillment measured model is significantly under the level of $p < 0.001$. The measured model of psychological contract fulfillment is a first-order model with five items, the factor loading is from 0.839 to 0.918, the squared multiple correlation (SMC) is from 0.704 to 0.843, the composite reliability (CR) value of psychological contract fulfillment is 0.946, and the average of variance extracted (AVE) value is 0.778. The result met the criteria for testing in the structural equation model. The calculation for factor loading of the items of psychological contract fulfillment was adopted, and the values of factor loading, squared multiple correlation (SMC), composite reliability (CR), and average variance extracted (AVE) met the criteria.

4.4.2.3 Work Engagement (WE)

The discriminatory power and reliability of the measurement of work engagement are shown in Table 4.21. The non-standardized estimated value of each construct of the work engagement measured model is significantly under the level of $p < 0.001$. The measured model of work engagement is a second-order model, which includes three latent variables, named vigor (VIG), dedication (DED), and absorption (ABS). The construct of vigor (VIG) has three items, the factor loading is from 0.860 to 0.929 with squared multiple correlations (SMC) from 0.740 to 0.863, the composite reliability (CR) value of vigor (VIG) is 0.932, and the average of variance extracted (AVE) value is 0.821. The construct of dedication (DED) has three items, the factor loading is from 0.838 to 0.932 with SMC from 0.702 to 0.869, the CR value of dedication (DED) is 0.921, and the AVE value is 0.797. The construct of absorption (ABS) has three items too, the factor loading is from 0.817 to 0.855 with SMC from 0.667 to 0.731, the CR of absorption (ABS) is 0.878, and the AVE value is 0.706. The AVE value of the variable work engagement is 0.775 though the AVE value of its three constructs. All items in the work engagement questionnaire pass the criteria and the work engagement measurement model can be used in structural equation model analysis.

Table 4.20 The result of CFA for the measured model of PCF

Construct	Item	Significance Estimation of Parameter				Factor Loading	Item Reliability	Composite Reliability	Convergent Validity
		Std.	S.E.	T-value	P-value	Std. (>0.6)	SMC (>0.36)	CR (>0.7)	AVE (>0.5)
PCF	Q18_Row1	0.893	0.032	28.655	***	0.893	0.797	0.946	0.778
	Q18_Row2	0.918				0.918	0.843		
	Q18_Row3	0.899	0.037	29.17	***	0.899	0.808		
	Q18_Row4	0.860	0.036	26.069	***	0.860	0.740		
	Q18_Row5	0.839	0.038	24.64	***	0.839	0.704		

Note: *** $P < 0.001$; $SMC > 0.36$ represents an item has reliability; $CR > 0.7$ represents the construct has a high internal consistency; $AVE > 0.5$ represents the construct has good convergent validity.

Table 4.21 The result of CFA for the measured model of WE

Construct	Item	Significance Estimation of Parameter				Factor Loading	Item Reliability	Composite Reliability	Convergent Validity
		Std.	S.E.	T-value	P-value	Std. (>0.6)	SMC (>0.36)	CR (>0.7)	AVE (>0.5)
VIG	Q17_Row1	0.927				0.927	0.859	0.932	0.821
	Q17_Row2	0.929	0.032	33.47	***	0.929	0.863		
	Q17_Row3	0.860	0.041	26.89	***	0.860	0.740		
DED	Q17_Row4	0.932				0.932	0.869	0.921	0.797
	Q17_Row5	0.905	0.032	31.225	***	0.905	0.819		
	Q17_Row6	0.838	0.037	25.41	***	0.838	0.702		
ABS	Q17_Row7	0.849				0.849	0.721	0.878	0.706
	Q17_Row8	0.855	0.044	20.648	***	0.855	0.731		
	Q17_Row9	0.817	0.038	19.35	***	0.817	0.667		

Note: *** $P < 0.001$; $SMC > 0.36$ represents an item has reliability; $CR > 0.7$ represents the construct has a high internal consistency; $AVE > 0.5$ represents the construct has good convergent validity.

4.4.2.4 Career Growth (CG)

The discriminatory power and reliability of the measurement of Career Growth are shown in Table 4.22. The standardized estimated value of each construct of the measured model of career growth is significantly under the level of $p < 0.001$. The measured model of career growth is a second-order model with four constructs: career goal progress (CGP), professional ability development (PAD), organizational reward (ORe), and social resources access (SRA). The construct of career goal progress (CGP) has four items, the factor loading is from 0.905 to 0.911 with squared multiple correlations (SMC) from 0.819 to 0.830, the composite reliability (CR) value of career goal progress (CGP) is 0.950, and the average of variance extracted (AVE) value is 0.826. The construct of professional ability development (PAD) has three items, the factor loading is from 0.900 to 0.927 with squared multiple correlation (SMC) from 0.810 to 0.859, the composite reliability (CR) value of professional ability development (PAD) is 0.941, and the average of variance extracted (AVE) value is 0.842. The construct of organizational reward (ORe) has five items, the factor loading is from 0.887 to 0.928 with squared multiple correlations (SMC) from 0.787 to 0.861, the composite reliability (CR) value of organizational reward (ORe) is 0.963, and the average of variance extracted (AVE) value is 0.839. The construct of social resources access (SRA) has three items, the factor loading is from 0.871 to 0.947 with squared multiple correlations (SMC) from 0.759 to 0.897, the composite reliability (CR) value of social resources access (SRA) is 0.934, and the average of variance extracted (AVE) value is 0.825. The AVE value of the variable career growth is 0.834 though the AVE value of its four constructs. The items in the career growth questionnaire proposed in this study met the criteria. The career growth measurement model can be used in structural equation model analysis.

Table 4.22 The result of CFA for the measured model of CG

Construct	Item	Significance Estimation of Parameter				Factor Loading	Item Reliability	Composite Reliability	Convergent Validity
		Std.	S.E.	T-value	P-value	Std. (>0.6)	SMC (>0.36)	CR (>0.7)	AVE (>0.5)
CGP	Q19_Row1	0.911				0.911	0.830	0.950	0.826
	Q19_Row2	0.910	0.032	30.073	***	0.910	0.828		
	Q19_Row3	0.910	0.032	30.062	***	0.910	0.828		
	Q19_Row4	0.905	0.034	29.663	***	0.905	0.819		
PAD	Q19_Row5	0.927	0.03	32.758	***	0.927	0.859	0.941	0.842
	Q19_Row6	0.926				0.926	0.857		
	Q19_Row7	0.900	0.033	30.092	***	0.900	0.810		
ORe	Q19_Row8	0.922	0.031	32.547	***	0.922	0.850	0.963	0.839
	Q19_Row9	0.921				0.921	0.848		
	Q19_Row10	0.887	0.033	29.108	***	0.887	0.787		
	Q19_Row11	0.928	0.03	33.236	***	0.928	0.861		
	Q19_Row12	0.921	0.032	32.503	***	0.921	0.848		
SRA	Q19_Row13	0.906	0.029	31.231	***	0.906	0.821	0.934	0.825
	Q19_Row14	0.947				0.947	0.897		
	Q19_Row15	0.871	0.032	28.128	***	0.871	0.759		

Note: *** P<0.001; SMC>0.36 represents an item has reliability; CR>0.7 represents the construct has a high internal consistency; AVE>0.5 represents the construct has good convergent validity.

The structure of every measurement model is optimized in this section based on appropriate model fitness, the reliability and validity of measurement models are analyzed and confirmed including item reliability, construct reliability, and convergent validity using the CFA method. There is also discriminant validity among the four variables. The Discriminant Validity of the variables is achieved when the square root of the AVE value of each variable is greater than any of the correlation coefficients associated with the variable respectively. The square root of the AVE value of CMC (0.865) is greater than the correlation coefficient of CMC with PCF (0.849), WE (0.744), and CG (0.822). The square root of the AVE value of PCF (0.882) is greater than the correlation coefficient of PCF with CMC (0.849), WE (0.792), and CG (0.868). The square root of the AVE value of WE (0.880) is greater than the correlation coefficient of WE with CMC (0.744), PCF (0.792), and CG (0.780). The square root of the AVE value of CG (0.913) is greater than the correlation coefficient of CG with CMC (0.822), PCF (0.868), and WE (0.780). This study accomplishes that the discriminant validity is achieved for the model.

4.5 The Structural Equation Models and Hypotheses Test

This section focuses on structural equation modeling and hypothesis testing using AMOS software, following the previous framework. This section is divided into three steps to complete this work. The first step is structural equation modeling, the second step is to test the hypotheses with direct effects, and the third step is to test the hypotheses with indirect effects.

4.5.1 Model fit of the Structural Equation Model

The structural equation model is constructed using AMOS software based on the framework and hypotheses of Chapter 2, which is shown in Figure 4.5. The model fitness is mainly related to the chi-square, so this study reduced the chi-square value of the model by the Bollen-Stine bootstrap method (set the value of Bootstrapping as 5000). the Bollen-Stine bootstrap p procedure was used to adjust model fit and parameter estimates to accommodate the lack of multivariate normality (Bollen & Stine, 1992; Enders, 2005). A mean of chi_square is obtained after repeated sampling 5000 times. Bollen-Stine bootstrap p=.000 tested the null

hypothesis that the model is correct. The main index of the model fit meets the requirements with $\chi^2=1231.63$, $df=802$, $\chi^2/df=1.54$, $CFI=0.98$, $GFI=0.94$, $AGFI=0.93$, $TLI=0.98$, $IFI=0.98$, $RMSEA=0.04$, as shown in Table 4.23.

Table 4.23 Model fit and criteria of structural equation model.

