



**ASSOCIATION AMONG DISTRIBUTED LEADERSHIP, ORGANIZATI
-ONAL JUSTICE, ORGANIZATIONAL COMMITMENT, AND
ORGANIZATIONAL CITIZENSHIP BEHAVIOR BETWEEN
PRESIDENTS AND TEACHERS IN PRIVATE COLLEGES
—SHANDONG CHINA AS RESEARCH POPULATION**

BY

MS. PINGPING CHI

A Thematic Paper Submitted in Partial Fulfillment of the Requirement's for the

Degree of Doctor of Education (Education Management)

Graduate School, China-Asian International College

Dhurakij Pundit University

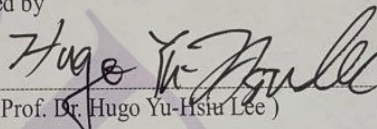
2019

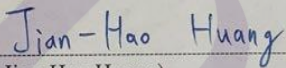


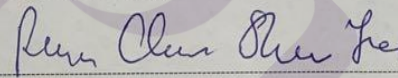
Certificate of Acknowledgement of the Dissertation
China-ASEAN International College, Dhurakij Pundit University
Doctor of Philosophy Program in Education Management

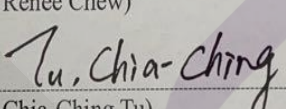
Title of Dissertation Association among Distributed Leadership, Organizational Justice, Organizational Commitment, and Organizational Citizenship Behavior between Presidents and Teachers in Private Colleges—Shandong China as Research Population
Researcher PingPing Chi
Program Doctor of Philosophy (Education Management)
Principle Supervisor Dr. Yi-Jian Huang
Co-Supervisor

Has been approved by

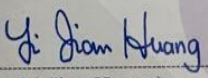

Chairman of the Committee
(Asst. Prof. Dr. Hugo Yu-Hsia Lee)


Committee Examiner
(Dr. Jian-Hao Huang)

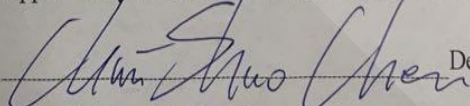

Committee Examiner
(Dr. Renee Chew)


Committee Examiner
(Dr. Chia-Ching Tu)




Principal Supervisor
(Dr. Yi-Jian Huang)

Approved by the DPU China-ASEAN International College


Dean of China-ASEAN International College
(Dr. Chun-Shuo Chen)

Date 09 JUL 2019

Dissertation Title: Association among Distributed Leadership, Organizational Justice,
Organizational Commitment, and Organizational Citizenship
Behavior between Presidents and Teachers in Private Colleges
——Shandong China as Research Population

Author: Pingping CHI

Dissertation Principle Superior: Dr. Yi Jian Huang

Dissertation Superior

Program: Ph. D (Education Management)

Academic Year: 2019

ABSTRACT

This study is purposed to figure out the association among distributed leadership, organizational justice, organizational commitment, and organizational citizenship behavior between presidents and teachers in private colleges.

The research methods adpted in this study include literature review and questionnaire survey. The data was collected from totally 1147 teachers working for private colleges located in Shandong province, China.

The data was analyzed by using a combination of descriptive statistics, Pearson correlation analysis, linear regression and process regression. The conclusions drawn from this study are presented as follows.

a The perception teachers have towards the distributed leadership of presidents, the organizational justice, organizational commitment and their own organizational citizenship behaviors in private colleges is found to be positive.

b Distributed leadership of presidents is discovered to have a considerable and direct effect on the organizational justice, organizational commitment and organizational citizenship behavior performed by teachers in private colleges.

c. The organizational justice in private colleges is found to exert a massive and direct effect on the organizational citizenship behavior performed by teachers.

d. The organizational commitment of teachers is discovered to make a substantial and direct impact on the organizational citizenship behavior performed by teachers in private colleges.

e. The presents' distributed leadership is observed to make a positive impact on teachers' organizational citizenship behavior through the mediation effect exerted by organizational justice and organizational commitment of teachers in private colleges.

f. Organizational justice and organizational commitment of teachers in private colleges are found to play an intermediary role in influencing distributed leadership of presents on the organizational citizenship behaviors performed by teachers.

Based on the findings and conclusions as listed above, some suggestions are made for practical applications in the future.

Keywords: Distributed leadership, Organizational justice, Organizational commitment, Organizational citizenship behaviors

ACKNOWLEDGEMENTS

In of the long-term doctoral study, the thesis is finally completed. At this moment, I sincerely deliver my gratitude and thanks to many people who have given so much help to me that I can successfully complete the paper writing.

First of all, I would like to thank my advisor professor Yijian Huang for his timely, completed and devoted guidance and supervision during the whole research process. Without the help of Dr. Huang, I cannot break through the bottleneck and regain the confidence to continue my research. Dr. Huang's guidance and support form a special friendship between teachers and students. I also feel grateful will remember in the rest of our life for receiving the precious shien from Dr. Huang. Here I would like to express the most sincere gratitude and respect to my advisor professor, and will always remember his guidance and support in my heart.

Also, I would like to deliver my gratitude to the experts from dissertation evaluation committee, Dr. Hugo Li, Dr. Jianhao Huang, Dr. Renee Chew and Dr. Chia-ching Tu in the busy schedule to review and provide incisive insights so that I can write and present a better paper.

I also want to give thanks to my leader president Ji-ting Xia for offering me the opportunity for study. Thanks to my leader vice president Xiangzhi Shuai for in charge of my work and handling the management of the department for me so that I can concentrate on my studies. Thanks for the colleagues in my office, especially Jixiang Han, for helping me finish the work of distributing the questionnaires.

Besides, I want to give my thanks to the friends from scientific research institutes in Shandong private colleges for the help they have provided in my questionnaire survey

I want to express my thanks to Qiao Xiaoping & Wang Ning especially, for giving me guidance when I was confused about running data analysis to help me catch up with others as quick as possible!

I am deeply grateful to my husband Shijie Wang for giving me tolerance, support and consideration, with which I can successfully handle with the great pressure from work and study. Special thanks to my son Zekai Wang. When mom was abroad, not only have you learned to take care of yourself, but also occasionally served as mom's spiritual mentor to help mom relieve stress. In the days ahead, I will repay your support with more care and love.

Thanks to my parents and sisters for taking care of my children and family during my absence. This paper is dedicated to my loving family and caring friends.

Pingping CHI

CONTENT

ABSTRACT.....	III
ACKNOWLEDGEMENTS.....	V
LIST OF TABLES	X
LIST OF FIGHURE.....	XIV
CHAPTER 1 INTRODUCTION	1
1.1 Research Background	1
1.2 Research Motivation and Problems	2
1.3 Research Purposes	9
1.4 Research Questions.....	10
CHAPTER 2 LITERATURE REVIEW.....	12
2.1 Organizational Citizenship Behavior.....	13
2.2 Distributed Leadership.....	22
2.3 Organizational Justice.....	36
2.4 Organizational Commitment.....	47
2.5 Association among Distributed Leadership, Organizational Justice and Organizational Commitment.....	58
CHAPTER 3 RESEARCH METHODOLGY	65
3.1 Research Design.....	65
3.2 Research Framework	66
3.3 Research Hypotheses	66
3.4 Research Objects.....	68

3.5	Research Tools	73
3.6	Data Analysis	81
CHAPTER 4 RESEARCH RESULTS		115
4.1	Results of Situation Analysis	116
4.2	Results of Direct Impact of Presidents' Distributed Leadership.....	119
4.3	Results of Direct Impact of School Organizational Justice and Teachers' Organizational Commitment.....	126
4.4	Results of Mediating Effect of School Organizational Justice and Teachers' Organizational Commitment.....	130
4.5	Results of Multiple Mediating Effects of School Organizational Justice and Teachers' Organizational Commitment.....	135
4.6	Hypothesis Testing.....	140
CHAPTER 5 DISCUSSION.....		142
5.1	Discussion on Direct Impact of President's Distributed Leadership.....	142
5.2	Discussion on Direct Impact of School Organizational Justice and Teachers' Organizational Commitment.....	145
5.3	Discussion on the Mediating Effect of School Organizational Justice and Teachers' Organizational Commitment.....	148
5.4	Discussion on Multiple Mediating Effert of School Organizational Justice and Teachers' Organizational Commitment.....	152
CHAPTER 6 RESEARCH CONCLUSIONS		156
6.1	Research Conclusions	156

6.2	Theoretical Contributions	157
6.3	Practical Applications	159
6.4	Research Limitations	166
6.5	Research Recommendations	168
APPENDIX 1	Pre-test Questionnaire	197
APPENDIX 2	Formal Questionnaire.....	206