Indicators	Value	Criteria
chi_square (χ^2) (Bollen-Stine p)	1231.63	
df	802	
chi_square/df	1.54	<3, good
CFI	0.98	>0.9
GFI	0.94	>0.9
AGFI	0.93	>0.9
TLI	0.98	>0.9
IFI	0.98	>0.9
RMSEA	0.04	<0.08

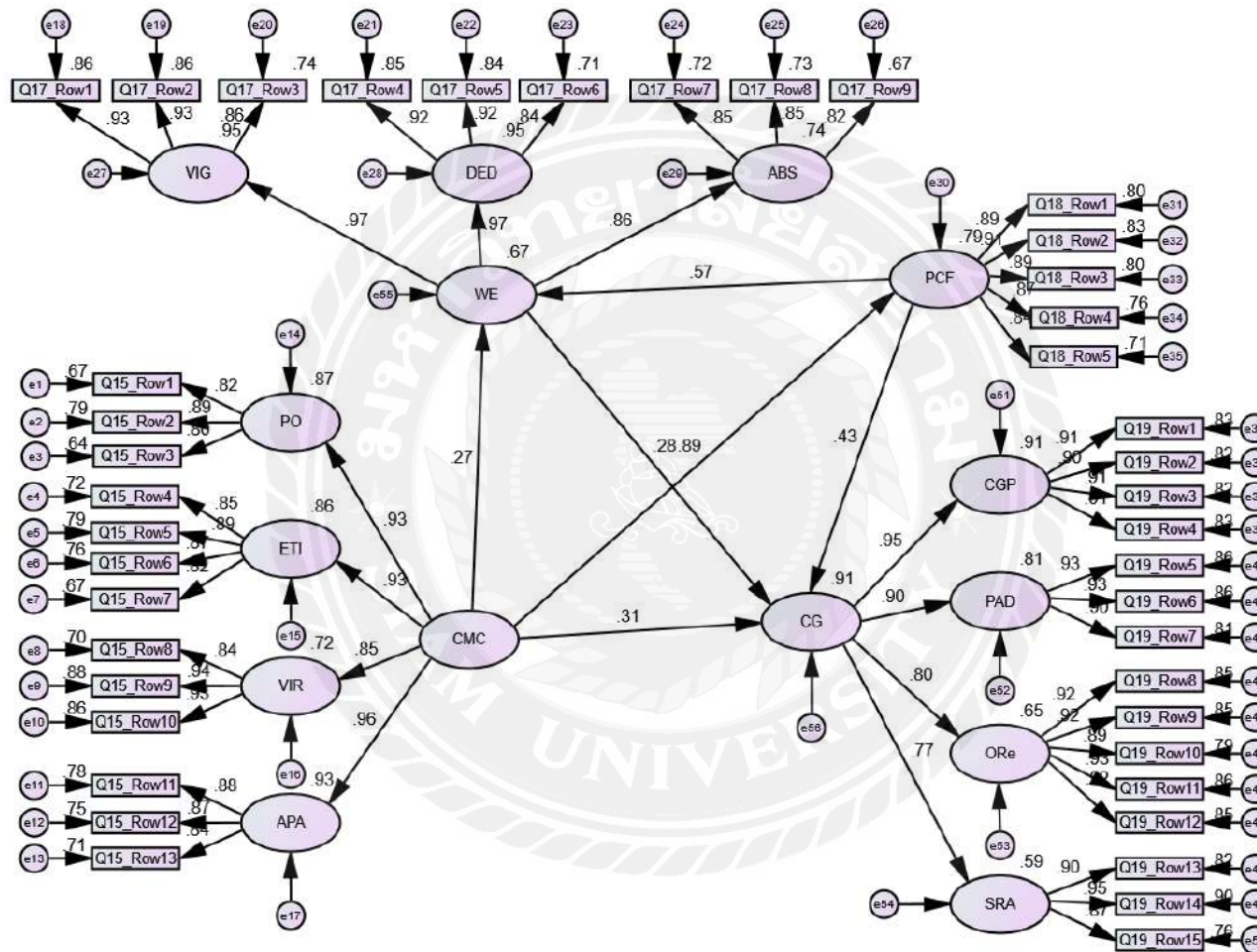


Figure 4.5 Structural equation model of this study
(Source: Researcher, 2024)

4.5.2 Hypotheses Test

Hypotheses Test of Direct Effect

There are six hypotheses of direct effect, and the results of direct effect are shown in Table 4.24. The path coefficient of the relationship among the four variables was calculated as the model's estimated value(β). This study accepts these six hypotheses which means causality is significant between the correlation in each variable. The P values of H2, H3, H4, H5, and H7 show three stars (***) indicating that the hypotheses are supported at the $p < 0.001$ level, that is, there was a direct effect between Confucius management culture to career growth (H2), psychological contract fulfillment (H4), work engagement direct effect career growth (H3), and there was a direct effect between psychological contract fulfillment to work engagement (H5), career growth (H7). The P value of H1 is .002 indicating that the regression weight for Confucius management culture in the prediction of work engagement is significantly different from zero at the 0.01 level (two-tailed), that is, hypothesis H1 is supported at the $p < 0.01$ level.

Table 4.24 Direct effects of the four variables

Hypotheses	Std. Estimate (β)	S.E.	T-value	P-value	Result
H1: CMC -> WE	.269	.085	3.035	.002	supported
H2: CMC -> CG	.307	.064	4.941	***	supported
H3: WE -> CG	.275	.046	6.340	***	supported
H4: CMC -> PCF	.891	.058	17.938	***	supported
H5: PCF -> WE	.570	.074	6.397	***	supported
H7: PCF -> CG	.429	.059	6.430	***	supported

Note: *** $p < 0.001$

Each construct has the R^2 value (squared multiple correlations). The variation of each construct occurs because of the influencing variable of Confucius management culture and can be calculated. The result is in Table 4.25.

The result presented the value among variables in Confucius management culture has direct variation towards sub-dimension which can be calculated as 87.0% (PO), 86.1% (ETI), 72.0% (VIR), and 92.7% (APA). The study showed the dependent variable psychological contract fulfillment effect value as 79.3%. The squared multiple correlations value (R^2) towards work engagement as 67.0% also the internal variable has a direct effect from the latent variable as 94.8% (VIG), 95.0% (DED), and 74.4% (ABS). And the R^2 towards career growth as 91.1% and the internal variable has a direct effect as 90.7% (CGP), 81.5% (PAD), 64.6% (ORe), and 59.1% (SRA).

Table 4. 25 The squared Multiple Correlations value

Variables		Estimate
1	Confucius management culture (CMC)	
1.1	People-oriented (PO)	.870
1.2	Etiquette promotes harmony (ETI)	.861
1.3	Rules of virtue (VIR)	.720
1.4	Appoint people by abilities (APA)	.927
2	Psychological contract fulfillment (PCF)	.793
3	Work engagement (WE)	.670
3.1	Vigor (VIG)	.948
3.2	Dedication (DED)	.950
3.3	Absorption (ABS)	.744
4	Career growth (CG)	.911
4.1	Career goal progress (CGP)	.907
4.2	Professional ability development (PAD)	.815
4.3	organizational reward (ORe)	.646
4.4	social resources access (SRA)	.591

Combined with Table 4.24 and Table 4.25, the path analysis diagram is given as shown in Figure 4.6. The findings are shown in the model that relates to Confucius management culture, psychological contract fulfillment, work engagement, and career growth in a public university. There is a causal relationship between each variable. According to Figure 4.6, the path coefficients can be viewed as the direct impacts between the variables shown in the research framework. Two stars (**) behind the path coefficient represents the level of significance 0.01 and Three stars (***) behind the path coefficient represents the level of significance 0.001. The rest indicates the relations as presented in the figure.

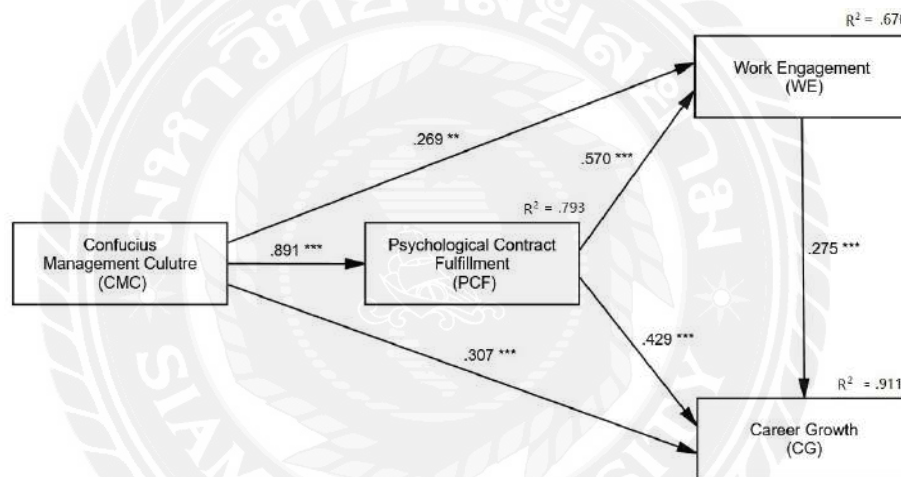


Figure 4.6 The output of the path analysis
(Resource: Researcher, 2024)

Hypotheses Test of Indirect Effect

There are various methods for statistical identification of mediation, such as the B-K method, Sobel test method, and Bootstrap sampling method.

B-K method is a causal method proposed by Baron and Kenny (1986) and detected mediation through a three-step regression. The first step is to analyze the regression of the independent variable (X) to the dependent variable (Y) and test the significance of the regression coefficient ($X \rightarrow Y$), the second step is to analyze the regression of the independent variable (X) to moderator (M) and test the significance

of regression coefficient ($X \rightarrow M$), and the third step is to analyze the regression of X to Y after adding intermediate variable M and test the significance of regression coefficients ($M \rightarrow Y$ and $X \rightarrow Y$). The B-K method is simple, easy to understand, and explained as a causal stepwise regression test, so it is widely used. The causal step works best when analyzing a single mediator but has limited utility for more complex models involving multiple mediators (Holbert and Stephenson, 2003).

The Sobel test is a product of the coefficient method proposed by Sobel (1982), which proved the existence of an indirect effect if the absolute value of Z is greater than 1.96 ($|z| > 1.96$). The Sobel test assumes that the sampling distribution of the mediating effect is normal, and a large sample is required. However, these traditional methods of detecting the mediating effect are only a simple determination of Z tests. The mediating effect usually does not conform to the normal distribution, and 1.96 or -1.96 does not necessarily mean that it is significant, so to solve the above problems, the confidence interval method is adopted to detect the mediating effect.

A better method to measure the mediating effect is the bootstrap method (Hayes, 2009). Running 5000 times of Bootstrapping, using a criterion of $p < 0.05$ to produce the confidence interval. If the confidence interval does not pass through 0, it means that the mediator is significant, conversely, the mediator is not significant (Mackinnon, 2008). It is important to note here that the indirect effect estimated in most computer programs is the total indirect effect (Brown, 1997), not a specific mediator's indirect effect. To measure a specific indirect effect, some codes are needed. The results of the mediating effect of psychological contract fulfillment are shown in Table 4.26, which lists the value of point estimate, standard errors, Z value, and 95% bootstrap confidence intervals of the Bias-corrected percentile method and percentile method.

According to the research framework of this study, there is only one mediating variable between CMC and work engagement, so the total indirect effects between CMC and work engagement (0.488) are a specific indirect effect mediated by psychological contract fulfillment (0.488). There are multiple paths between CMC and career growth, psychological contract fulfillment is not the only mediator between CMC and career growth, so the mediating effect of psychological contract

fulfillment (0.392) on CMC affecting career growth is a part of the total indirect effect (0.612), which is less than the total indirect effect. The results of the indirect effects in Table 4.26 fully illustrate this analysis. First to analyze the indirect effect between CMC and work engagement. The point estimate value, Z value, and Bootstrapping confidence interval value of the total indirect effects are the same as those values of the specific indirect effect mediated by the psychological contract fulfillment. The z value is 5.031, which is larger than 1.96, Bias-corrected 95% confidence interval is from 0.305 to 0.685 and Percentile 95% confidence interval is from 0.288 to 0.678, both of which do not pass zero, indicating that the psychological contract fulfillment plays a mediating role in the influence of CMC on work engagement. So, the hypothesis H6 is supported. According to the results of the indirect effect of CMC on career growth, CMC has an indirect influence on career growth, because the point estimate value is 0.612, the Z value of the total indirect effect is 7.034, which is larger than 1.96 and the two bootstrapping confidence intervals of the total indirect effect are not pass zero. The Z value of the specific indirect effect mediated by psychological contract fulfillment is 4.215, which is larger than 1.96. Bias-corrected 95% confidence interval is from 0.209 to 0.571 and Percentile 95% confidence interval is from 0.209 to 0.571, both of which do not pass zero, indicating that psychological contract fulfillment plays a mediating role in the influence of CMC on career growth. The point estimate value of the specific indirect effect mediated by psychological contract fulfillment is 0.392, which is less than the point estimate value of the total indirect effect (0.612), indicating that the specific indirect effect mediated by psychological contract fulfillment is a part of the total indirect effects. So, the hypothesis H8 is supported.