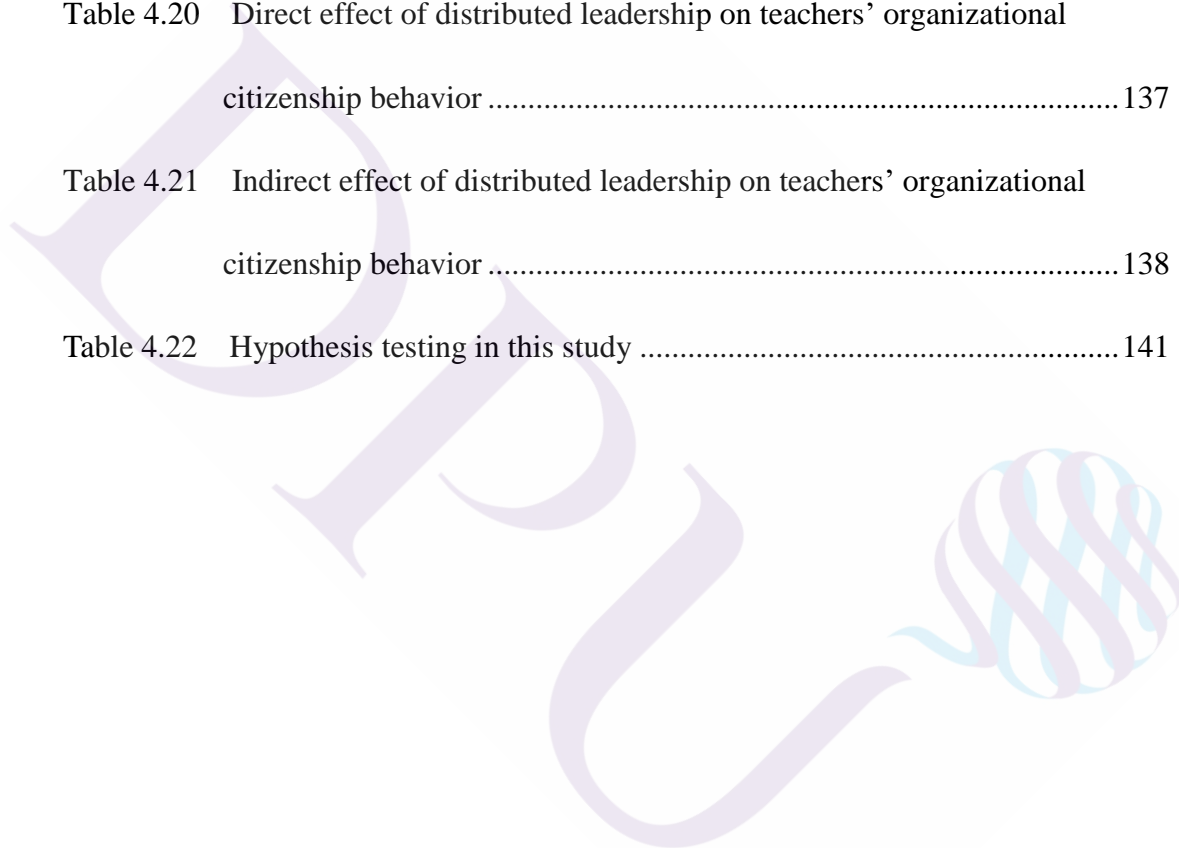
LIST OF TABLES

Table 3.1	Statistical table of school background description.....	70
Table 3.2	Summary of background data of the survey samples	72
Table 3.3	President distributed leadership scale	74
Table 3.4	Organizational justice scale.....	76
Table 3.5	Teachers' organizational commitment scale	78
Table 3.6	Teachers' organizational citizenship behavior scale	80
Table 3.7	Variable and dimension code table.....	81
Table 3.8	Summary of distributed leadership item analysis	84
Table 3.9	Summary of organizational justice item analysis	86
Table 3.10	Summary of teachers' organizational commitment item analysis	87
Table 3.11	Summary of teachers' organizational citizenship behavior item analysis....	89
Table 3.12	Summary of reliability of presidents' distributed leadership scale	91
Table 3.13	Summary of reliability of organizational justice scale.....	91
Table 3.14	Summary of reliability of teachers' organizational commitment scale ...	92
Table 3.15	Summary of reliability of teachers' organizational citizenship behavior scale....	92
Table 3.16	KMO and Bartlett's test of presidents' distributed leadership scale	93
Table 3.17	Factor analysis of presidents' distributed leadership scale.....	95
Table 3.18	KMO and Bartlett's test of organizational justice scale	96
Table 3.19	Factor analysis of organizational justice scale.....	98
Table 3.20	KMO and Bartlett's test of teachers' organizational commitment scale.....	99

Table 3.21	Factor analysis of teachers' organizational commitment scale	100
Table 3.22	KMO and Bartlett's test of teachers' organizational citizenship behavior scale	101
Table 3.23	Factor analysis of teachers' organizational citizenship behavior scale.	102
Table 3.24	Confirmatory factor analysis of presidents' distributed leadership scale..	104
Table 3.25	Analysis of reliability and validity for president distributed leadership scale ...	105
Table 3.26	Confirmatory factor analysis of organizational justice scale.....	107
Table 3.27	Analysis of reliability and validity for organizational justice scale	108
Table 3.28	Confirmatory factor analysis of teachers' organizational commitment scale .	109
Table 3.29	Analysis of reliability and validity for teachers' organizational commitment scale	110
Table 3.30	Confirmatory factor analysis of teachers' organizational citizenship behavior	112
Table 3.31	Analysis of reliability and validity for teachers' organizational citizenship behavior scale	113
Table 4.1	Summary of mean and standard deviation of distributed leadership.....	116
Table 4.2	Summary of mean and standard deviation of organizational justice	117
Table 4.3	Summary of mean and standard deviation of teachers' organizational commitment	118
Table 4.4	Summary of mean and standard deviation of teachers' organizational citizenship behavior	119
Table 4.5	Analysis of president's distributed leadership and school organizational justice	120

Table 4.6	Linear regression analysis results of college presidents' distributed leadership and organizational justice	121
Table 4.7	Analysis of presidents' distributed leadership and teachers' organizational commitment	122
Table 4.8	Summary of linear regression analysis of president's distributed leadership and teachers' organizational commitment.....	123
Table 4.9	Analysis of presidents' distributed leadership and teachers' organizational citizenship behavior	124
Table 4.10	Summary of linear regression analysis of president's distributed leadership and teachers' organizational citizenship behavior.....	125
Table 4.11	Analysis of school organizational justice and teachers' organizational citizenship behavior	126
Table 4.12	Summary of linear regression analysis of organizational justice and teachers' organizational citizenship behavior.....	128
Table 4.13	Analysis of teachers' organizational commitment and teachers' organizational citizenship behavior	129
Table 4.14	Summary of linear regression analysis of teachers' organizational commitment and teachers' organizational citizenship behavior.....	130
Table 4.15	Regression analysis of mediating effect in distributed leadership, organizational justice and organizational citizenship behavior	132
Table 4.16	Regression analysis of mediating effect in distributed leadership, organizational commitment and organizational citizenship behavior....	134

Table 4.17	Summary of school organizational justice and teachers' organizational commitment	136
Table 4.18	Summary of linear regression analysis of organizational justice and teachers' organizational commitment	137
Table 4.19	Total effect of distributed leadership on teachers' organizational citizenship behavior	137
Table 4.20	Direct effect of distributed leadership on teachers' organizational citizenship behavior	137
Table 4.21	Indirect effect of distributed leadership on teachers' organizational citizenship behavior	138
Table 4.22	Hypothesis testing in this study	141



LIST OF FIGHURE

Figure 3.1 Research framework.....66



CHAPTER 1

INTRODUCTION

This study aims to investigate the association among distributed leadership, organizational justice, organizational commitment, and organizational citizenship behavior between presidents and teachers in private colleges. The core topics of this research include the following: (a) the impact of distributed leadership of private college presidents on the teachers' organizational citizenship behavior, organizational justice and teachers' organizational commitment; (b) the role of school organizational justice and teachers' organizational commitment on the teachers' organizational citizenship behavior; and (c) the role of school organizational justice and teachers' organizational commitment in the impact of the president's distributed leadership on the teachers' organizational citizenship behavior.

This chapter is categorized into the following four sections: Section 1.1 explains the research background; Section 1.2 describes the research motivations and problems; Section 1.3 presents the research objectives; and Section 1.4 describes the questions to be investigated in this study.

1.1 Research Background

After four decades of development, Chinese private higher education has played a vital role in endorsing the development of higher education, resolving the shortage of higher education, and realizing the effective allocation of educational resources (Ju, 2010).

In China, private higher education is experiencing increasing difficulties and challenges. With the expansion of enrollment for higher education, the decline in the number of students, and change in students' ideological concepts, some college enrollment reports have gradually registered dissatisfaction. In 2014, one private college in the Shandong Province stopped enrolling students completely. The decline in student resources is a massive challenge for private colleges that rely heavily on tuition fees as a major source of economic development.

In today's intricate campus and social environment, the passive problem solving in the traditional campus management model has been gradually substituted by new leadership styles, which are greeted by the external environment, accentuating empowerment and joint action that is, forming leadership (Huang, 2010).

The concept of distributed leadership emerged in the 1990s and progressively garnered considerable attention in the theory of educational administration and began to be implemented in practice. The research successes in the field of education primarily focus on primary and secondary schools, and few scholars,

to date, have discussed how to play a distributed leadership role in the stage of higher education (Luo & Gan, 2016).

The establishment of a school and the leadership relationship of the president are of paramount importance. Although president leadership styles markedly differ from those of teachers and could be a source of continuous stress for teachers, good leadership styles could decrease stress and enhance efficiency. Thus, if a president can successfully use the leadership strategy and influence, he/she could condense the centripetal force of all school members and enhance the school efficiency. If teachers could actively participate in professional growth and exhibit teachers' organizational citizenship behavior, as well as contribute to education without seeking a return, the quality of school education could display a certain degree of performance (Hsu, 2014). This study focuses on the factors that affect teachers' performance of organizational citizenship behavior and the extent of their impact.

1.2 Research Motivation and Problems

1.2.1 Elucidate the Operation of Distributed Leadership in Private Universities

Whether a school could play a role in nurturing talents and educating future generations depends on the quality, leadership, and performance of the president (Hsieh, 2005). Gronn (2000) highlighted the advent of the era of distributed

leadership. Research on educational leadership, which has been extensively investigated by practitioners, professional developers, philanthropists, decision makers, and scholars, has focused on the trend of distributed education. In addition, central and local governments of many countries have sponsored the promotion of distributed leadership, and some universities have established programs for school practitioners to improve the implementation of distributed leadership. Moreover, some studies have considered the trend of distributed leadership as a crucial direction of the research (Leithwood, Mascal, Strauss, Sacks, Memon, & Yashkina, 2007; MacBeath, Oduro, & Waterhouse, 2004; Spillane & Diamond, 2007). Lai (2008) believed that distributed leadership has progressively become a trend of the times. Of note, if a president distributes his/her legal power to college members, it will enhance mutual trust among members and encourage them to attain organizational goals.

Distributed leadership underlines that school leadership is not just the president's personal actions but the overall impact exerted by a group of people contributing their initiative and expertise to the school. School leadership aims to build a common interaction among school leaders, followers, and situations (Spillane, 2006). The emerging leadership theory underscores that leaders should guide the self-development of an organization's members to upgrade the work motivation from the transactional exchange of profits to the internal level of self-realization. Stronge (2013) suggested collecting the advantages of teachers' teaching and leadership, and transforming them into the energy of presidents' leadership.

Furthermore, the literature review revealed multiple research results on distributed leadership, including distributed leadership and teachers' job satisfaction, distributed leadership and school curriculum reform, and so on (Darlene, 2018; Tian & Risku, 2019). Hence, the first motivation for this study is the question of how this new leadership style is implemented in China's private colleges.

1.2.2 Enhance the Stability of the Teaching Staff of Private Universities through Organizational Justice and Organizational Commitment

To date, the problem of unstable teaching staff in private colleges and universities remains partially solved. Owing to heavy workload, high work pressure, and lack of security, newly graduated students often consider private colleges and universities a springboard or internship base, and a majority of teachers do not intend to work in private colleges and universities for a long time (Lu & Wu, 2007). The headmaster of a private university stated, "How to improve the stability of the staff of teachers in private colleges and universities is a problem that the managers of private colleges and universities are very concerned about." (Xu, 2006, pp. 13).

The success of an organization depends on its ability to absorb and retain talents, the reliable performance of behavioral roles of its members, and the ability of its members to develop creative and spontaneous behaviors. When leaders emphasize organizational justice and are willing to promote and pursue the principle of organizational justice, the work pressure experienced by members of the organization could be decreased and their efficiency be enhanced (Greenberg, 2004).

The establishment of a fair management system and the role of senior leaders are inseparable. By comparing the impact of different leaders on organizational justice, Eberlin and Tatum (2008) reported that, regardless of the organizational equity form, if leaders focus on it, long-term organizational performance can be created, contributing to the sustainable development of the organization. Hence, Yen and Ren (2013) proposed that school leaders could augment school efficiency through organizational justice and trust.