Table 4.26 Mediating effect of PCF

	Point Estimate	Product of Coefficients		Bootstrapping				Result
				Bias-corrected 95% CI		Percentile 95% CI		
				SE	Z (>1.96)	Lower	Upper	
Total Indirect Effects								
CMC->->WE	.488	.097	5.031	.305	.685	.288	.678	
CMC->->CG	.612	.087	7.034	.447	.788	.444	.785	
Specific Indirect Effects								
CMC->PCF->WE	.488	.097	5.031	.305	.685	.288	.678	supported
CMC->PCF->CG	.392	.093	4.215	.209	.571	.209	.571	supported

Based on the above analysis and from the structure equation model, the hypotheses testing is discussed in Table 4.27.

Table 4. 27 Hypotheses testing

	Hypotheses	Accepted or not
H1	Confucius management culture has a positive effect on work engagement.	√
H2	Confucius management culture has a positive effect on career growth.	√
H3	Work engagement has a positive effect on career growth.	√
H4	Confucius management culture has a positive effect on psychological contract fulfillment.	√
H5	Psychological contract fulfillment has a positive effect on work engagement.	√
H6:	Psychological contract fulfillment mediates the effect of Confucius management culture on work engagement.	√
H7:	Psychological contract fulfillment has a positive effect on career growth.	√
H8	Psychological contract fulfillment mediates the effect of Confucius management culture on career growth.	√

Note: (√) accepted hypothesis; (×) rejected hypothesis; (-) no hypothesis

The conclusion of hypotheses testing is as follows.

H1: Confucius management culture has a positive effect on work engagement (*accepted hypothesis*).

This hypothesis explains that Confucius management culture aimed at harmony

can contribute to improving the work engagement of staff in public universities. Confucius management culture has significance on work engagement (path coefficient is indicated at 0.269, t-value = 3.035, and $P \leq 0.01$). This is shown in Table 4.13. The support of this hypothesis indicates that staff need a harmonious organizational culture, that is Confucius management culture in public universities. Only by achieving harmony in the four aspects of Confucius management culture, the staff can better devote themselves to work, perform higher performance, and contribute to the development of their universities. It is the model used to study the relationship over the parts that have significance in carrying forward the Confucius management culture at public universities and forecast the result of the staff's work engagement in that university.

H2: Confucius management culture has a positive effect on career growth (*accepted hypothesis*).

This hypothesis explains that Confucius management culture aimed at harmony can contribute to promoting the career growth of staff in public universities. Confucius management culture has significance on career growth (path coefficient is indicated at 0.307, t-value = 4.941, and $P \leq 0.001$). This is shown in Table 4.19. The support of this hypothesis indicates that staff need a harmonious organizational culture, that is Confucius management culture in public universities. Only by achieving harmony in the four aspects of Confucius management culture, the staff can faster grow in their career, and they will be willing to stay in the original organization to work when they get their needs. It is the model used to study the relationship over the parts that have significance in carrying forward the Confucius management culture at public universities and forecast the result of the staff's career growth in that university.

H3: Work engagement has a positive effect on career growth (*accepted hypothesis*).

This hypothesis explains that work engagement can contribute to promoting the career growth of staff in public universities. Work engagement has significance on career growth (path coefficient is indicated at 0.275, t-value = 6.340, and $P \leq 0.001$).

This is shown in Table 4.13. Many studies have concluded that career growth positively affects work engagement; this study confirms that one person's work engagement has a positive effect on his career growth in that university. It is the model used to study the relationship over the parts that have significance in improving work engagement at public universities and forecast the result of the staff's career growth in that university.

H4: Confucius management culture has a positive effect on psychological contract fulfillment (*accepted hypothesis*).

This hypothesis explains that Confucius management culture aimed at harmony can contribute to the staff's perception of psychological contract fulfillment in public universities. Confucius management culture has significance on psychological contract fulfillment (path coefficient is indicated at 0.891, t-value = 17.938, and $P \leq 0.001$). This is shown in Table 4.13. It is the model used to study the relationship over the parts that have significance in carrying forward the Confucius management culture at public universities and forecast the result of the staff's perception of psychological contract fulfillment in that university.

H5: Psychological contract fulfillment has a positive effect on work engagement (*accepted hypothesis*).

This hypothesis explains that psychological contract fulfillment can contribute to improving the work engagement of staff in public universities. Psychological contract fulfillment has significance on work engagement (path coefficient is indicated at 0.570, t-value = 6.397, and $P \leq 0.001$). This is shown in Table 4.13. Staff perceive that the organization has fulfilled the psychological contract, and in turn, they will be more actively engaged in their work. It is the model used to study the relationship over the parts that have significance on perceiving the psychological contract fulfillment at public universities and forecast the result of the staff's work engagement in that university.

H6: Psychological contract fulfillment mediates the effect of Confucius management culture on work engagement (*accepted hypothesis*).

This hypothesis explains that psychological contract fulfillment plays an

intermediary role in the influence of Confucius management culture on work engagement. The mediator of psychological contract fulfillment is significance (the point estimate value is 0.488, Z value is 5.031, bias-corrected 95% CI does not pass zero, and percentile 95% CI does not pass zero too). This is shown in Table 4.15. It is the model used to study the relationship over the parts that have significance on the influence path of Confucius management culture on work engagement at public universities.

H7: Psychological contract fulfillment has a positive effect on career growth (*accepted hypothesis*).

This hypothesis explains that psychological contract fulfillment can contribute to promoting the career growth of staff in public universities. Psychological contract fulfillment has significance on career growth (path coefficient is indicated at 0.429, t-value = 6.430, and $P \leq 0.001$). This is shown in Table 4.13. Staff perceive that the organization has fulfilled the psychological contract, and their career growth is faster. It is the model used to study the relationship over the parts that have significance on perceiving the psychological contract fulfillment at public universities and forecast the result of the staff's career growth in that university.

H8: Psychological contract fulfillment mediates the effect of Confucius management culture on career growth (*accepted hypothesis*).

This hypothesis explains that psychological contract fulfillment plays an intermediary role in the influence of Confucius management culture on career growth. The mediator of psychological contract fulfillment is significance (the point estimate value is 0.392, Z value is 4.215, bias-corrected 95% CI does not pass zero, and percentile 95% CI does not pass zero too). This is shown in Table 4.15. It is the model used to study the relationship over the parts that have significance on the influence path of Confucius management culture on career growth at public universities.

4.6 Qualitative Data Analysis About Four Variables

The description in this part is to fulfill objectives number 2 to 5, that is, to test the relationship between Confucius management culture, psychological contract

fulfillment, work engagement, and career growth among public universities in Shandong province. By summarizing the in-depth interviews of 10 Chinese interviewees (2 managers, 5 full-time teachers, and 3 administrative staff), the main findings can be summarized into the following seven groups:

Point 1: Shandong public universities must promote Confucian management culture. It has a significant impact on the organization and staff in terms of values, outlook on life, work attitude, career, etc.

All 10 interviewees agreed that is very necessary for Shandong public universities to promote Confucian management culture, and Confucian management culture has a significant impact on the organization and its staff.

The impact on university organizations focuses on organizational harmony and stability, organizational cohesion and teamwork, organizational cultural identity, value shaping, and cultural transmission. Four full-time teachers agreed that the guidance of Confucian management culture makes organizations more inclined to establish working relationships based on trust, respect, and cooperation, which can promote organizational stability and harmony and mutual support among staff, and reduce internal conflicts and contradictions. This is consistent with the views of one manager and one administrative staff, the manager claimed that Confucian management culture helps to optimize the organizational structure, reduce internal conflicts, and enhance teamwork and overall organizational stability, and the administrative staff's view is that the values of benevolence, honesty, and etiquette disseminated by Confucian culture are crucial for maintaining organizational stability.

In the interviews on the impact on staff, the 10 interviewees showed a high degree of unity in the three aspects of personal growth and development, work attitudes and behavioral norms, and the enhancement of professionalism and morality. All 10 interviewees supported the idea of promoting personal growth. Confucian management culture focuses on the selection and cultivation of talents and provides more development opportunities and platforms for staff. It helps guide staff to pay attention to their growth and development, continuously improve their

professional quality and comprehensive ability, and support their continuous progress in academic research and career development. The organization can help staff achieve their personal career planning and growth goals and enhance their professional competitiveness and market value. Thus, it promotes the progress and growth of individual careers. 8 interviewees (1 management, 4 full-time teachers, and 3 administration) claimed that the Confucian management culture focuses on self-discipline, diligence, and respect. The introduction of these values can promote a positive attitude towards work and staff are more inclined to be enthusiastic and responsible towards their work under the influence of this culture. 7 interviewees (1 management, 3 full-time teachers, and 3 administration) believed that the implementation of Confucian management culture in the organization helps to guide the staff to establish correct professional concepts and values and that through the cultivation of Confucianism, the staff can more consciously abide by the code of professional ethics, enhance the sense of professional responsibility and sense of mission, and improve the quality and level of education. At the same time, Confucianism helps staff to continuously improve their inner quality and charisma.

Point 2: The implementation of Confucian management culture has a significant impact on the work engagement of full-time teachers and administrative staff in public universities in Shandong province.

The Confucius management culture emphasizes respect and love for work and believes that everyone should be responsible for his or her profession. Full-time teachers believe that this concept motivates full-time teachers to demonstrate higher professional ethics and a sense of responsibility in their teaching and research work and that this sense of responsibility motivates them to be more conscientious in their preparation and delivery of lessons, to actively participate in academic research, and to pay more attention to the quality of their teaching and the depth and breadth of their academic research. Confucianism emphasizes the respect and pursuit of learning and encourages teachers to strive for excellence in their teaching work and to continuously explore and improve their academic level. This cultural influence helps to stimulate teachers' enthusiasm and motivation for teaching, making them more actively involved in education. Administrative staff believe that under the

cultivation of Confucian management culture, administrative staff adhere to the work attitude of honesty, trustworthiness, and conscientiousness, maintain high work enthusiasm, always maintain a high sense of responsibility and mission, take every job seriously, and constantly improve their sense of service and work efficiency, and can devote themselves to their work more actively, take the initiative to solve problems, optimize the process, and improve service quality.

Point 3: The implementation of Confucian management culture has a significant impact on the career development and growth of full-time teachers and administrative staff in public universities in Shandong province.

Interviewees unanimously agreed that Confucian management culture promotes personal career planning and development. Within the framework of implementing the Confucian management culture in the university organization, full-time teachers are constantly exploring new teaching methods and approaches to enhance their teaching. The Confucian culture also emphasizes continuous learning and self-improvement. The university provides a wealth of training and learning resources to enable teachers to continuously update their knowledge structure and keep abreast of the frontiers of subject development. Confucian culture emphasizes comprehensive personal development and academic cultivation and encourages the pursuit of excellence. Under this cultural atmosphere, a teacher claimed to have participated more actively in academic research and professional training and to have continuously improved his academic level and professional competence, to lay a solid foundation for career development. An administrative staff claimed to have received more academic support and development opportunities, such as participation in important projects and publication of academic papers, etc. Another administrative staff continued to improve his professionalism and competence through continuous learning. Always maintaining an academic drive, expanding one's career vision and pattern, and understanding the cutting-edge dynamics and development trends of the industry have all contributed to the professional growth and academic progress of the staff.

Point 4: Individual's work engagement has a significant impact on his/her career development and growth in public universities in Shandong province.

Administrative staff claim that a high degree of work engagement has made them clear about their career goals and development direction, and formulate practical career plans based on individual interests, expertise, and organizational needs. The engagement to work motivates them to pursue the improvement of professional knowledge and management skills. Through continuous learning and participation in industry-wide training and seminars, they can maintain professional competitiveness in the field of educational administration and better cope with challenges and changes at work.

Full-time teachers' perspectives are that the implementation of the Confucius management culture facilitates the deepening of professional skills and knowledge and the expansion of career opportunities. A high level of work engagement drives teachers to continually pursue excellence in teaching and research, such as updating professional knowledge, exploring new teaching methods, as well as delving deeper into their areas of expertise. A teacher claimed, "This sustained effort has enabled me to build deep expertise and skills in my subject area, providing a solid foundation for my professional development." Another teacher supported that a high degree of work engagement has made it easier for him to obtain promotions, teaching awards, research project grants, and other opportunities for professional growth, such as participating in important projects, holding academic positions, and attending international conferences. These opportunities have not only enriched teachers' career experience but also broadened their career horizons and opened up a wider path for their career development. Dedication has enabled teachers to capitalize on opportunities for career advancement, including promotions and higher-level responsibilities.

Point 5: The implementation of Confucian management culture has a significant impact on the fulfillment of psychological contracts of university organizations in Shandong province from the perspective of employees.

In university organizations, Confucian management culture can help both parties define their expectations and responsibilities more clearly. Confucian management culture emphasizes "moral governance" and "people-oriented", focusing on moral education and humanistic care to stimulate the internal motivation

of staff. Under the influence of Confucian culture, managers pay more attention to the growth and development needs of staff and strive to provide staff with a good working environment and development opportunities, to enhance the fulfillment quality of the psychological contract. Confucian management culture advocates the communication concept of "harmony and difference", i.e., respecting differences and seeking consensus. In public universities, this communication concept helps to promote effective communication and timely feedback between teachers and leaders. Through communication, both parties can understand each other's needs and concerns promptly, and the organization can better understand staff's expectations and take measures to meet them, thus enhancing the fulfillment of the psychological contract. Confucian management culture emphasizes the "middle way" and advocates seeking balance and harmony in management. This philosophy helps to maintain stability and sustainability in the process of fulfilling the psychological contract.

Point 6: The degree of fulfillment of organizational psychological contracts plays an intermediary role in the influence of Confucian management culture on staff work engagement in public universities in Shandong Province.

Through the paths of enhancing trust and belonging, clarifying expectations and responsibilities, facilitating access to resources and support, and enhancing job satisfaction, the fulfillment of the organizational psychological contract can effectively contribute to the enhancement of an individual's work engagement in the context of the Confucius management culture. When the organization can fulfill the psychological contract in the employment relationship, i.e., providing appropriate working conditions, support, and recognition, staff are more likely to feel the organization's recognition and support of their values, which will stimulate their dedication and motivation to work. The fulfillment of the psychological contract is not only a material exchange but also an emotional connection. The idea of benevolence in the management culture of Confucius makes staff feel the care and support of the organization, which enhances their emotional dependence and loyalty to the organization and improves their work engagement.

Point 7: The degree of fulfillment of organizational psychological contracts

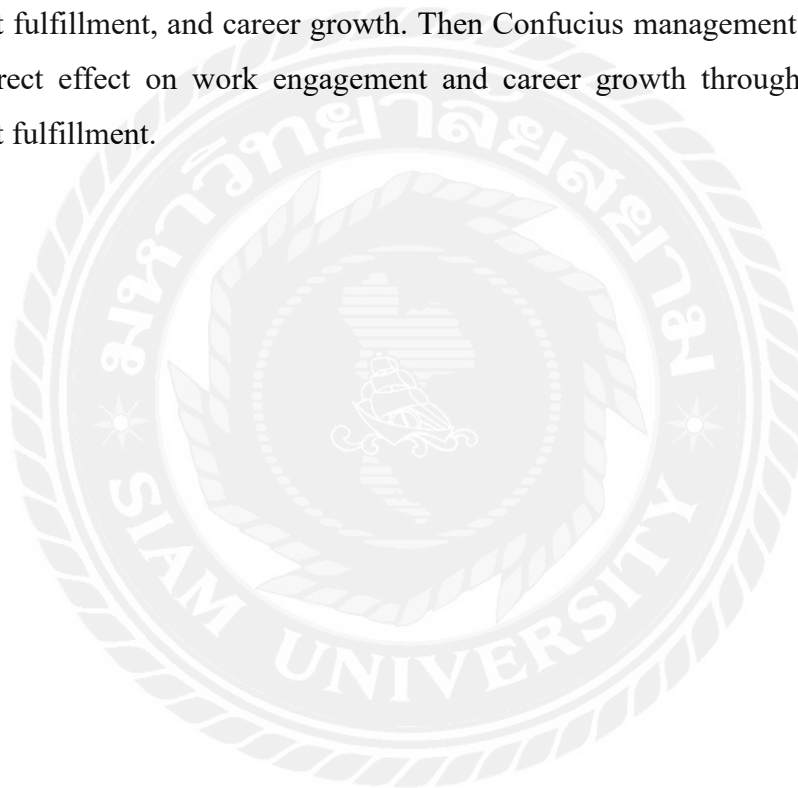
plays an intermediary role in the influence of Confucian management culture on staff career growth in public universities in Shandong Province.

By clarifying career paths and expectations and facilitating access to resources and support, the fulfillment of the psychological contract further reinforces the positive impact of Confucius' management culture on career growth. The fulfillment of the psychological contract enables staff to have a clearer understanding of their career paths and expectations. Under the guidance of the Confucius management culture, the organization will set clear career development plans and promotion paths for staff, helping them to clarify their career goals and directions. Such clear career paths and expectations stimulate staff's motivation and drive career growth. The fulfillment of the psychological contract promotes staff's access to organizational resources and support. Under the Confucius management culture, the organization will pay more attention to the growth needs and development potential of employees and provide them with necessary training, learning, and promotion opportunities. These resources and supports are important for staff's professional growth, and the fulfillment of psychological contracts is an important way for staff to access these resources and supports. This is consistent with the view of teachers. Confucius management culture focuses on the importance of education and the noble mission of teaching and educating people, which inspires individuals to love and feel responsible for education. Under the influence of this culture, full-time teachers are more actively engaged in teaching and academic research, pursuing excellence and improving their academic quality and teaching standards.

4.7 Conclusion

This chapter finishes the research objectives in Chapter 1. Firstly, answers the components of Confucius management culture, which consists of four parts, namely people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities. 13 items can measure Confucius management culture. Secondly, examines the relationships among Confucius management culture, psychological contract fulfillment, work engagement, and career growth, with the mediating role of psychological contract fulfillment. This chapter examines the results of the model in Chapter 2. The measurement model is simplified according to the requirements of

the fitting index, and the reliability, structural validity, and convergence validity of the measurement model are determined using the quantitative method of structural equation model (SEM). The confirmatory factor analysis is used. In the hypothesis test, the positive influences between the variables are obtained by path analysis. All the hypotheses presented in the second Chapter have been verified to be accepted. Finally, qualitative analysis supplemented the confirmation of the corresponding influence relationship between the four variables. As a whole, Confucius management culture has a positive effect on work engagement, psychological contract fulfillment, and career growth. Then Confucius management culture creates an indirect effect on work engagement and career growth through psychological contract fulfillment.



Chapter 5

Research Conclusion, Discussion, and Recommendation

5.1 Introduction

This is the concluding chapter. It presents the general conclusion of the study, discusses the implications of the study, and puts forward reasonable recommendations based on the theories in the previous chapters, including literature review, conceptual model, research methods, and research results. It first reviews and outlines the research questions, reviews, and summarizes structural equation modeling (SEM), path analysis, and the testing results of all hypotheses, and sorts out the key points of the research. It also discusses the theoretical contribution and practical enlightenment of the study and ends with study limitations and recommendations for future research. This chapter is divided into four parts as follows:

- 5.1 Introduction
- 5.2 Research conclusion
- 5.3 Discussion
- 5.4 Recommendations

5.2 Research Conclusion

This study sought to comprehensively understand the importance of Confucius management culture in public universities in Shandong Province, China. The study was designed around the following primary objectives: to analyze how Confucius management culture of organizations affects staff's work engagement and career growth; to explain the path analysis of Confucius management culture through psychological contract fulfillment; and to explore the relationship between employees' attitude and behavior to work and their career growth.

Correspondingly, the study specifically explored the following five main research questions:

Question 1: What are the components of Confucius management culture aiming

at harmony and what items can be used to measure Confucius management culture?

Confucius management culture aims at harmony, mainly embodied in the management of humans and summarized in four aspects based on a large number of literature reviews and in-depth interviews, which are people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities. The questionnaire used is the Confucius Harmonious Management Scale (CHMS), which was developed by this study. The scale of CHMS has 13 items total (Detail see Appendix), used to measure Confucius management culture.

Question 2: What are the effects of Confucius management culture and staff's work engagement in public universities in Shandong Province, China?

It was found that Confucius management culture had a direct impact on work engagement, and it indirectly affected work engagement through mediator variables, namely, psychological contract fulfillment in public universities in Shandong Province. The staff needs a harmonious Confucius management culture in public universities. Only by achieving harmony in the four aspects of Confucius management culture, the staff can better engage themselves to work.

Question 3: What are the effects of Confucius management culture and staff's career growth in public universities in Shandong Province, China?

It was found that Confucius management culture had a direct impact on career growth, and it indirectly affected career growth through mediator variables, namely, psychological contract fulfillment in public universities in Shandong Province. The public universities' staff need a harmonious Confucius management culture. Only by achieving harmony in the four aspects of Confucius management culture, the staff can faster grow in their career, and they will be willing to stay in the original organization.

Question 4: What are the effects of staff's work engagement (organizational needs) and staff's career growth (individual needs) in public universities in Shandong Province, China?

The existing literature shows that most researchers believe that career growth

affects work engagement (e.g. Valencia, 2012; Mohsin, 2015; Weng et al., 2017). This study confirms that work engagement had a direct impact on an individual's career growth, establishing a link between individual active work and personal value realization. The results of this study suggest that staff should not ignore the positive effect of work engagement on career growth. It is the model used to improve staff's work engagement and forecasting career growth at public universities.

Question 5: What role does psychological contract fulfillment play in the path of relationship from Confucius management culture to work engagement and from Confucius management culture to career growth in public universities in Shandong Province, China?