Mowday, Peter and Steers (1982) highlighted that organizational commitment is the degree of an individual's sense of identity and investment in a specific organization; moreover, this variable denotes employees' willingness to devote their efforts to assist the organization. Thus, enhancing the sense of identity and investment of the organization's members could be conducive to the display of organizational citizenship behavior. Organ and Ryan (1995) reported that organizational commitment is one of the most pertinent variables related to the organizational citizenship behavior. In addition, if an educational organization could fulfill the needs of its members, and the morale of its members is high, the organization would be more united, strong in cohesiveness, high in the sense of identity, and more engaged in member work (Hsieh, 2005). Furthermore, Cheng, Hsu and Chiu (2015) believed that teachers with higher organizational commitments could exhibit better work performance, have a stronger emotional attachment to the school, and positively intend to attain the mission objectives.

Hence, the second motivation for this study is does the manifested leadership of college presidents affect teachers' sense of identity, work commitment, retention, and motivation to illustrate the organizational citizenship behavior, such as sacrificing personal interests, thereby facilitating the development of teacher resource in private colleges.

1.2.3 Determine the Role of Organizational Citizenship in Private Universities

When the president and teachers share the management responsibility, it is imperative to ascertain whether the school operates smoothly and whether the performance is effective. In this regard, the teachers' organizational citizenship behavior is a crucial indicator. The organizational citizenship behavior denotes an individual in an organization, excluding the individual's inherent motivation, or acting beyond the role, based on the objective of obtaining appreciation and excluding the relationship of the organization contract (Organ, 1988). In addition, the organizational citizenship behavior denotes the behavior of an individual in an organization, excluding the intrinsic motivation, or acting beyond the role, based on the objective of gaining appreciation and excluding the relationship of the organizational contract (Robbins & Judge, 2012). When an organization's members could voluntarily pay beyond the officially defined work requirements of the organization, the organization receives the greatest benefit (Sharoni, Tziner, Fein, Shultz, Shaul, & Zilberman, 2012). DiPaola and Tschannen (2001) reported that the teachers' organizational citizenship behavior could not only enhance the overall efficiency of the school but also their

help behavior could extend to colleagues, superiors, and students. Moreover, the teachers' organizational citizenship behavior could exert a positive impact on a school organizational culture and student learning achievement (DiPaola & Tschannen, 2001; Jimmieson, Hannam, & Yeo, 2010).

Regarding self-sufficiency in collecting funds for private colleges and universities in China, students hope that every penny paid is rewarded accordingly. Conversely, the president hopes that teachers would spontaneously display an active, positive, diligent, and altruistic behavior beyond the role criteria under the conditions of non-basic work requirements. Such behavior not only benefits others but also contributes to the enhancement of school efficiency. Meanwhile, this behavior plays a positive role in creating a good campus culture, upholding the interpersonal harmony of the school, enhancing teachers' identification and sense of belonging to the school, and refining the social reputation of the school.

Hence, the third motivation for this study is if college presidents could implement distributed leadership and share leadership responsibilities with teachers how would that affect teachers' organizational citizenship behavior and the development of private colleges.

1.2.4 Limited Research on Distributed Leadership, Organizational Justice, Organizational Commitment, and Organizational Citizenship Behavior

To date, organizational justice, organizational commitment, and organizational citizenship behavior have been investigated comprehensively

(Akdemir & Ayik, 2017; Dipaola & Hoy, 2005; Niehoff & Moorman, 1993). However, the problem of the distributed leadership of presidents only arose in the 1990s and has, thus, received limited attention (Luo & Liu, 2017). Moreover, there lies an evident lack of uniformity in the definition of the distributed leadership concept (Leithwood, Mascall & Strauss, 2009). Since long, Gronn (2009) has recognized that distributed leadership might contain several different, even conflicting, leadership practices in any given scenario. Spilane (2006) suggested that, more notably, the most prominent feature is not the fact that leadership is distributed. Of note, distributed leadership can coexist with a hierarchical, top-down leadership perspective that could be used to better explore a hierarchical, top-down view of leadership. Furthermore, Corrigan (2012) generalized all these theoretical dilemmas as a lack of a unified theoretical foundation for the study of distributed leadership.

Currently, some studies have focused on this problem and started an investigation. For example, the correlation between presidents' distributed leadership and teachers' organizational citizenship behavior has been discussed and the possible intermediary factors in the process of their correlation analyzed (Somech & Ron, 2007). In China, the research on distributed leadership has registered limited achievements, primarily introducing the origin and development of the distributed leadership theory (Chen & Liu, 2018; Liu & Chen, 2017). Limited studies have explored how distributed leadership in colleges could enhance the teachers' organizational citizenship behavior (Cheng & Zhang, 2017). Besides, limited studies

have discussed how to play a distributed leadership role in higher education to augment the teachers' organizational citizenship behavior (Cheng & Zhang, 2017). Furthermore, research on distributed leadership and school organizational justice, teacher organizational commitment, and teacher organizational citizenship is rare (Hsu, 2014).

To date, limited studies have explored how distributed leadership in colleges could enhance the teachers' organizational citizenship behavior. Hence the fourth motivation for this study is to investigate the correlation among distributed leadership, organizational justice, organizational commitment, and teacher organizational citizenship, as well as provide a reference for related issues.

1.3 Research Purposes

Based on the research motivation discussed above, this study aims to investigate the correlation among the distributed leadership of presidents in private colleges, organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior. Considering the impact of presidents' distributed leadership on the teachers' organizational citizenship behavior, as well as the mediating role of organizational justice and teachers' organizational commitment in the impact of presidents' distributed leadership on teachers' organizational citizenship behavior, the four main purposes of this study are as follows:

Purpose 1: To investigate the impact of distributed leadership of private college presidents on organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior.

Purpose 2: To investigate the impact of organizational justice and organizational commitment on the teachers' organizational citizenship behavior.

Purpose 3: To investigate the mediating impact of organizational justice and teachers' organizational commitment on the impact of distributed leadership of college presidents on the teachers' organizational citizenship behavior.

Purpose 4: To investigate the multiple mediating impact of organizational justice and teachers' organizational commitment on the impact of distributed leadership of college presidents on the teachers' organizational citizenship behavior.

1.4 Research Questions

Based on research motives described above, this study not only aims to elucidate the characteristics of private college presidents' distributed leadership, organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior but also elucidate the correlation between them.

The research questions of this study are as follows:

Question 1: Whether distributed leadership of private college presidents exerts a direct impact on organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior?

Question 2: Whether both organizational justice and organizational commitment exert a direct impact on the teachers' organizational citizenship behavior?

Question 3: Whether both organizational justice and teachers' organizational commitment exert a mediating effect on the impact of distributed leadership of college presidents on the teachers' organizational citizenship behavior?

Question 4: Whether organizational justice and teachers' organizational commitment exert a multiple mediating effect on the impact of distributed leadership of college presidents on the teachers' organizational citizenship behavior?

CHAPTER 2

LITERATURE REVIEW

This chapter comprises five sections: Section 2.1 discusses the connotation, dimension, relevant research and measurement of the theory on teachers' organizational citizenship behavior as the dependent variable in this study; Section 2.2 discusses the connotation, dimension, relevant research and measurement of the theory on presidents' distributed leadership as the independent variable in this study as well as its correlation with the dependent variable in this study; Section 2.3 discusses the connotation, dimension, relevant research and measurement of organizational justice as a mediator in this study as well as its correlation with organizational citizenship behavior; Section 2.4 discusses the connotation, dimension, relevant research and measurement of organizational commitments as another mediator in this study as well as its correlation with organizational citizenship behavior; and Section 2.5 discusses the correlation among distributed leadership, organizational justice and organizational commitments. Details are set out as below:

2.1 Organizational Citizenship Behavior

Some researchers believe that although organizational citizenship behavior is not official job requirements or orders by an organization, it can enhance the efficiency of actual functions of an organization if members of the organization can do more than what is required to do and what is expected from the employer (Robbins & Judge, 2012). In this section, the relevant research results of organizational citizenship behavior are mainly analyzed from the three perspectives: (1) the connotation of the theory on organizational citizenship; (2) relevant research on organizational citizenship behavior; and (3) the measurement of organizational citizenship behavior.

2.1.1 The Connotation of Organizational Citizenship Behavior

A study by Bernard (1938) found that an organization is a cooperative system in which each individual is willing to cooperate and make efforts. The authority system of an official organization will become more stable when each member of the organization makes more voluntary and necessary contributions. This kind of willingness to cooperate not only exceeds the obligations required by the organization, but also a kind of voluntary contribution to the organization based on individual independent consciousness. In their work <the social psychology of organizations>, Katz and Kahn (1966) wrote that efficient organizations must appeal to the members to make the following three types of contributions: (1) they must attract and retain members; (2) they must ensure the members demonstrate reliable

performance that meets or exceeds the minimum qualitative and quantitative standards of their respective roles; and (3) they must arouse the innovation and spontaneity of the members, namely to act beyond the requirements of roles in the organization. For the aforesaid three behaviors, the first and second kinds of behaviors are the intra-role behaviors regulated by the organization, while the third type of behavior is not required by the work roles. Bateman and Organ (1983) named this third kind of behavior as citizenship behavior. Later, in the study of Smith, Organ and Near (1983), such extra-role behaviors are called organizational citizenship behavior.

Organ (1988) summarized organizational citizenship behavior as a kind of voluntary personal behavior that will not be directly or clearly affected by formal reward or punishment mechanism and contribute to overall organizational efficiency and performance. This definition emphasizes three points: firstly, organizational citizenship behavior is voluntary personal behavior; secondly, it will not be directly or clearly affected by formal reward or punishment mechanism; and thirdly, individual personal behavior of members in an organization does not have a significant impact on the organization, but collective personal behavior can contribute to overall performance of the organization (Organ, Podsakoff & MacKenzie, 2006). Graham (1995) also believed that organizational citizenship behavior is employees' positive intra-role and extra-role behavior that benefits the organization, including positive intra-role and extra-role behavior of organizational members. Robinson and Morrison (1995) pointed out from the perspective of psychological contract that organizational

citizenship behavior is a kind of behavior beyond the contractual agreements between employees and employers. Hsieh and Lai (2012) also believed that organizational citizenship behavior is a kind of spontaneous behavior of organizational members that benefits the organization, which demonstrates the positive force of members beyond their duties in the organization without formal reward from the organization. This kind of behavior is beneficial to other members and can enhance and make positive contributions to the efficiency of the organization.

While studying teachers' organizational citizenship behavior in the school organization, Dipaola and Hoy (2005) also advanced the concept of teachers' organizational citizenship behavior, namely a kind of extra-role voluntary behavior of teachers in discharging their duties, aiming at helping their students or colleagues. They found that teachers' organizational citizenship behavior can not only enhance the overall efficiency of the school to which they belong, but also benefit their colleagues, superiors and students. To sum up, teachers' organizational citizenship behavior refers to the automatic and spontaneous behavior of teachers shown beyond the standards and norms of role that contributes to the organization without asking for rewards from the organization. It also refers to the behavior that helps their colleagues, students and presidents, and in a broad sense, any behavior that is helpful to the school (Kao & Su, 2013).