According to the result from path analysis, a summary of the study results revealed that psychological contract fulfillment is the mediator in the path of relationship from Confucius management culture to work engagement and in the path of relationship from Confucius management culture to career growth in public universities in Shandong Province. University organizations should pay attention to the degree of fulfillment of psychological contracts.

The study formulated and tested the following hypotheses:

Hypothesis 1: Confucius management culture has a positive effect on work engagement.

Hypothesis 2: Confucius management culture has a positive effect on career growth.

Hypothesis 3: Work engagement has a positive effect on career growth.

Hypothesis 4: Confucius management culture has a positive effect on psychological contract fulfillment.

Hypothesis 5: Psychological contract fulfillment has a positive effect on work engagement.

Hypothesis 6: Psychological contract fulfillment mediates the effect of Confucius management culture on work engagement.

Hypothesis 7: Psychological contract fulfillment has a positive effect on career growth.

Hypothesis 8: Psychological contract fulfillment mediates the effect of Confucius management culture on career growth.

This study adopted the mixed methodology. The qualitative method part of the study includes in-depth interviews, synthesizing the opinions of relevant educators in Shandong province about the impact of implementing Confucius culture in universities. A cross-sectional survey design and simple random sampling method to select staff including full-time teachers and administrative staff from public universities in Shandong Province represent the quantitative part of the research with closed-end questionnaire, and network survey as data collection methods, and a total of 402 valid samples were finally sampled through online data collection. The five-point Likert scale was used to evaluate each item of potential variables in the questionnaire, with respondents answering each question from 1 (strongly disagree) to 5 (strongly agree).

The main purpose of this study is to explore the effects of Confucius management culture in public universities in Shandong Province, China, which mainly has two folds: one is the effects of Confucius management culture on the work engagement of staff, and the other is the effects of Confucius management culture on the career growth of staff. In this study, the level of each variable was examined through the survey of 402 staff in public universities in Shandong Province, and the effects of each latent variable in the conceptual framework were verified through eight hypotheses. Before estimating the results, preliminary analyses such as correlation analysis, validity and reliability of instruments, and model fitness were done to provide the justification and appropriateness of the instruments and the selected method.

The validity index of the questionnaire items was evaluated by experts in statistics, Confucianism, and business administration. The reliability index of the latent variables was measured after item purification of the study variables by the testing program using statistical software named SPSS, and confirmatory factor

analysis (CFA) was carried out from the questionnaire using AMOS software to analyze the factor loading of the items and determine the reliability, composite validity and convergent validity of the measurement model, determine the model fit indices, yielding strong goodness of fit results ($\chi^2=1231.63$, $df=802$, $\chi^2/df=1.54$, CFI=0.98, GFI=0.94, AGFI=0.93, TLI=0.98, IFI=0.98, RMSEA=0.04). In addition, structural equation modeling was used to test various hypotheses of interest in this study.

This study focused on the effect of Confucius management culture on employees' work attitude and behavior and individual career growth in public universities in Shandong Province, China because Shandong Province is the hometown of Confucius, and the management of public university organizations is influenced by Confucius culture. Statistical techniques used in the data analysis were descriptive and structural equation modeling to qualify the conceptual framework and offered the following two conclusions: (1) The descriptive statistics for basic information indicated that the staff of the public universities in Shandong Province in demographic information reveals the majority of female (61.70%) and full-time teachers (71.10%), the range of age between 31-50 (81.10%), held a master's degree at 62.7%, and nearly half (49.80%) of the respondents had served in universities for more than 15 years; (2) In the hypothesis test, the positive effect between the variables was obtained by path analysis. All hypotheses proposed in this study have been validated as acceptable. Finally, the qualitative analyses were further supplemented by the quantitative result. There are effects between one independent variable (Confucius management culture), one mediating variable (psychological contract fulfillment), and two dependent variables (work engagement and career growth).

5.3 Discussion

The significance of an organizational harmonious management culture, work attitude, and individual development of staff is necessary in Chinese public Universities, where the organization requires high levels of management to maintain sustainable development. This study specified relationships between Confucius management culture of organization combined with the context of the public

university system in Shandong province, China, in reaction to the work engagement and career growth of staff. As mentioned in Chapter 4, based on a survey of public university employees in Shandong Province, China, it is found that there is a positive relationship between Confucius management culture, work engagement, psychological contract fulfillment, and career growth.

5.3.1 Discussion on the Variable: Confucius Management Culture

Confucius management culture emphasizes that organizational management should pay attention to the harmony of employee groups. In particular, the Analects of Confucius, which embody the harmony of Confucius, although written 2,500 years ago, provide a useful framework for modern management in China today (Rarick, 2007). Implementing a management culture consistent with Confucius values in organizations has proven to be fruitful, especially in Asian countries. Korean multinational operations have successfully applied Confucian management practices in Mexico (Paik & Sohn, 1998). Singapore has built itself into an economic powerhouse using Confucius' people-oriented management philosophy. "People-oriented" management though can build trust among the members of the organization, to achieve teamwork. Cooperation and harmony produce better results than antagonism between members of the organization (Rarick and Gallagher, 2000).

People-oriented management thought of Confucius emphasizes human dignity, care, and development, which are important foundations for establishing stable and harmonious organizational relationships and promoting organizational success. The importance of etiquette is reflected in management as affecting the internal order and team cohesion of the organization. Confucius management culture requires leaders to have high moral character and moral cultivation, because an excellent leader can lead by example, and influence and motivate his subordinates to work more actively through the power of example. The cultural thought of Confucius emphasizes the differences and diversity of individuals, and the organization should understand the members and arrange their appropriate work content and support measures to promote the career growth of members. The application of Confucius management culture is an effective way for leaders to maintain strong organizational values and attract members to those values (Rarick and Gallagher, 2000).

A strong identification with an institution's cultural orientation is paramount for its success (Coyle-Shapiro & Kessler, 2000). It has been proven that an excellent organizational management culture makes employees think of the organization as a big family and feel harmony and warmth. The core values and ideas of Confucius management culture are built based on harmony. So, the harmonious management thought of Confucius has a positive significance to the management of universities. Confucius management culture encourages managers to: establish trust management practice and cultivate teamwork spirit through people-oriented management thought; evaluate their decisions and actions using the value of etiquette and shape the ethical standards and codes of conduct within the organization; have high moral character and cultivation, manage the organization through ethics, and be a good role model for employees; understand and respect the abilities and personalities of employees and motivate and guide team members more effectively; focus not only on employees' work performance but also on their professional development and personal growth, stimulate the potential of employees, and improve the competence and competitiveness of the overall team by providing training and development opportunities.

The Confucius management culture can promote the harmonious management of universities, reflect the balance of educational ecology, and provide practical guidance for universities to further improve the content of organizational culture. The possibility of a harmonious management culture makes a clear understanding of applying their policy within the context of employee relationships in the public university.

5.3.2 Discussion on the Variable: Work Engagement

Work Engagement is an important concept in the field of organizational behavior. Work engagement refers to the comprehensive experience of an individual's sense of identity, participation, and engagement in work. The importance of work engagement lies in its dual impact on individuals and organizations. For individuals, high work engagement is generally associated with higher job performance, better job satisfaction, and lower turnover intention (Bakker & Demerouti, 2008). This state can lead to a greater sense of accomplishment and self-

actualization, which enhances an individual's career growth and mental health. For an organization, work engagement is a valuable resource that improves overall performance. Staff with high engagement are more likely to demonstrate innovation, teamwork, and a passion for teaching, which are critical to an organization's long-term growth and competitiveness. Work engagement is not only the psychological state of individual employees but also one of the important driving forces for organizational success. Organizations can enhance employees' work engagement by providing necessary support such as sufficient work resources (Hakanen, Bakker, & Schaufeli, 2006), open communication and timely feedback (Kahn, 1990), and reasonable incentive measures to enhance employees' sense of identity and motivation for work (Schaufeli & Bakker, 2004). By understanding and promoting work engagement, organizations can achieve a more productive, innovative, and dynamic work environment.

5.3.3 Discussion on the Variable: Psychological Contract Fulfillment

Psychological contract fulfillment involves how employees perceive and evaluate whether an organization is fulfilling its promises and expectations to employees. This concept has important implications for understanding employee satisfaction and employee behavior. Employees have expectations about job roles, career growth opportunities, the work environment, support from superiors, and the organization's attitude toward employees. These expectations are often communicated and formed indirectly through an organization's management culture, communications, policies, and practices. Organizations will also expect employees to contribute to the achievement of organizational goals and demonstrate loyalty and cooperation.

The psychological contract fulfillment is crucial. Fulfillment of the psychological contract occurs when both parties meet their expectations and obligations as perceived by the employee (Rousseau, 2001). When employees perceive that the organization has fulfilled the psychological contract, they tend to experience higher job satisfaction (Robinson & Judge, 2007). and work motivation. They may exhibit more positive work behaviors, such as higher work engagement, more spontaneous effort, and a greater willingness to support organizational goals.

Effective management and fulfillment of psychological contracts can help organizations establish a positive work environment, promote employee loyalty and engagement, reduce employee turnover (Coyle-Shapiro & Kessler, 2000), and improve work efficiency and performance (Morrison & Robinson, 1997). In this case, organizations can attract and retain talent aligned with their values and goals. The values, norms, and practices embodied in organizational culture affect employees' expectations and perceptions of psychological contract fulfillment. A culture that emphasizes harmony, trust, and respect contributes to the fulfillment of psychological contracts. The behavior and actions of managers are crucial to the employee's perception of the organization's fulfillment of psychological contracts. As Coyle-Shapiro and Kessler (2000) pointed out, managers who demonstrate support, fairness, and transparency are more likely to fulfill employees' psychological contracts. They also suggested that Leaders should consistently demonstrate commitment to fulfilling promises and addressing any concerns that arise. The organization meets the professional development and personal growth needs of employees by providing opportunities for skills development and career advancement.

In short, psychological contract fulfillment is an important aspect of the relationship between employees and organizations, which affects employee attitude, behavior, and organizational performance. By effectively managing and fulfilling psychological contracts, organizations can establish a positive work environment that promotes employee satisfaction and loyalty.

5.3.4 Discussion on the Variable: Career growth

Career growth is concerned with the experience, skills, knowledge, and achievements that an individual gains at work, and how these factors contribute to higher achievement and satisfaction in their career. It is a multi-dimensional concept that encompasses personal development, professional advancement, and adaptation to evolving career demands. Understanding the factors that influence career growth and implementing strategies to support it can significantly enhance both individual career trajectories and organizational effectiveness. Career growth provides a platform to achieve personal goals and pursue professional achievements. Through

continuous learning and growth, individuals can realize their potential and gain a sense of identity with their abilities. Career growth is often associated with better pay and benefits. As individuals progress through their careers, they often receive higher salary levels and other financial rewards. Individuals not only gain deeper expertise and skills in their field but are also able to expand their skill boundaries and adapt to the changing work environment.

Career growth is not only a goal for individuals but also one of the key factors for the long-term prosperity of organizations and societies. From the organizational point of view, supporting career growth strategies include providing training and development opportunities, designating career development plans, establishing effective feedback mechanisms, and strengthening career networks. In detail: provide systematic training and career development opportunities to help employees upgrade their skills and knowledge to adapt to changing job requirements (Noe, 2017); encourage employees to develop personal career development plans, and regularly review and adjust goals, which can help employees identify career paths and assess progress (Arthur et al., 2005); regular performance evaluation and feedback can help employees identify their strengths and improvement points, thereby promoting career growth (London & Smither, 1995); encourage employees to attend industry conferences, professional organizations, and networking events to build and expand professional networks, which can provide career opportunities and resources (Burt, 1992). By supporting and promoting the career growth of individuals, organizations can attract and retain talented people, improve employee job satisfaction and performance, and achieve long-term success and competitive advantage for the organization.

5.3.5 Discussion on the Relationship Between Confucius Management Culture and Work Engagement

The results of testing Hypothesis 1 demonstrated that Confucius management culture has a significantly positive relationship with individual work engagement in public universities in Shandong Province. The values emphasized by Confucius management culture will directly affect employees' working attitude and value orientation, which is consistent with Lyu's (2020) view that work engagement is

related to the cultural characteristics of the workplace. Confucius management culture emphasizes benevolence and interpersonal relationships. Leaders should lead by example, treat others with kindness, and respect the dignity and worth of each employee. Confucius emphasized the use of different management methods for different levels of employees, to enhance his/her work engagement (Luo, 2021). In this kind of culture, employees feel that the organization cares and respects them, so it is easier to establish a positive work emotion, and they are more willing to devote themselves to work because they feel that their efforts have been recognized and rewarded. Confucius management culture emphasizes moral motivation, that is, motivating others through the power of example. In this cultural atmosphere, employees not only work for material rewards but also feel satisfied and invested because of the value and significance of the work itself and pay more attention to internal self-motivation and a sense of achievement. Good leaders bring out the best in their employees and increase their motivation and engagement because employees want to look to their leaders and be inspired and guided by them. Confucius management culture emphasizes teamwork and mutual aid spirit and advocates the concept of "harmony without sameness". In university organizations, this culture will encourage cooperation and exchange between staff, explore academic issues together, promote the output of scientific research results, and improve work efficiency and quality.

Confucius management culture can stimulate employees' inner motivation and enhance work engagement (Xu, 2022). Confucius management culture helps to create a positive and harmonious working atmosphere through four aspects: people-oriented, etiquette promotes harmony, and rules of virtue and appoint people by abilities. Employees feel cared for and respected in such a cultural environment, and employees are more willing to believe in the organization's promises and expectations. This kind of trust and respect is the basis of psychological contract fulfillment. Employees feel that the organization has fulfilled the psychological contract, understand the meaning and value of the work, and are more willing to devote themselves to the work.

5.3.6 Discussion on the Relationship Between Confucius Management

Culture and Career Growth

The results of testing Hypothesis 2 demonstrated that Confucius management culture has a significantly positive relationship with individual career growth in public universities in Shandong Province. Confucius management culture has created a harmonious working environment through four aspects: people-oriented, etiquette promotes harmony, and rules of virtue and appoint people by abilities. In such a cultural environment, employees feel the organization's care and respect for them, so they have more motivation to learn, improve professional skills, get better salaries, and promote career growth.

The people-oriented management concept makes employees feel respected. Employees feel cared for and supported by the organization and are more motivated to improve their skills and knowledge to achieve their career goals. The management philosophy of etiquette promotes harmony and encourages cooperation and support among employees, which helps to enhance personal development opportunities. In such a cultural atmosphere, employees receive support and help from others and have more opportunities to learn and grow, thus promoting career growth and development. The management philosophy of Confucius emphasizes leading by example and obeying by virtue and believes that one should become a virtuous gentleman. In the workplace, this means that one should possess the qualities of honesty, integrity, tolerance, and respect for others. These qualities are crucial in building professional credibility and relationships. Confucius management culture attaches great importance to etiquette and interpersonal relations, emphasizing proper behavior and manners in interpersonal communication. This kind of culture helps to build a good network of people and provides favorable conditions for career growth. Good interpersonal relationships can provide more career opportunities and resources to promote the career growth of employees. A good manager appoints people by abilities, values the personal growth and development of employees, and provides them with appropriate training, guidance, and development opportunities. This focus on personal development motivates employees to learn, helping them to continuously improve their skills and knowledge for career growth.

The study of the career growth of staff from the perspective of Confucian

culture relates to how to cultivate and retain backbone and excellent talents in universities. This study makes university administrators understand that a management cultural environment like people-oriented, etiquette promotes harmony, and rules of virtue and appoints people by abilities, employees are more actively engaged in work, and engaged employees often experience positive emotions (Schaufeli and Van Rhenen, 2006; Schaufeli, 2012), which guided their thoughts and behaviors. The practice of Confucius management culture can encourage staff to develop their talents and enhance their work enthusiasm and initiative to the university. A strong team of university staff with high organizational cohesion is built.

5.3.7 Discussion on the Relationship Between Work Engagement and Career Growth

The results of testing Hypothesis 3 demonstrated that individual work engagement has a significantly positive relationship with career growth in public universities in Shandong Province. Although most scholars have confirmed that career growth has a positive impact on work engagement, this study focuses on the positive impact of work engagement on career growth, which is consistent with the conclusion of Chen and Wu (2018) and Chen et al. (2018). Engagement at work means greater focus and effort on tasks, which often leads to higher performance and achievement. Performing well at work can help individuals win more opportunities and recognition, which can promote career growth. Work engagement often means active participation in learning and growth. Engaged employees are more willing to be trained, explore new techniques and methods, and share experiences and knowledge with colleagues. This attitude of learning and growth helps individuals to continuously improve their skill level and lays a solid foundation for career growth. Committed employees tend to be recognized and respected by their colleagues and leaders. They will build a good reputation and network of relationships, which is essential for professional growth. These relationships may open up new opportunities for them, such as promotions or participation in important projects. Employees who are engaged in their work generally feel some satisfaction with their work and contributions. They have a higher perception of their abilities and worth,

which increases career satisfaction and self-confidence. This positive mindset helps individuals stay motivated throughout their careers. Employees who are engaged in their work are generally subject to more career growth opportunities. They may be promoted to higher-level positions or selected to work on important projects or lead teams. These opportunities help individuals achieve faster growth and development in their careers.

5.3.8 Discussion on the Mediating Role of Psychological Contract Fulfillment

The results of testing Hypothesis 4 demonstrated that Confucius management culture has a significantly positive relationship with psychological contract fulfillment in public universities in Shandong Province. The fulfillment of psychological contract is closely related to organizational culture. When Confucius management culture is internalized, the Chinese workplace environment can be effectively managed through relational psychological contracts (Kwon et al., 2018). The values and codes of conduct advocated by Confucius management culture provide the basis for employees to fulfill the psychological contract. At the same time, this culture also provides the organization with the conditions to create a good working atmosphere and promote the work engagement and career growth of employees.

Psychological contracts may involve the work environment, development opportunities, work content, and so on. The results of testing Hypotheses demonstrated that psychological contract fulfillment has a significantly positive relationship with work engagement (Hypothesis 5) and career growth (Hypothesis 7) and as a mediator in the effect of Confucius management culture on work engagement (Hypothesis 6) and career growth (Hypothesis 8).

Confucius management culture emphasizes the importance of integrity, trust, and respect. When an organization follows the philosophy of Confucius management culture and establishes an atmosphere of mutual trust and respect, employees are more willing to believe that the organization will fulfill its psychological contract. Such trust and respect are the basis for the fulfillment of the psychological contract,

and employees are more inclined to fulfill the psychological contract between them and the organization, including hard work, active learning, and the pursuit of career growth.

The management culture of Confucius emphasizes the importance of interpersonal relationships and pays attention to etiquette and human feelings. In this culture, employees have established good interpersonal relationships, support and encourage each other, and provide help for each other's career growth. This kind of support and help is also an important factor in the fulfillment of psychological contracts.

Confucius management culture advocates fairness and emphasizes fairness and equality for every employee. In this culture, employees expect the organization to treat them fairly and to reward and recognize individuals based on their contributions and performance. If organizations can deliver on this commitment to fairness and justice, employees will be more engaged at work.

Confucius management culture emphasizes team spirit and cooperation and advocates mutual assistance and support among employees. When an organization practices this cultural value, it will foster a good atmosphere of teamwork, where employees support and collaborate to achieve the goals of the team. In such a team atmosphere, employees will more easily feel the psychological contract between them and the organization, and if the organization can fulfill the commitment to team spirit and cooperation, employees will be more engaged in their work and willing to grow together with their colleagues. Because they know that their work is critical to the success of the team. Confucius management culture pays attention to the needs of employees and respects their values and development. In this culture, employees' expectations of the organization focus more on the organization's ability to meet their individual needs and hopes. If the organization can deliver on these promises, employees will be more willing to commit to their work. In this culture, organizations provide various forms of development opportunities and support, including training, academic exchanges, and mentorship. This kind of support makes it easier to fulfill the psychological contract with the organization and helps employees achieve career growth.

Therefore, Confucius management culture provides favorable conditions for the formation and implementation of psychological contract through people-oriented, promoting peace with courtesy, governing with virtue and knowing people's good duties, establishing trust and respect, emphasizing etiquette, advocating fairness, emphasizing cooperation and paying attention to employees' growth needs. Psychological contract fulfillment, as an important determinant of work engagement (Bal et al., 2013; Kim et al., 2020), will promote the employee's work engagement. Tzabbar et al. (2003) pointed out that the acquisition of an employee's career growth is a kind of reciprocal behavior between the organization and the employee and can be regarded as the result of psychological negotiation between an organization and an individual, so the fulfillment of psychological contract can promote employee's career growth, thus promoting the sustainable development of the organization.

The supposed finding is that Confucius management culture leads a better performance work engagement and career growth through the mediating variable of psychological contract fulfillment. This study has both theoretical contributions and practical enlightenment.

5.4 Recommendations

The study provides crucial information that can be applied in organization management and delivers public university organizations with empirical and practical guidelines on how to survive competition in public and private educational institutes. Building on the findings of this study, this section offers comprehensive recommendations to policy makers, managers of universities, and future researchers to deepen the understanding of the influence of Confucius management culture in universities in Shandong Province, China. The study's conclusions on the relationship between Confucius management, psychological contract fulfillment, work engagement, and career growth provide a solid foundation for these recommendations.

Recommendations on Policy and Strategy

1. Organizations should establish a strong, effective, and harmonious management culture to ensure that the needs of an organization and the needs of the

employees are met, to enable the sustainable development of the organization.

2. Organizations should consider the positive role of Confucius management culture in predicting work engagement and career growth, the study recommends that university organizations in Shandong Province as a matter of urgency, conduct regular assessments and check on management culture to see if it creates a harmonious atmosphere that helps their staff build psychological cohesion and then become more proactive in their work, which is necessary for healthy organizational development.
3. The policy encourages the organization to provide necessary support mechanisms, create opportunities to promote the career growth of the staff, improve their personal quality, and deepen their recognition of the fulfillment of organizational psychological contracts, so as to cultivate and retain key talents and excellent talents, which is conducive to the sustainable development of organizations.