Based on the definition of organizational citizenship behavior by Organ (1988), the definition in this study draws on the teachers' organizational citizenship

behavior defined by DiPaola and Hoy (2005). In this study, teachers' organizational citizenship behavior is summarized as the behavior of teachers to actively care about the development of the school, offer to help others, do extra work to promote the development of the school and make achievements in addition to the job responsibilities and basic work requirements specified in the employment contracts of teachers.

2.1.2 The Dimension of Organizational Citizenship Behavior

The concept of organizational citizenship behavior has attracted the attention of many researchers since its introduction. They distinguish organizational citizenship behavior from different connotations and dimensions. The brief description of different dimensions of organizational citizenship behavior is as follows:

Bateman and Organ (1983) held the opinion that organizational citizenship is an integral concept, and named the previous extra-role behavior as organizational citizenship behavior, without making dimensional division.

The organizational citizenship behavior was divided into two dimensions by Smith, Organ and Near (1983), namely altruism and general compliance. The organizational citizenship behavior was divided into two dimensions by Williams and Anderson (1991), namely citizenship behavior directed at the organization and citizenship behavior directed at individuals.

The organizational citizenship behavior was divided into three dimensions, namely obedience, loyalty and participation by Graham (1991) from the perspective

of civic duties in politics, emphasizing positive behavior of organizational members and the organizational level. For example, the members of the organization should obey the rules, be loyal to the organization and actively communicate with other members. Taking diversified objects as the starting point, Somech and Bogler (2002) divided teachers' organizational citizenship behavior into three dimensions, including organizational citizenship behavior directed at students, colleagues and the school.

There are some researchers dividing organizational citizenship behavior into four dimensions. For example, Netemeyer et al. (1997) divided organizational citizenship behavior into the following four dimensions: sportsmanship, professional ethics, Job dedication and altruism. Sportsmanship is defined as willingness on the part of the employees to tolerate less than ideal circumstances without complaining; professional ethics is defined as willingness on the part of the employees to perform beyond the role requirements; Job dedication is defined as behavior that shows a concern for participating in corporate life; and altruism means employees are willing to spend their private time helping other colleagues in performing their tasks while asking for nothing in return.

Organ (1988) divided organizational citizenship behavior into five dimensions, mainly including altruism, courtesy, sportsmanship, professional ethics and civic virtue. In addition, Dyne, Graham, and Dienesch (1994) also divided organizational citizenship behavior into five dimensions, including organizational obedience, organizational loyalty, social participation, advocacy participation and

functional participation. In a study conducted by Farh, Earley and Lin (1977), the connotation of organizational citizenship behavior also comprised five dimensions, namely identification with the company, supporting colleagues, prudence and diligence, interpersonal harmony and protecting company resources, among which the latter two dimensions were not used by other researchers in the past.

In order to reflect cultural difference, Lin, Farh, Wu and Seetoo (1994), based on the research framework of Organ (1988) and the questionnaire of Podsakoff, MacKenzie, Moorman and Fetter (1990), divided organizational citizenship behavior into six dimensions, including identification with the organization, supporting colleagues, not making trouble and contending for profit, separating public from private interests, devotion and observance of laws and self-enrichment.

Based on the above-mentioned research on organizational citizenship behavior, the accepted standards of organizational citizenship behavior by Organ (1988) is adopted in this paper in combination with the connotation classification of organizational citizenship behavior by Farh et al. (1997), and the teachers' organizational citizenship behavior is classified into five dimensions: identifying school, assisting colleagues, not making trouble and contending for profit, protecting school resources and professional dedication.

Identifying schools means that teachers can identify with schools, take the initiative to care for the development of schools and engage in beneficial behaviors for schools. Assisting colleagues means that teachers can communicate and coordinate

with others, directly help their members, promote the assistance and cooperation of school members, and then indirectly contribute to schools. Not making trouble and contending for profit means that teachers are united and cooperate with each other, do not comment on others casually, and do not haggle over every ounce or fight for any power and profit. Protecting school resources means that teachers do not occupy school resources at will and do not use their working hours to deal with private affairs. Professional dedication means that teachers are enthusiastic about their work, actively and professionally devoted to school affairs, and willing to sacrifice for the school.

2.1.3 Relevant Research on Organizational Citizenship Behavior

It is found out by Oplatka (2009) that the research on teachers' organizational citizenship behavior mainly focuses on the following three dimensions: students, teachers and organizations. It is found out by Dipaola and Hoy (2005) that teachers' organizational citizenship behavior in schools is related to school atmosphere and students' academic performance. It is believed by Robbins (2005) that organizational citizenship behavior is not a requirement for employees' formal work, but helps to improve organizational performance. It is believed by Jimmieson, Hannam and Yeo (2010) that teachers' organizational citizenship behavior has a positive impact on students' performance and is positively related to teachers' citizenship morality and professional development behavior. In the research of Dipaola and Tschannen (2001) on 1,874 teachers, it is shown that teachers who work hard towards the overall goal of the school will actively help other teachers and students, and school climate is

positively correlated with teachers' organizational citizenship behavior. In the exploration by Oplatka (2006) on the pre-factors of teachers' organizational citizenship behavior, it is shown that such pre-factors include personal factors, school factors and leadership behavior factors. In the exploration by Oplatka (2009) on the teachers' organizational citizenship behavior, it is shown that teachers' organizational citizenship behavior is displayed for teachers, students and schools. Teachers' organizational citizenship behavior is positively correlated with students' learning behaviors and achievements.

In summary, there are quite a number of studies on teachers' organizational citizenship behavior in recent years, mainly focusing on three aspects in the field of education, namely exploring the relationship and influence between teachers' organizational citizenship behavior and related variables of teachers, students and schools. The major research method is questionnaire survey, and the object is primary school teachers.

2.1.4 The Measurement of Organizational Citizenship Behavior

Five important dimensions are put forward for organizational citizenship behavior in organizational citizenship behavior by Organ (1988): altruistic behavior, courtesy, sportsmanship, autonomy and civic morality. Although Organ (1988) only suggested that follow-up researchers develop research tools according to the five dimensions he proposed without publishing the evaluation tools he designed in this book, this scale has important indicative significance for the research and

development of organizational citizenship behavior, so it still relies on follow-up scholars. A scale of organizational citizenship behavior is designed by Podsakoff et al. (1990) for employees. Referring to behavioral framework by Organ (1988) and the scale by Podsakoff et al. (1990), and collecting practical data in enterprise organizations, a scale of organizational citizenship behavior with six dimensions is developed by Lin et al. (1994). In 1997, Farh et al. (1997) surveyed managers of electronics, machinery, chemical industry, food, finance, management consulting and other industries and government agencies, and developed a scale of organizational citizenship behavior with five dimensions. Based on the scale of organizational citizenship behavior by Podsakoff et al. (1990), a teacher-led scale of organizational citizenship behavior was developed by Cheng (2004) to fit the school situation. Lv and Gu (2007) drew on the research results of Farh et al. (1997) and compiled an scale of organizational citizenship behavior consisting of 30 questions, which were divided into four dimensions: individual, group, organization and society.

In this study, the scale of organizational citizenship behavior by Farh et al. (1997) is used to measure the organizational citizenship behavior of teachers in private colleges and universities. The scale is designed to: (1) study the performance of organizational citizenship behavior in different cultural backgrounds; and (2) explore the relationship between organizational citizenship behavior and organizational justice. This purpose is the same as one of the purposes of this study. The scale can be used as a reference for this study due to its good reliability.

2.2 Distributed Leadership

With the rise of distributed leadership theory, it has been widely concerned by researchers. This section mainly describes the research progress of distributed leadership from the following five aspects: (1) the implication of distributed leadership; (2) the dimensions of distributed leadership; (3) the related research of distributed leadership; (4) the measurement research of distributed leadership; and (5) the exploration of the relationship between distributed leadership and organizational citizenship behavior.

2.2.1 The Connotation of Distributed Leadership

Along with the new wave of sharing of presidents' power, learning organization and school-based management, the concept of distributed leadership has risen in the research of educational leadership in Britain, America and Australia, and flourished in theoretical development and practical application (Chin, 2013). The first paper on distributed leadership was Barry's *Managing Teams without Heads: a Topic of Distributed Leadership* written in 1991, which focuses on the leadership of self-management teams (Barry, 1991). The book *Distributed Leadership: Promoting School Management through Cooperation* written by Clift and Thurston (1995) takes distributed leadership as its theme, but its content still focuses on traditional discussion and is at the stage of concept development. There is no complete system for the implication of distributed leadership theory.

The theory of distributed leadership has entered a stage of rapid development since 2000. The research of distributed leadership has gradually spread from enterprise to education. Spillane, Halverson and Diamond (2001), Spillane (2006) that has more complete results for exploring the theory of distributed leadership. They concretized and clarified the theoretical framework of distributed leadership, which consists of multiple leaders and leadership practice. Leaders refer to all kinds of members in the organization who can meet the needs of the organizational context, set up a leadership team and play a leading role; while leadership practice refers to the interaction results of leaders' daily affairs and information used to express ideas in practice.

Spillane and Diamond (2007) based on the theory of distributed leadership, centers on management and leadership practice, and combines with the relationship between leadership function and human development as well as the relationship between organizational function and organizational development. Research is conducted in different schools to test the connotation of distributed leadership in practice, the preliminarily formed leaders, and the interaction between followers and situations. In <Distributed School Leadership: Developing Tomorrow's Leaders> by Harris (2008), the relationship between distributed leadership and organizational change and its empirical basis are reviewed, and how leaders are distributed and whether different distribution patterns influence organizational outcomes positively or negatively are analyzed through a large number of empirical and theoretical

discussions. In < Distributed Leadership according to the Evidence > by Leithwood et al. (2009), which is another achievement of research on the characteristics, causes and impacts of school distributed leadership, it also puts forward the author's own suggestions on future research directions. In <Distributed Leadership: Different Perspectives> edited by Harris (2009), which is one of the most influential works on distributed leadership, its purpose is to provide challenges, debates and criticisms, and illustrate the impact and influence of distributed leadership on organizational change with the latest empirical research results.

Distributed leadership directly challenges the original leadership thinking and school education reform. Under the existing school organizational structure and facing the plight of the external environment and members of internal organizations, we seek ways to strengthen education reform. The points of view on the implication of distributed leadership theory are as follows:

First, distributed leadership emphasizes the existence of multiple leaders. Distributed leadership focuses on the ability of all members in an organizational team to actively cultivate and lead other members (Barry, 1991). Distributed leadership regards everyone in an organization as a leader, and the organization also gives them an opportunity to lead others (Dampson, Havor, & Laryea, 2018).

There are many leaders in the organization at the same time. The central concept of distributed leadership is that there are many leaders in the group at the same time on campus, and each leader may play a leading role. According to Yukl

(2010), distributed leadership refers to the process of increasing power sharing between individuals and groups in order to effectively accomplish works, while the functions of leadership are distributed among all members of a team or organization. Therefore, the connotation of distributed leadership opens up the possibility of collective leadership in school organization. According to Hulpia and Devos (2010), distributed leadership is a trend of leadership after heroic leadership, where leadership is regarded as a group-level phenomenon, that is, leadership is distributed among every member of the whole school. It is found out by Amejide, Nelson, Billsberry and Meurs (2009) that the effective implementation of distributed leadership is hindered by the exertion of authority on top members, bureaucratic organizational procedures or constraints on power groups within the organization.

Secondly, distributed leadership emphasizes mutual cooperation among members in the organization. It is found out by Gronn (2000) that in an organization under the distributed leadership, leadership behavior is the leadership interaction and mutual cooperation of many individuals. Through the collaboration and cooperation of many leaders, the potential of each other can be stimulated, and the abilities of each individual can be synthesized to produce more abilities than that of the individual. Copland (2003) summarized several common points of distributed leadership: distributed leadership is a concept of the whole, and an action of reciprocity, coordination and cooperation; and it has the characteristics of multi-member organization groups and is a joint actor in development.

As Ishimaru (2013) said, the management and reform of schools need the cooperation and efforts of school members to achieve school effectiveness. Therefore, school organizations shall actively build cooperative teams, and break the power relationship from top to bottom and the old bureaucracy system, thus being more conducive to the practice of distributed leadership. Distributed leadership is a causal process in the process of school leadership in which leaders modify the leadership behaviors through the response and feedback of organizational members (Chen & Zhong, 2014). Through the leadership model of interpersonal interaction, trust and openness, many people act as leaders, sharing their powers to professionals of different units and disciplines. The leadership process emphasizes collective interaction, mutual cooperation and joint participation. In different situations, through sharing different powers, the interaction among leaders, followers and situations is balanced, and organizational objectives, values and school culture are created with members of school organizations to maximize school effectiveness.

To sum up, on the basis of the above discussions, distributed leadership is defined in the paper as that in the process of school leadership, the president consciously distributes leadership functions among all levels of organization members, all having the opportunity to participate in the decision-making process of organization operation, giving full play to the wisdom and professionalism, sharing leadership responsibilities and achieving organizational goals, and enhancing

organizational effectiveness through communication and coordination in the atmosphere of mutual assistance and cooperation.

2.2.2 The Dimensions of Distributed Leadership

The theoretical framework of distributed leadership is still in the process of sustainable development, and there is still no clear consensus in academic circles for the dimensions of distributed leadership. Some researchers have discussed the dimensions of distributed leadership one after another as follows.

Supporters of two dimensions classify distributed leadership as structure and agent (Bennet, Wise, Woods, & Harvey, 2003). In terms of structure, internal responsibilities and powers are distributed to managers and other teams to construct specific cultural concepts and norms; while in terms of agent, leadership practices are spread to organizational members (Lai, 2009). According to Robinson (2008), distributed leadership has the two dimensions of influence relationship and task structure: the former refers to the relationship between different individuals, while the latter refers to work structure. Hulpia, Devos and Rosseel (2009) studied the situation of distributed leadership in Flanders High School in Belgium, in which the main subjects were presidents, vice-presidents and teacher leaders, and the distributed leadership questionnaire designed classified the two dimensions as the characteristics and leadership functions of school leadership teams.

Spillane (2006) is a main representative researcher on three dimensions of distributed leadership. It is believed that the connotation of distributed leadership lies

in leadership practice, which is the result of interaction among school leaders, followers and situations. Therefore, it is believed by Ritchie and Woods (2007) that distributed leadership must explore the interaction between humans and structure. In terms of humans, members and leaders shall be distinguished to form three dimensions: employees, leaders and structure. To sum up the views of three dimensions, it is from the view of Spillane for school leaders, situations and followers in his research in 2006.

Gordon (2005) is a main representative researcher on four dimensions of distributed leadership. It is believed that the four dimensions of distributed leadership are school culture, mission vision and goals, responsibility sharing and leadership practice, and helping schools build energy to become high-performance schools. Chang and Yen (2012) put forward four dimensions of distributed leadership: leaders' openness, members' motivation, members' participation and situational atmosphere. On the basis of these four dimensions, the dimensions of distributed leadership are discussed further. Finally, the four dimensions are determined to be presidents' open thinking, members' positive beliefs, members' active participation and schools' situational atmosphere.

In 2003, based on the distributed leadership mode of Leithwood, Jantzi and Steinbach (1999), the Connecticut State Department of Education (CSDE) developed a distributed leadership scale. There are five dimensions: task, vision and goal, school culture, decision-making, evaluation and professional development, and leadership

practice. In the process of researching the connotation of distributed leadership, Hay (2004) proposed five common pillars of distributed leadership through focus groups and interviews, including self-confident and self-humble president position, clear structure and responsibility performance, investment in leadership energy, building a culture of trust, and appropriate turning points. Referring to the five dimensions of Hay (2004), Lai (2008) modified them to be self-confident and self-humble president position, clear organizational structure and performance responsibility, investment in and promotion of leadership energy, building a school culture of trust and cooperation, and looking for appropriate turning points for school change. In 2014, Lai and Chin (2014) refined and upgraded the five dimensions of distributed leadership proposed by Lai, modifying them to be presidents' professional self-confidence and humility, building clear performance responsibilities, enhancing members' leadership, building a school culture of trust, and creating appropriate opportunities for change (Lai & Chin, 2014).

From the dimensions proposed by the above researchers, it is not difficult to see that the exploration of distributed leadership theory as well as theoretical framework and development is not yet mature in fact, and there has been no comprehensive consensus on the dimensions of various measurement tools. The evaluation indicators are also different. Based on the summary of literatures, this study divides the distributed leadership into four dimensions: president's open thinking, members' positive beliefs, members' active participation and school

situational atmosphere on the basis of Spiane's (2006) study of distributed leadership and the views of Chang and Yen (2012) in combination with the researchers' own understanding.

President's open thinking refers to the president's confidence in the work ability of teachers and the president's ability to build a vision that conforms to the characteristics of the school; and in the face of different tasks, the president can listen to and attach importance to the opinions of teachers, and appoint appropriate leaders. Members' positive beliefs refer to being aware of their responsibilities and having high motivation for their roles, and being able to go all out to achieve organizational goals in the face of task challenges. The active participation of members means that teachers are willing to share and communicate with colleagues, and can accept the leadership of others. School situational atmosphere means that teachers have a high degree of recognition for school tasks, vision and goals, share knowledge, profession and power, and provide suggestions and reflections on school affairs.

2.2.3 The Research on Distributed Leadership

By sorting out literatures, research is conducted on the main variables, research methods, research objects, research results, and variables under different backgrounds.

With respect to the main variables, this paper mainly discusses the relationship between distributed leadership and different variables, including teachers' job satisfaction, academic optimism, professional learning community, teachers'

organizational citizenship behavior, school innovation and reform, knowledge sharing behavior, knowledge creation, curriculum reform, school effectiveness, learning effectiveness, organizational health, organizational climate and organizational commitment (Harris, 2008; Beycioglu, Ozer & Ugurlu, 2012). It is shown by research that distributed leadership has a positive impact on organizational change and students' learning (Harris & Spillane, 2008). It is pointed out by Elmore (2000) that distributed leadership ensures that knowledge, skills and abilities are fully utilized and many complex tasks (including large-scale school reform) are possible. It is also indicated by Jameson (2006) that in terms of the overall impact of school, distributed leadership has potential effects on improving organizational performance. It is found out by Onukwugha (2013) that the practice degree of distributed leadership in high-performance schools is more obvious than that in low-performance schools by exploring the practice of distributed leadership in 50 schools with a qualitative research method. There are other empirical studies showing that distributed leadership not only has a positive correlation with job satisfaction, organizational commitment and organizational member behavior, but also has a mitigating effect on job stress (Rabindarang, Bing, & Yin, 2014). In addition, Gordon (2005) conducted a questionnaire survey on The Impact of Distributed Leadership on Students' Learning Achievement, in which the results show that distributed leadership has an impact on school performance and students' learning achievement. In addition, distributed

leadership and teacher job satisfaction, distributed leadership and school curriculum reform are also issues of concern to researchers (Tian & Risku, 2019; Darlene, 2018).

In view of the practice of distributed leadership, Spillane et al. (2006) took the principals and teachers of primary schools in Chicago Educational Administrative Region as the research objects, and constructed the management practice and theory of distributed leadership in urban primary schools by means of semi-structured interviews, class observation, archive review and questionnaire survey. Focusing on Teacher Team and Distributed Leadership: a Study of Team Dialogue and Cooperation, Scribner, Sawyer, Watson and Myers (2007) studied two teams of teachers in a public school, and it is showed that teachers with expertise in the two groups can cooperate and communicate with each other, and members of the two groups can also show autonomy in school. In addition, leadership behaviors are shown in school activities to motivate the members of the whole group.

2.2.4 The Measurement of Distributed Leadership

The distributed leadership scale issued by the Connecticut State Department of Education (CSDE) includes five dimensions, which is used to measure whether the management of schools under its jurisdiction belongs to the distributed leadership. The self-rating scale developed by the National School Leadership College (2004) contains 54 questions from two aspects: school culture, leadership and management. Gordon (2005) tested the reliability and validity of the scale released by CSDE, and reduced its dimensions from five to four. When studying the situation of distributed

leadership in Flanders, Belgium, Hulpia et al. (2009) designed and developed a distributed leadership scale (DLI) with two dimensions. Referring to the five pillars of distributed leadership proposed by Hay (2004), Lai (2009) compiled the scale of distributed leadership style in primary and secondary schools according to the actual regional situation where he worked. Based on the distributed leadership architecture by Spillane (2006), taking the distributed leadership factor assessment scale by Ritchie and Woods (2007) as the blueprint and taking the distributed leadership scale by Hulpia et al. (2009) as the reference, Chang and Yen (2012) compiled the distributed leadership scale.

Distributed leadership of presidents has different theoretical models and different evaluation indicators, which can be used as a measurement basis for distributed leadership in different situations. This study intends to use the distributed leadership scale by Chang and Yen (2012) as a measurement basis for private university. This scale is based on the concept of school distributed leadership by Spillane (2006), that is, the interactive relationship among leaders, followers and situations, and integrates the contents of other researchers' inventories. The reliability of each dimension is .94, .93, .88 and .92. It has a good reliability, and can provide a measurement of presidents' distributed leadership for private university.

2.2.5 The Research on Distributed Leadership and Organizational Citizenship Behavior

In theory, on the one hand, distributed leadership model blurs the boundaries between leaders and employees, emphasizes responsibility sharing and full

empowerment, and pays attention to the value and contribution of each member, which is conducive to stimulating employees' creative motivation and initiatives; on the other hand, distributed leadership attaches importance to interpersonal communication and interaction as well as the participation and efforts of each member, and emphasizes the establishment of trusted and open organizational culture and team atmosphere, which creates important external environment conditions for employees to carry out active behavior. Therefore, it can be inferred that the distributed leadership model is an important driver of employees' initiative behavior (Zhu, Huang & Zeng, 2014). It is shown by research that in the distributed leadership situation, employees can play a leading role, assume some leadership functions and participate in decision-making together. These activities can effectively enhance employees' autonomy, work morale, work enthusiasm and job satisfaction (Hulpia et al., 2009; Ohly & Fritz, 2010). Secondly, distributed leadership is an important driving factor for the input of individuals in extra work. This enables individuals to show more active behaviors (Tomlinson, 2012). Thirdly, distributed leadership can provide more support to employees, and make employees have a stronger sense of organizational support (Parry, 2000). It can be seen that distributed leadership can not only stimulate employees' positive work attitude to enhance the degree of work engagement and then increase employees' active behaviors, but also enhance employees' sense of work support from the organization and superiors, thereby promoting employees' active behaviors. It is pointed out by Somech and Ron (2007) that teachers' perception of the

president's support is positively correlated with teachers' organizational citizenship behavior, that is, if teachers feel the president's support behavior, they can easily motivate their organizational citizenship behavior, while teachers' participation in school affairs may have a more positive impact on teachers' performance.