Recommendations on Management Practices in Public Universities

1. The university should establish good communication and feedback mechanisms and allocate work according to ability. Firstly, university managers should maintain close contact with staff, understand the needs and opinions of employees through regular employee feedback meetings, personal talks, and other ways, timely solve problems, and establish a good relationship of trust. Secondly, university managers should communicate with staff about work tasks and goals on time, give positive feedback and constructive suggestions, and help them constantly improve their work performance. Thirdly, university managers should have a deep understanding of the staff's abilities, interests, and needs, understand the work situation and development intention of each staff through personal communication, regular assessment, and other means, and provide them with appropriate support and help. Finally, university managers should make a reasonable allocation of work according to the ability and specialty of the staff.
2. The university should set up an incentive mechanism and establish a fair and

just evaluation mechanism. Firstly, university managers should set up incentive mechanisms to stimulate the enthusiasm and creativity of staff and encourage them to come up with new ideas and solutions. Secondly, university managers should recognize and reward staff timely who are committed to their work and outstanding performance, which can not only enhance the motivation and enthusiasm of staff but also set a good example and stimulate other staff's desire to learn and progress. Thirdly, university managers should provide innovative project support and other ways to stimulate the creativity of staff. Finally, university managers should establish a fair and impartial evaluation mechanism to evaluate the work performance of staff based on their performance and contributions, which can motivate them to work hard and increase their motivation for work engagement and career growth.

3. The university should focus on staff development. In university management, a management model that pays attention to the personal development of staff and respects their needs can be established. Firstly, university managers should pay attention to the needs and well-being of staff and ensure that they are adequately supported and cared for in their work, including providing good working conditions, reasonable workloads, adequate welfare benefits, etc. Secondly, university managers should provide continuous education and development opportunities for staff and provide rich resource support to help them improve their professional skills, knowledge, and academic level continuously, which can be achieved through the organization of training courses, academic seminars, academic exchange opportunities, research project support, mentor systems, etc. Thirdly, university managers should pay attention to the training of leadership and help staff to improve their leadership and management skills, stimulate the leadership potential of staff, and promote their career development to achieve better growth through the provision of relevant training, and coaching sessions. The university managers should, ultimately, offer staff development opportunities and training programs. These programs must be customized to align with the career objectives and developmental needs of each staff, thereby aiding them in enhancing their professional skills and fostering career growth.

Recommendations on Theories and Concepts

1. The quantitative study of Confucius management culture has been broken through. This study quantifies and measures Confucius harmonious management culture. It fills the gap in quantitative research of Confucius harmonious culture. This study measures the culture of harmony at the operational level. It provides a preliminary reference for the quantitative research of Confucius management culture. The outcome of this study validates the fact that a harmonious management culture is necessary for better employee work engagement and career growth in public universities in Shandong Province and clarifies the positive effects of Confucius management culture on work engagement and career growth, which provides a theoretical basis from a macro perspective to transmit Confucius management culture in universities.
2. Career growth theory is enriched. This study carries out deeper excavation and research on the career growth of university staff in Shandong Province and finds a 4-dimensional structure suitable for the career growth of university staff, namely, career goals progress, professional ability development, organizational reward, and social resources access. Among them, social resource access is a new dimension suitable for the career growth of staff in universities, which enriches the research content of the career growth theory to a certain extent. The career growth of staff in universities is not only reflected in the improvement of knowledge and skills needed to complete the job but also in the improvement of the ability to access social resources. Objectively, staff needs to communicate and learn from each other among organizations, and the social resources access is the embodiment of this requirement. Based on the theory of social exchange and the principle of reciprocity, this study explores the antecedents of career growth from organization and individual, from sensibility to behavior, and broadens the research perspective of career growth. Moreover, the antecedents of career growth are explored from the perspectives of organizations and individuals and perceptual and behavioral aspects, which makes the antecedents and structural variables of career growth clearer. The important role of the organization is emphasized.

3. The relationship between job engagement and career growth is clearer. The existing literature shows that most researchers believe that career growth positively affects work engagement (e.g. Valencia, 2012; Mohsin, 2015; Weng et al., 2017). This study confirms that work engagement can affect an individual's career growth positively, establishing a link between individual active work and personal value realization. It is helpful to guide employees on how to treat their work engagement and their career growth and enrich the research on the relationship between work engagement and career growth.

Recommendations for Future Research

● Research Limitations

This study establishes a model of the relationship between Confucius management culture, work engagement, psychological contract fulfillment, and career growth, and probes into the relationship between Confucius management culture, work engagement, and career growth. The research verifies the degree of individual work engagement and the degree of individual career growth under the background of a harmonious management culture; It points out and verifies the necessity of implementing a harmonious management culture. Although this study achieved the expected research objectives, some important research results were obtained. However, due to the limitations of subjective and objective conditions, this study still has some limitations and some shortcomings, which need to be further discussed and analyzed in the future.

1. The limitation is this paper needs to be careful in interpreting the conclusions since this study collected sample data solely through self-reporting of respondents.
2. The limitation is the cross-sectional design. A quantitative research method is adopted, and empirical research is carried out by collecting data through a questionnaire survey. This kind of investigation is a cross-sectional study, and the data is static cross-section data, which is suitable for determining and verifying the relationship between variables. However, the experience of management culture and career growth is a long and complex process, the

experience of employees with low working years is not obvious. If the longitudinal study and time series analysis are used, it may be more conducive to an in-depth analysis of the influence mechanism of Confucius management culture on work engagement and career growth. However longitudinal studies typically require years of continuous observation. Therefore, the longitudinal study of the model is difficult to complete during the doctoral study, and we can only hope for follow-up studies.

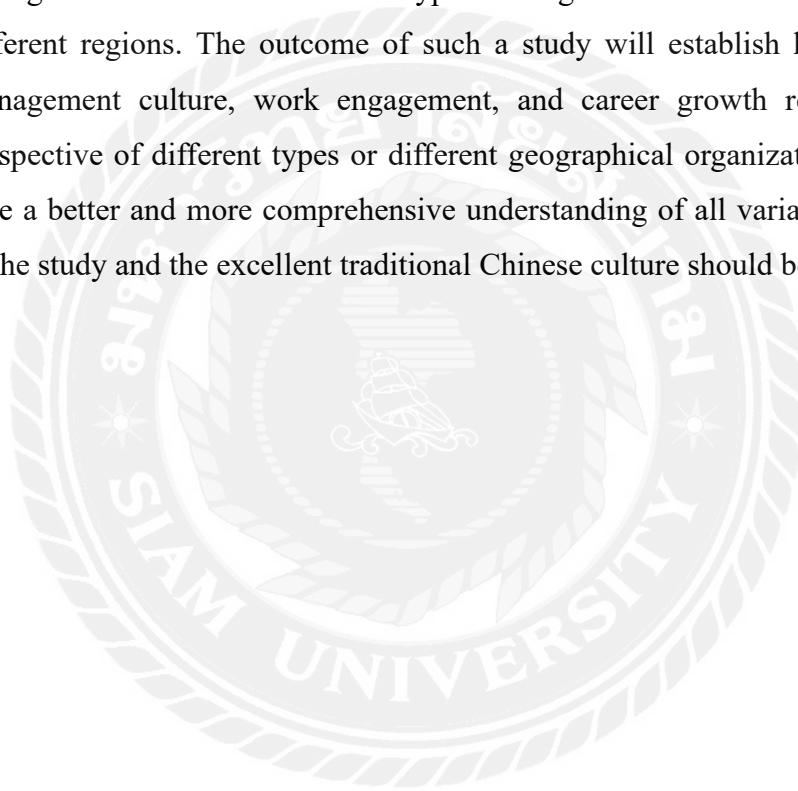
3. The limitation is geographical. This study is only collecting data from public universities in Shandong Province not from other provinces or private universities.

● Recommendations for Future Research

1. Future research should require in-depth interviews such as: to survey staff on their attitude and suggestions on organizational culture as well as the perceptions and attitudes of others outside the university, which will affect the overall image of the university. There are few quantitative studies on Confucius management culture for harmony, so this study can be used as a preliminary reference.
2. Additional studies should delve into the impact of each dimension of Confucius management culture on work engagement and career growth and determine more carefully and accurately which aspect of Confucius management culture has more influence on individuals. The author also studies the effects of the implementation of Confucius management culture on individual work engagement and career growth through a longitudinal study and time series analysis data.
3. Future research should attempt to continuously observe the data using longitudinal study and time series analysis because the experience of management culture and career growth is a long and complex process, the experience of employees with low working years is not obvious, and longitudinal studies may be more conducive to an in-depth analysis of the influence mechanism of Confucius management culture on work engagement

and career growth.

4. Confucius culture is a part of China's excellent traditional culture, and the practice of Confucius management culture not only appears in the public universities in Shandong Province, but also in private universities, in other provinces, and other organizations. It is suggested that future research should, on the one hand, study the management culture of Confucius more comprehensively, and on the other hand, study the practice of Confucius management culture in different types of organizations and organizations in different regions. The outcome of such a study will establish how Confucius management culture, work engagement, and career growth relate from the perspective of different types or different geographical organizations. This will give a better and more comprehensive understanding of all variables of interest to the study and the excellent traditional Chinese culture should be better spread.



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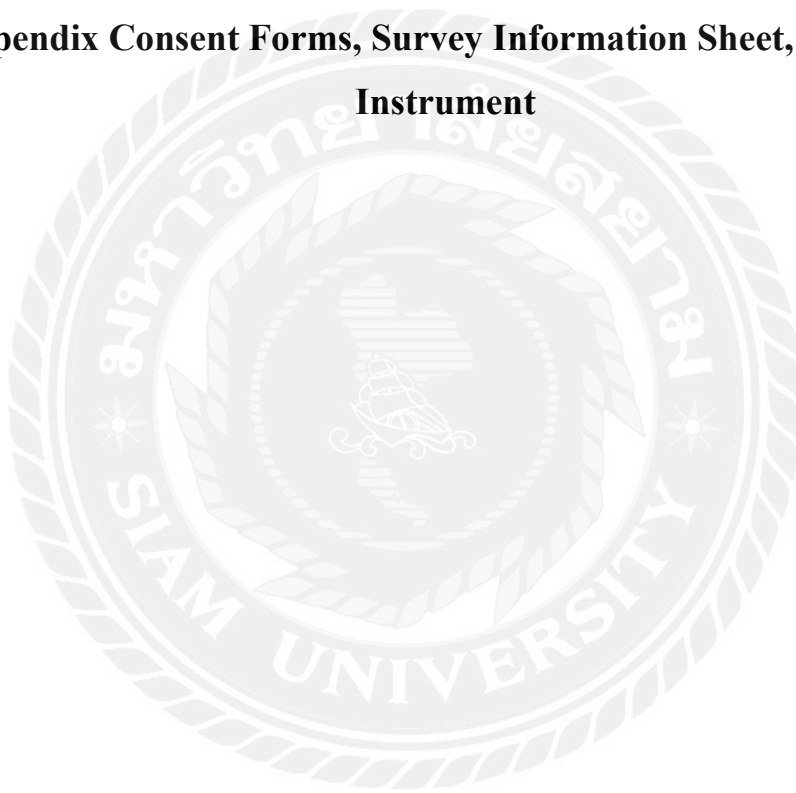
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Appendix

Appendix Consent Forms, Survey Information Sheet, and Survey Instrument





ใบรับรองจริยธรรมการวิจัยในมนุษย์
สถาบันการจัดการปัญญาภิวัฒน์

หมายเลขใบรับรอง: PIM-REC 002/2567

ข้อเสนอการวิจัยนี้ และเอกสารประกอบของข้อเสนอการวิจัยตามรายการแสดงด้านล่าง ได้รับการพิจารณาจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ สถาบันการจัดการปัญญาภิวัฒน์แล้ว คณะกรรมการฯ มีความเห็นว่าข้อเสนอการวิจัยที่จะดำเนินการมีความสอดคล้องกับหลักจริยธรรมสากล ตลอดจนกฎหมาย ข้อบังคับและข้อกำหนดภายในประเทศ จึงเห็นสมควรให้ดำเนินการตามข้อเสนอการวิจัยนี้ได้

ชื่อข้อเสนอโครงการ: The Effects of Confucius Management Culture on Work Engagement and Career Growth: A Case of Public Universities of Shandong Province, China

รหัสข้อเสนอการวิจัย (ถ้ามี): (ไม่มี)

หน่วยงาน: มหาวิทยาลัยสยาม

ผู้วิจัยหลัก: Mrs. Ling Zhu

ลงนาม.....