Some researchers have explored the relationship between distributed leadership and organizational citizenship behavior through empirical research. Hsu (2014) took primary school teachers as the research object, and explored the relationship between the distributed leadership of presidents, organizational justice of schools and organizational citizenship behavior of teachers. It is shown by the results that there is a positive correlation between distributed leadership of presidents and teachers' organizational citizenship behavior whether in the whole or in all dimensions, and it reaches a significant level. Klno (2014) conducted a quantitative study on the relationship between distributed leadership and organizational citizenship behavior by investigating 258 teachers in 14 primary schools in a city. It is shown by the results that there is a significant positive correlation between distributed leadership of school and teachers' organizational citizenship behavior. Murat and Ebru (2015) surveyed 466 teachers in 34 schools and found that the distributed leadership of school managers was positively correlated with teachers' organizational citizenship behavior.

It can be seen from the above theoretical and empirical research results that there is a positive correlation and influence between presidents' distributed leadership

and teachers' organizational citizenship behavior. The better the leadership is, the better it will be recognized by teachers, and the better the organizational citizenship behavior of teachers will be. Therefore, schools are expected to promote teachers' organizational citizenship behaviors through the leadership of school presidents.

2.3 Organizational Justice

Researchers have explored the related content of organizational justice and achieved a lot of research results. This part includes five aspects: (1) the theoretical implication of organizational justice; (2) the dimensions of organizational justice; (3) the related research of organizational justice; (4) the measurement of organizational justice; and (5) the exploration of the relationship between organizational justice and organizational citizenship behavior.

2.3.1 The Connotation of Organizational Justice

Greek philosopher Aristotle is the founder of the systematic study of organizational justice. According to Aristotle, when people think that they get the treatment they deserve, they can feel the existence of justice (Rowland & Hall, 2012). The theory of organizational justice originates from Homans (1958) who developed the law of justice in distribution by the theory of social exchange. That is to say, the reward expected by all parties in exchange is proportional to the cost they pay. If it does not conform to the law of justice and harms people's vested interests, it will cause anger. It is also believed by Eberlin and Tatum (2008) that if leaders want to

create long-term organizational performance, they should think about introducing issues of organizational justice and creating a healthier working environment to improve productivity. It is pointed out by Konovsky (2000) that by creating a stable social structure through organizational justice, conflicts among different groups within an organization can be resolved. At the same time, a healthy, respectful, supportive and fair organizational culture can construct a happy working environment for organizational members (Ashkanasy, 2011).

Justice is a concept of sociality (Colquitt, Conlon, Wesson, Porter & Ng, 2001), whether an action is fair depends on the opinions of the majority in social organizations. Therefore, what is fair in an organization is not the objective aspect of organizational decision-making, but the subjective view of organizational members on justice. It is also argued by Hosmer and Kiewitz (2005) that members of an organization subjectively judge whether they value organizational justice from past experiences, rather than based on objective principles. It is pointed out by Niehoff and Moorman (1993) that organizational justice is the subjective perception of whether it is fair in the allocation of resources, decision-making process and the determination of various incentives and penalties. Organizational justice is defined as the individual perception of whether an organization treats its members fairly, and the response and performance to that perception (Aryee, Budhwar & Chen, 2002).

Based on the literatures above, this study defines organizational justice as the degree of justice perceived by employees on the basis of the viewpoints of Greenberg

(1990), Niehoff and Moorman (1993). The factors affecting employees' perception of organizational justice include whether the work responsibility and salary are directly proportional to their efforts; whether the decision-making process is transparent and is clearly known by them or participated in by them; and whether communicating with them in the decision-making process.

2.3.2 The Dimensions of Organizational Justice

Homans (1958), Adams (1963) and other scholars began to pay attention to justice in the field of distribution justice and job-related rewards. Greenberg (1987) summarized the relevant theories of organizational justice and put forward two dimensions: reactive-proactive dimension and process-content dimension. Justice reactive theory emphasizes that when people feel unfair, they will produce various behaviors or intentions to escape or adjust, while the justice proactive theory focuses on all kinds of actions to promote or create justice. The process theory emphasizes how various procedures of an organization decide, that is, whether the decision-making and execution procedures of an organization are fair, while the content theory of organizational justice focuses on the justice of the distribution results caused by the decision-making.

There are more researchers classifying organizational justice into three dimensions: distribution justice, process justice and interactive justice (Greenberg, 1990; Hosmer & Kiewitz, 2005; Niehoff & Moorman, 1993; Warren & Michael, 2009). The connotations of these three dimensions are as follows:

Distribution justice is the earliest development concept, which mainly emphasizes the orientation of distribution results and contents, and refers to the justice degree to which the distribution results and contents of organizational resources conform, and the employees' response to the distribution results (Folger & Greenberg, 1985). It is proposed by Greenberg (1990) that when individuals perceive unfair distribution, it will have negative effects, such as reducing job performance and quality. According to Niehoff and Moorman (1993), distribution justice is defined as the degree to which employees are paid by investing in achieving performance, i.e. by comparing their efforts and performance at work. It is pointed out by Hosmer and Kiewitz (2005) that distribution justice refers to the subjective judgment of employees on their own salaries and additional remuneration compared with others and other positions.

Process justice mainly focuses on the procedures and process, and refers to the justice degree in the decision-making procedures and process perceived by organizational members (Folger & Greenberg, 1985). It is pointed out by Folger and Cropanzano (1998) that process justice is concerned with the justice of methods and measurement used in decision-making. It is pointed out by Maxham and Netemeyer (2003) that the so-called process justice is the perceived justice of process or policy practices. It is argued by Hosmer and Kiewitz (2005) that process justice is whether the subjective judgment is fair for the procedures applied to remuneration or other results.

Interactive justice refers to the individual's evaluation and perception of justice in interpersonal treatment or relationships (Bies & Moag, 1986). When an organization releases new information, its members can also feel whether they are treated fairly in the process. In other words, interactive justice holds that process justice is perceived by the normative procedures and how they are implemented in the organization (Wat & Shaffer, 2005). Hosmer and Kiewitz (2005) regarded interactive justice as the justice of managers' subjective judgments on how employees deal with each other when deciding personal remuneration.

Four dimensions further extend the connotation of organizational justice on the basis of three dimensions. Organizational justice is classified into four dimensions: perceived organizational justice, distribution justice, process justice and interactive justice, and the relationship is explored between organizational justice, job satisfaction and organizational commitment (Kumar, 2009). Interactive justice is classified into two dimensions: information justice (providing knowledge about the concerns of members of an organization) and interpersonal justice (obtaining respect and care from others in the decision-making process) (Greenberg, 1990). Organizational justice is defined by Colquit et al. (2001) as the outcome of rewards and penalties for individual efforts, and the degree of perceived justice and feelings generated from interaction with supervisors in decision-making process. In addition, organizational justice is classified into four dimensions: distribution justice, process justice, interpersonal justice and information justice.

Based on the previous research views and theories of organizational justice by Greenberg (1990), Niehoff and Moorman (1993), school organizational justice is classified into three dimensions in this study, including distribution justice, process justice and interactive justice. Distribution justice refers to whether school teachers feel that their salaries match their work tasks. Process justice refers to whether teachers participate in organizational decision-making, whether the decision-making process is transparent, whether it is clearly known by teachers or whether employees participate in the decision-making process, and whether they communicate with employees in the decision-making process. Interactive justice refers to the perception of justice of interpersonal interaction between school teachers.

2.3.3 The Related Research on Organizational Justice

Justice is necessary for the effective operation of an organization. Whether members perceive organizational environment justice or not will affect their attitudes and behaviors, and then affect organizational performance. Therefore, organizational justice is one of the factors that influence the degree of engagement and willingness to pay unconditionally in the psychological contract of members (Wu, Tang & Luo, 2007). It is believed by Rowland and Hall (2012) that the concept of organizational justice is a perspective mirror applied to examine the results and processes of performance evaluation. Overall, organizational justice explores the perceived justice of individuals or groups in organizational resource allocation (such as salary and

promotion opportunities) and their subsequent reactions and behaviors (Jordan, Gillentine & Hunt, 2004).

Organizational justice is regarded as an independent variable in some existing research on teachers' perception of organizational justice. It has been pointed out in previous studies that organizational justice is positively correlated with organizational citizenship behavior, job satisfaction, helpful behavior, job performance and positive emotions, but negatively correlated with abnormal work behavior, emotional exhaustion, negative emotions and turnover intention (Barsky & Kaplan, 2007; Bobocel, 2013; Hystad, Mearns & Eid, 2014).

It is found out by Moorman (1991) that if employees believe that they are treated fairly, they will show a more positive attitude towards work and work outcomes. It is found out by Wang and Liao (2009) through empirical research that organizational justice has a significant impact on job performance. It is validated by Knippenberg and Sleebos (2001) that organizational identity and organizational commitment are two different concepts in the form of questionnaires, and it is found out that organizational identity and emotional commitment are highly correlated through a questionnaire survey of 200 local faculty members. Selecting employees in service industry as samples, emotional exhaustion and acquisition helplessness are explored by Tayfur, Bayhan and Metin (2013), showing that the low level of organizational justice will cause emotional problems and further lead to turnover intention. Taking nurses as samples, the relationship among organizational justice, sleep quality and job performance is explored by Hietapakka, Elovainio and

Heponiemi (2013), showing that organizational justice plays a role in job performance through sleep quality, and psychological stress plays a mediating role between organizational justice and job performance. It is founded out by Ye, Fu, Lei, You and Chen (2018) that organizational justice has an important impact on the turnover intention of kindergarten teachers through salary satisfaction and organizational identity.

There are also studies taking organizational justice as an intermediary variable to explore its role. In the study of organizational justice, individual variables as intermediary variables mainly include emotions, psychological stress level, and work-family conflict. For example, it is shown by Marzucco, Marique and Stinglhamber (2014) that organizational justice plays a mediating role among organizational change, employee job satisfaction and turnover intention. By stratified random sampling, Jia, Zhong, Wang and Cai (2012) assessed the job stress, organizational justice and job burnout of on-the-job teachers in certain universities, and concluded that organizational justice is a mediating variable between job stress and job burnout. In this paper, if schools can provide teachers with a fair distribution and promotion environment, especially in the assessment of professional titles and the setting of treatment levels, teachers can feel respected in their work and seldom have the sense of job burnout even under high work pressure.

2.3.4 The measurement of organizational justice

In order to study the relationship between organizational justice and organizational citizenship behavior, Niehoff and Moorman (1993) tested their earlier

organizational justice scale with the managers and employees of film companies as subjects. The items were adjusted from 24 to 18. Colquitt et al. (2001) explored the dimensions of organizational justice through experiments and developed a scale to measure the four dimensions of organizational justice. Schminke, Cropanzano and Rupp (2002) compiled the inventories of distribution justice, process justice and interactive justice to measure the three dimensions respectively. Liu, Long & Li (2003) compiled a scale of organizational justice with four dimensions, and Wang (2009) compiled a scale of organizational justice for Chinese employees with three dimensions.

The scale of organizational justice with three dimensions by Niehoff and Moorman (1993) aims to explore the mediating role of organizational justice in leadership management and organizational citizenship behavior, which is similar to the role of organizational justice in distributed leadership and teachers' organizational citizenship behavior in this paper. Moreover, after the completion of this scale, many researchers have developed the organizational justice inventories (Liu et al. 2003; Wang, 2009) that are suitable for their research needs and possess good reliability, which can provide a measurement of organizational justice.

2.3.5 The Relevant Research on Organizational Justice and Organizational Citizenship Behavior

Smith et al. (1983) thought that job satisfaction was easier to predict organizational citizenship behavior than employee role behavior at the beginning of

the research on organizational citizenship behavior. However, it is argued by Moorman (1991) that organizational justice can better predict organizational citizenship behavior than job satisfaction. It is believed by Lin et al. (1994) that process justice in organizational justice has a positive impact on organizational citizenship behavior. Because process justice has a positive impact on organizational trust and supervisor trust, supervisor trust will affect employees' altruistic behavior and then organizational citizenship behavior. Regardless of how organizational justice and job satisfaction will affect organizational citizenship behavior and to what extent, organizational justice is a key pre-variable of organizational citizenship behavior (Podsakoff, MacKenzie, Paine and Bachrach, 2000). Because organizational justice has a positive predictive effect on employees' organizational identity, organizational identity actively promotes employees' organizational citizenship behavior (Wang, 2011).

It is advocated by Organ (1988) that organizational justice (especially process justice) can be used to predict organizational citizenship behavior, because on the basis of the justice theory, organizational citizenship behavior is a strategic choice. That is to say, organizational citizenship behavior is self-discretionary and based on the needs of informal roles. If members perceive that they are treated unfairly by the organization, and dare not reduce output or affect performance due to the existence of reward or punishment system, organizational citizenship behaviors may be reduced as a negative response, because organizational citizenship behaviors are self-controlled

and not regulated by the reward or punishment system. It is founded out by Moorman and Blakely (1995) that process justice is positively correlated with organizational commitment and organizational citizenship behavior when employees have high organizational commitments. In the research of Niehoff and Moorman (1993) with cinema employees and directors as the objects, it is found out that if the information collection process is fair and employees perceive justice, it will has a positive effect on organizational citizenship behavior. It is found out by Wang (2008) that school organizational justice is positively correlated with teachers' organizational citizenship behavior. The higher the sense of organizational justice is, the higher the level of teachers' organizational citizenship behavior will be. In the empirical study of Cheng (2004), it is found out that the higher the distribution justice and process justice of school managers are, the higher the performance of teachers' organizational citizenship behavior will be.

Williams, Pitre and Zainuba (2002) studied employees in different industries, organizations and positions. The results show that the more they are treated fairly by supervisors, the higher their organizational citizenship behavior will be. In addition, it can be confirmed by the research of Farh et al. (1997), Podsakoff, Organ and Konovsky (2000) that perceived justice has a positive relationship with organizational citizenship behavior, and the higher the employees' perception of organizational justice is, the easier they will show organizational citizenship behavior. There are many other studies testing the relationship between organizational justice

and organizational citizenship behavior with significant differences, and the results tend to support that organizational justice has a positive impact on organizational citizenship behavior (Niehoff & Moorman, 1993). Therefore, when school teachers perceive that the organization is fair, they may pay more than the role requirements to repay the organization based on the psychology of return; while when teachers perceive unfair, they may reduce the performance of organizational citizenship behavior to alleviate the unfair perception without affecting personal performance.

2.4 Organizational Commitment

Organizational commitment refers to the recognition of the members of an organization to which they belong, the relative intensity of work engagement and their positive attitude towards the organization. It has significant positive effects on the operation of an organization (Aksoy, Sengun & Yilmaz, 2018; Fako, Nkhukhu, Wilson, Forcheh & Linn, 2018). How to effectively promote organizational commitment has been one of the most important issues for educators and researchers in recent years.

2.4.1 The Connotation of Organizational Commitment

It is believed by Whyte (1956) that organizers not only work in an organization, but also have centripetal force for the organization, and can enhance creativity and performance of the organization. The work involvement and sense of belonging of the members can be used as important indicators to evaluate the

development performance of an organization (Akdemir & Ayik, 2017; Aksoy et al., 2018). The employees' unilateral input theory was put forward by Beck in 1960, believing that commitment is based on the hypothesis of economic rationality, that is, the contractual relationship between employees and organizations is based on economic exchange. Its starting point is to explain the reasons for turnover intention of employees. With the increase of employees' unilateral investment in the organization, namely with the increase of employees' investment in time, energy and even money, once they leave the organization, they will suffer a lot of losses, and they have to stay in their present organization due to this perceived threat of losses. The term "organizational commitment" was first formally proposed by Grusky (1966). In his research on occupational mobility and organizational commitment, he examined the correlation between career mobility and commitment of managers of public holding companies, pointing out that organizational commitment is similar to the concepts of identity, centripetal force and loyalty but more relevant to the development of organizations. In addition, it is confirmed that rewards given by organizations can significantly enhance organizational commitment.

It is believed by Kiesler (1971) that commitment is a high-level attitude based on belief, and individuals are willing to put it into practice and give promises or guarantees. It is shown by Fun (2005) that commitment includes three concepts: implementation, trust and promise. In addition, It is more specifically pointed out by Fako et al. (2018) that the commitment targets include individuals, careers, jobs,

organizations or values, while the commitment scope covers such dimensions as cognition, attitude and action. The commitment of the members is that the members are willing to finish the tasks assigned by the organization due to the positive evaluation of the organization or work, so that their behavior can meet the goals of the organization and have more centripetal force to the organization (Aksoy et al., 2018; Wiener, 1982). The commitment of organizational members is also a comprehensive attitude of organizational identification, loyalty and commitment, which improves the performance of organizational members (Akdemir & Ayik, 2017; Aydin, Sarier & Uysal, 2013).

Being in a particular organization for a long time, individuals have emotional and centripetal force towards the organization, and have a high sense of loyalty and belonging to the organization, so that members of the organization can share the same solidarity with the organization, and they are willing to give organization-related commitments (Alamri & Duhaim, 2017; Porter, Steers, Mowday & Boulian, 1974; Yousef, 2017). There are also researchers exploring the formation process of organizational commitment from the perspective of investment and participation. It is believed by Ardani (2017) that individuals invest a lot of time and efforts in the operation of the organization, so it will promote the sense of belonging and identity of the organization, and then make commitments to the organization. Such commitments will make the members work harder and ultimately improve the performance of the organization. Employees with high organizational commitments

are considered to have both better work attitude and better job performance, and are less willing to leave office but hope to remain in the organization safely (Randall, 1987).

With the development of research on organizational commitment, some researchers have summarized organizational commitments. Morrow analyzed the definitions of organizational commitment in 1983, and found out that there were more than 25 kinds of definitions, showing the complexity of the concepts (Fun, 2005). Morrow concluded that organizational commitment had three most important connotations: (1) a strong sense of identification with organizational goals, values and beliefs; (2) a willingness to work hard for the organization; and (3) an attitude of willingness to continue to serve the organization. If analyzed from the perspective of cognition, attitude and action, members shall have strong motivation to maintain membership in the organization in terms of cognition, a sense of identity and loyalty to the organization's goals and values in terms of attitude, and the devotion of all efforts to the work role activities in terms of action.

On the basis of the definition of organizational commitment summarized by Morrow (1983), organizational commitment is defined as follows in this research by analyzing the viewpoints of academic research: teachers identify the educational goals and visions of a teaching school and internalize them into their own educational values and beliefs; they are willing to devote themselves to teaching and administrative works in their actions; and they have a strong sense of belonging and

loyalty to the school in their attitude, hope to remain in office to strive together, and are proud to be members of the school.

2.4.2 The Dimensions of Organizational Commitment

Different researchers categorize the connotations and dimensions of organizational commitment based on different theories and research needs. The dimensions of organizational commitment are sorted out as follows:

Staw (1977) divided organizational commitment into the following two dimensions: attitudinal commitment and behavioral commitment. The former is a kind of initiative commitment, emphasizing the individual's sense of belonging to the organization, identification with the goals and values of the organization, and willingness to contribute to the organization, which shows loyalty and emotional concerns. The latter is a kind of passive commitment, emphasizing that individuals have to stay in the organization for being limited by practical pressures (such as positions, seniority and pensions) but not identifying with organizational goals. Stevens, Beyer and Trice (1978) classified organizational commitment into two dimensions: normative commitment and exchangeable commitment. Normative commitment, also known as psychological commitment, mainly emphasizes the moral dimension. Individuals internalize the values and objectives of an organization, and make their actions in line with the interests of the organization. They are willing to stay in the organization and devote their efforts to it, which should be done on their own initiative, and they do not evaluate how much benefits they will get.

Exchangeable commitment is also called utilitarian or computational commitment. On one hand, the organization needs the participation and contribution of its members to ensure its quality and quantity of output; on the other hand, members also expect to gain from the organization to meet their needs.

There are many supporters who divide organizational commitment into three dimensions. Kanter (1968) divided organizational commitment into three dimensions: sustained commitment, cohesive commitment and control commitment according to different individual behaviors. Porter, Steers, Mowday and Boulian (1974) divided organizational commitment into organizational commitment, effort commitment and retention commitment. Reyes (1990) divided organizational commitment into commitment from a social point of view (believing that the process and degree of personal-organizational association will determine the commitment level, including centripetal force toward the organization), commitment from a psychological point of view (members identify with the goals and values of the organization, and are willing to remain in the organization), and commitment from an exchange perspective (members determine the commitment level after assessing the organizational interest relationships).

After several studies and modifications, Meyer and Allen (1984) divided organizational commitment into emotional commitment, sustained commitment and normative commitment. Emotional commitment refers to employees' emotional attachment, recognition and participation to the organization. Employees' willingness

to stay in the unit is a kind of commitment. Sustained commitment is based on the related cost between employees and the unit. The organization hopes that employees will be able to work permanently for the organization, so as long as there is a situation of turnover, employees will have to pay a considerable price. Normative commitment believes that employees shall be responsible for staying in the original organization, which comes from the concept of employee loyalty to the organization.