(อาจารย์ ดร.พิเชษฐ์ มุสิกะโปดก)

ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์
สถาบันการจัดการปัญญาภิวัฒน์

วันที่รับรอง: 31 มกราคม 2567

วันหมดอายุ: 31 มกราคม 2568

เอกสารที่คณะกรรมการรับรอง

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

เงื่อนไขการรับรอง

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



Interview Outline of the Topic "The Effects of Confucius Management Culture on Work Engagement and Career Growth"

Dear Mr. /Mis. /Miss. _____,

Good morning. I am delighted to have you here with me today for this interview. My name is Zhu Ling, and I am a doctoral candidate from Siam University. The purpose of this interview is to delve deeper into "the effects of Confucius management culture on work engagement and career growth". I am eager to share your valuable insights and experiences with my study.

I am truly honored to have the opportunity to engage in a conversation with you. Rest assured that all information shared during this interview will be used solely for academic research. I take your privacy and opinions seriously, and any sensitive or confidential information you wish to keep private will be held in the strictest confidence. As we proceed, I have prepared a discussion outline that will guide our conversation. Once again, thank you for your time and willingness to participate. If you're ready, let's get started.

Mrs. Ling Zhu, Ph.D. Student
Siam University

Interview Outline

Issue 1: Which work best embodies Confucius' idea of harmony?

Issue 2: Do you agree that there are four characteristics of Confucius culture, named people-oriented, etiquette promotes harmony, rules of virtue, and appointing people by abilities? What other characteristics of Confucius culture do you think from the perspective of harmonious management, once Confucius culture is applied to the management of public universities in Shandong Province?

Issue 3: In what ways does the organization embody a people-oriented management culture in the public universities in Shandong province?

Issue 4: How do organizations use etiquette to promote harmony in the public universities in Shandong province?

Issue 5: How can managers behave in a virtuous way in public university organizations in Shandong province?

Issue 6: How do managers realize appointing people by their abilities in public university organizations in Shandong province?

Issue 7: In your opinion, is it necessary to implement Confucian management culture in public universities in Shandong Province? Does it have a significant impact on the organization and staff? In what aspects does it influence, such as values, outlook on life, work attitude, career, etc.?

Issue 8: In your opinion, does the implementation of Confucian management culture have a significant impact on your work engagement? And in what aspects does it influence?

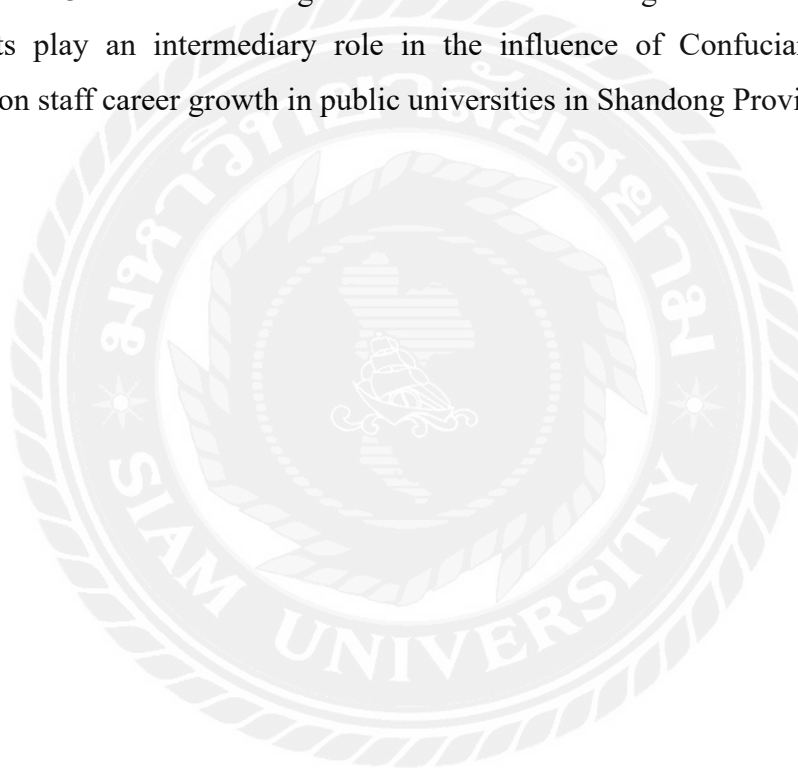
Issue 9: In your opinion, does the implementation of Confucian management culture have a significant impact on your career development and growth? And in what aspects does it influence?

Issue 10: In your opinion, does the work engagement have a significant impact on your career development and growth? In what aspects does it influence?

Issue 11: Does the implementation of Confucian management culture have a significant impact on the fulfillment of psychological contracts of university organizations in Shandong province from the perspective of employees? In what aspects does it influence?

Issue 12: Does the degree of fulfillment of organizational psychological contracts play an intermediary role in the influence of Confucian management culture on staff work engagement in public universities in Shandong Province?

Issue 13: Does the degree of fulfillment of organizational psychological contracts play an intermediary role in the influence of Confucian management culture on staff career growth in public universities in Shandong Province?





**The Effects of Confucius Management Culture on Work
Engagement and Career Growth: A Case of Public Universities of
Shandong Province, China**

To Questionnaire Respondent,

This questionnaire is an academic questionnaire, which is filled in anonymously and does not involve trade secrets. Your personal information and opinions will only be used for academic research and statistical analysis. Your answer is of great reference value for this study. Please reply according to your real situation and ideas. The researcher would like to extend her sincere thanks to you!

Please note that this questionnaire only surveys staff of public universities in Shandong Province and please choose only one answer for each question without special instructions.

Mrs. Ling Zhu, Ph.D. Student
Siam University

Part A: Demographic Information

1. Gender: A. Male B. Female
2. Role: A. Full-time teacher B. Administrative staff
 C. Another role
3. Age Group: A. 30 years and below B. 31-40
 C. 41-50 D. Above 50
4. Marital Status: A. Married B. Unmarried
 C. Divorced D. Other status
5. Degree of Educational Attainment:
 A. Bachelor B. Master C. Doctor
6. Professional Titles: A. Senior title B. Intermediate title
 C. Primary title
7. Monthly Earnings: A. Under ¥5,000 B. ¥5,000-¥8,000
 C. ¥8,001-¥10,000 D. Above ¥10,000
8. Years of Working: A. 5 years and below B. 6-10
 C. 11-15 D. Above 15 years
9. Subject Area of Work :
 A. Economics B. Management C. Education
 D. Science E. Engineering F. Agronomy
 I. Medicine J. Law K. Literature
 L. Philosophy M. History N. Other
10. University City: _____
11. Highest Level of Education Offered by the University:
 A. Bachelor B. Master C. Doctor

Part B: Confucius Management Culture (CMC)

The Confucius management culture scale consists of 13 items, please rate the extent to which you agree with each statement.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Items	1	2	3	4	5
My organization cares about my mental health.					
My organization is willing to listen to my different opinions.					
My ability is considerable from my organization while assigning me a job.					
My organization gives both sides a chance to argue their case when there is a conflict at work.					
My organization doesn't take sides when there is a conflict at work.					
My organization emphasizes playing by the rules.					
My organization values cooperation.					
My leader doesn't assign me anything he or she doesn't want to do.					
My leader makes authority secure in my mind.					
My leader can lead by example.					
My organization knows how I act.					
My organization knows what I can do.					
My organization follows the principle of meritocracy for appointing.					

Part C: Work Engagement (WE)

Work engagement scale consists of 9 items, please rate the extent to which you agree with each statement.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Items	1	2	3	4	5
At my work, I feel bursting with energy.					
At my job, I feel strong and vigorous.					
When I get up in the morning, I feel like going to work.					
I am enthusiastic about my job.					
My job inspires me.					
I am proud of the work that I do.					
I feel happy when I am working intensely.					
I get carried away when I am working.					
I am immersed in my work.					

Part D: Psychological Contract Fulfillment (PCF)

Psychological contract fulfillment scale consists of 5 items, please rate the extent to which you agree with each statement.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Items	1	2	3	4	5
I feel my organization as a whole has fulfilled my expectations.					
I feel my organization fulfilled my desire for career growth opportunities.					
I feel my organization fulfilled my needs for fair and attractive rewards.					
I feel my organization fulfilled my needs for the work environment.					
I feel my organization fulfilled my extra contribution.					

Part E: Career Growth (CG)

career growth scale consists of 15 items, please rate the extent to which you agree with each statement.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Items	1	2	3	4	5
My current job brings me closer to my career goals.					
My current job is related to my career goal and career ideal.					
My present job has laid the foundation for my future development.					
My present job offers me a better opportunity for my development.					
My present job encourages me to acquire new job-related skills.					
My current job encourages me to constantly update my job-related knowledge.					
I feel that my professional ability is constantly exercised and improved.					
My job position/job title is promoted fast.					
There is a great possibility for my job promotion.					
Compared with my colleagues, I am getting promoted at a faster rate.					
I have a great possibility to get a salary increase.					
I have more research incentive payments.					
I have opportunities to meet more scholars in the same field.					
I meet recognized scholars in the same field.					
I meet more advanced organizations in the same field.					

Author's Biography

Mrs. Ling Zhu

Date of Birth : December 04, 1979
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Shandong Province, China
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Education:

Doctor's Degree : Doctor of Philosophy (Ph.D.)
Major : Management
Institution : Siam University
Country : Thailand
Year : 2022-Present

Master's Degree : Master of Engineering (M. Eng.)
Major : Computer Application Technology
Institution : Qufu Normal University
Country : China
Year : 2003-2006

Bachelor's Degree : Bachelor of Engineering (B. Eng.)
Major : Computer Science
Institution : Qufu Normal University
Country : China
Year : 2001-2003

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