Referring to the three-dimensional model of organizational commitment by Meyer, Allen and Smith (1993), organizational commitment is divided into three dimensions in this study: emotional commitment, sustained commitment and normative commitment. Emotional commitment refers to the strength of teachers' recognition and participation in schools, their beliefs and acceptance of school goals and values. Sustained commitment refers to teachers' personal perception that once they leave school, they will lose the subsidiary benefits of existing values and therefore stay in schools. Normative commitment refers to teachers' personal values consistent to school values or teachers' responsible attitude towards schools.

2.4.3 The Relevant Research on Organizational Commitment

For the discussion of organizational commitment, different researchers have different emphases, but it has become an interesting topic to scholars exploring the organizational behavior and personnel management. It is believed by Meyer et al. (1993) that organizational commitment is a kind of dependence on organizational emotions, an obligation to stay in the group, but whether to leave or not is related to

the cost perception. Organizational commitment is a state of mind, which not only affects the consistency of values between individuals and organizations, but also is affected by the desires, needs or obligations of organization members. The organizational commitment index is also used to test the influence of members' loyalty and dedication to the organization. It is pointed out in some research that the level of organizational commitment is closely related to business performance. Employees with higher organizational commitment have higher performance and lower turnover intention (Huang & Ding, 2007). Organizational commitment plays an important and key role in achieving the mission and goal of the organization and creating a team with high loyalty and performance.

There are also researchers studying the issues of organizational commitment promoting organizational performance, organizational stability and working attitude of organizational members (Reyes, 1990; Cole & Bruch, 2006; Aydin et al., 2013; Fard & Karimi, 2015; Akdemir & Ayik, 2017). It is also proved that employees with high organizational commitment will have higher job performance, and their willingness to stay in the organization will increase with their willingness to leave decreased (Wood & Wilberger, 2015; Hsu, Chang, Hsu & Wei, 2016). In addition, It is also indicated by Cole and Bruch (2006) that organizational commitment of employees can predict their work attitude, citizenship behavior and turnover intention. Moreover, the power and support given by the organization to teachers will affect teachers' organizational commitment (Mirza & Redzuan, 2012;

Nayir, 2012). The relationship between teachers' personal work situation and teachers' organizational commitment is also a topic of concern to researchers (Alam, Bahmaei, Monazami & Alam, 2013). Taking 173 primary and secondary school teachers as the research samples, Akdemir (2019) found out that there is a significant negative correlation between teachers' organizational commitment and job burnout level by analyzing the relationship between the two, and teachers' organizational commitment level will rise if their burnout level drops.

2.4.4 The Measurement of Organizational Commitment

Most of studies on organizational commitment are based on questionnaire survey. In order to evaluate the computational input of the members in the organization, we use it to understand the influence of external incentives such as salary, status, freedom of professional creation and friendship among colleagues on the turnover intention of the members. The behavioral organizational commitment scale is proposed by Hrebiniak and Alutto (1972), which is developed from the viewpoint of benefit exchange and subsidiary interests. The organizational commitment scale developed by Porter et al. (1974) includes three dimensions (organizational identity, willingness to work hard and retention intention) and 15 items, of which 6 reverse items are designed to reduce the bias caused by respondents' reaction intention. In 1991, in a comprehensive study of organizational commitment, Meyer and Allen (1991) summarized previous research results and developed a 24-item organizational commitment scale with three dimensions. In 1993, Meyer et al.

(1993) revised the scale, adjusting the items of each dimension to six and amending the expressions of some items. Finally, an organizational commitment scale consisting of three dimensions and 18 items was formed. The scale developed by Liu (2015) also targeted at primary school teachers, and had good reliability and validity through testing and analysis. Ling, Zhang and Fang (2001) developed a set of measurement tools for organizational commitment behavior of enterprises in China, which provided scientific theories and methods for employee behavior management in China. This scale divides organizational commitment into five dimensions: emotional commitment, ideal commitment, normative commitment, economic commitment and opportunity commitment. In this study, the organizational commitment scale by Meyer et al. (1993), which is widely used and has good reliability and validity, is used as the basis of some questionnaires on teachers' organizational commitment.

2.4.5 The Relevant Research on Organizational Commitment and Organizational Citizenship Behavior

Organizational commitment not only affects the intensity of employees' organizational engagement, but also reflects the strength of individual-organizational linkages (Steers, 1977). Organizational citizenship behavior is a positive behavior that employees take the initiative to do something other than their duties, including dedication, helping others, voluntary suggestions, etc., so that an organization can successfully achieve its goals (Organ, 1988). Organizational commitment is widely used to predict individual or organizational outcome variables such as organizational citizenship behavior, turnover intention and job performance (Sun, Zhu, & Song,

2016). It is found out by Lapalme, Simard and Tremblay (2011) that there is a negative correlation between organizational commitment and negative work status and behavior, because employees with higher commitment devote more to their work and feel stronger sense of belonging to the organization. It can be seen from many studies that employees' organizational commitment is significantly related to their organizational citizenship behavior. It is pointed out by Wiener (1982) that organizational commitment is the antecedent variable of organizational citizenship behavior, and the higher the organizational commitment is, more easily they will produce organizational citizenship behavior. Organ and Ryan (1995) summarized that the work attitude was one of the strong predictors of organizational citizenship behavior by sorting out 55 research papers related to organizational citizenship behavior through literature analysis, and organizational commitment was positively correlated with organizational citizenship behavior.

Zeinabadi (2010) regarded job satisfaction and organizational commitment as the antecedent variables of teachers' organizational citizenship behavior, and it was shown that teachers' organizational commitment can significantly affect their organizational citizenship behavior. Taking 1,225 physical education teachers as an example, Hasani, Branch & Boroujerdi (2013) explored the relationship between organizational commitment and organizational citizenship behavior. It is found out that teachers' organizational commitment positively affects their organizational citizenship behavior. Therefore, organizational commitment is often used as an important variable to predict organizational citizenship behavior.

It is confirmed by the above studies that most of the relevant studies on organizational commitment and organizational citizenship behavior show a positive relationship. If school personnel have a high level of organizational commitment to the organization, they will more automatically help the organization achieve its goals, and it will be easier for them to show organizational citizenship behavior. At the same time, organizational commitment can predict organizational citizenship behavior, and has significant explanatory power for all aspects of organizational citizenship behavior.

2.5 Association among Distributed Leadership, Organizational Justice and Organizational Commitment

2.5.1 The Relevant Research on Distributed Leadership and Organizational Justice

Distributed leadership is not only the process of school development, but also the establishment of the relationship between presidents and staff. It is pointed out by Smylie, Mayrowetz, Murphy and Louis (2007) that the trust relationship between presidents and teachers is an important key to the development of distributed leadership. However, it is believed by Hoy and Tarter (1997) that the relationship between distributed leadership and trust is dynamic and complementary. The presidents build an atmosphere of trust on the basis of organizational justice, which will help the implementation of distributed leadership. It is concluded by Ting (2016)

that no matter which organizational justice presidents are fair in distribution, procedure and interaction, if they are well recognized by teachers, teachers will have three types of organizational citizenship behaviors: organizational public welfare, interpersonal altruism and teaching public welfare. These justice acts can also help teachers recognize that presidents have paid advocacy and care behavior.

It is pointed out by Cho and Dansereau (2010) that organizational justice is an important factor linking presidents' leadership and organizational citizenship behavior in both individual and group dimensions. Therefore, justice has become the core value of successful presidents, and presidents who are willing to develop good relations with their members have a significant positive impact on organizational justice. In other words, if presidents can create a fair organizational environment, it will help teachers to generate positive emotions (Hsieh, 2014).

The previous research explored either the relationship between organizational justice and organizational citizenship behavior (Chou, Chou, Jiang & Klein, 2013; Elamin & Tlaiss, 2015; Gupta & Singh, 2013; Jiang & Law, 2013), or the relationship between leadership behavior and organizational citizenship behavior (Kaya, 2015; Miao, Newman, & Huang, 2014). Although presidents' distributed leadership can positively influence teachers' behaviors, organizational environment factors become more important to affect teachers' behaviors if they are taken into account. Therefore, the president leadership behavior may have to be mediated by organizational environment factors to influence teacher's behaviors. Organizational

justice and leadership behavior may be highly correlated. If they are not included together in the discussion of the impact on organizational citizenship behavior, the results of individual studies can only point out that leadership behavior has a direct impact on organizational citizenship behavior or organizational justice has a direct impact on organizational citizenship behavior, but it is impossible to know whether there is an indirect impact on organizational citizenship behavior. It can produce false problems called by Williams and Anderson (1991). If presidents want to effectively promote the display of teachers' organizational citizenship behavior, they can create a fair environment for school organization through the implementation of distributed leadership, and thereby enhance teachers' willingness to contribute to the school and show organizational citizenship behavior through the intermediary of the fair organization environment.

2.5.2 The Relevant Research on Distributed Leadership and Organizational Commitment

Leaders' support for organizational members and their partnership with each other will affect the working attitude and organizational commitment of members. Therefore, leaders can not only improve organizational commitment of members, but also effectively improve organizational performance by enhancing mutual trust with organizational members and establishing a deep exchange relationship with each other. In order to study social interaction in schools, Hulpia and Devos (2010) focused on the observation of school communication atmosphere, and it

was found out that teachers under the leadership of a united and cooperative team often had a higher organizational commitment. Subsequently, Hulpia et al. (2012) conducted a comparative study of four schools with high and low organizational commitments, which proved once again that the president's leadership style played an important role in promoting teachers' organizational commitment. In the survey on kindergarten teachers with questionnaires by Lee and Jeng (2014), it is found out that there is a significant positive correlation between presidents' distributed leadership and teachers' organizational commitment in the kindergarten. By studying the relationship among distributed leadership of primary school presidents, teachers' organizational commitment and the application of information and communication technology, it is concluded by Hsieh, Lai, and Hsu (2016) that presidents' distributed leadership will positively affect teachers' organizational commitment. In the study of Aydin et al. (2013), it is pointed out that presidents' transformational leadership has a positive influence on teachers' job satisfaction and organizational commitment. It is concluded by Akdemir and Ayik (2017) that: (1) there is a positive and significant relationship between presidents' distributed leadership and teachers' organizational commitment; and (2) presidents' distributed leadership can predict teachers' organizational commitment. It can be seen from the above discussion that there is a close relationship between presidents' distributed leadership and teachers' organizational commitment.

Organizational commitment as a mediating variable is also a concern of researchers. For example, it is found out in *Perceived Trust and Project Performance: Mediating Role of Organizational Commitment* by Sun et al. (2016) that organizational commitment is an influential mediating variable between perceived trust and project performance. Research on the *Relations among Distributed Leadership, Teacher Organizational Commitment and School Innovation & Management Efficiency in Primary Schools* by Huang (2012) aims to explore the current situation, differences and relationships among distributed leadership, teacher organizational commitment and school innovation & management efficiency in primary schools. Through the research, it is believed by Huang (2012) that distributed leadership in primary schools can enhance its positive influence on the innovation & management efficiency through organizational commitment of teachers, which has a partial mediating effect on the effectiveness of innovation & management in primary schools. Yan and Zhang (2010) used a structural equation model to validate the relationship among organizational justice, organizational commitment and organizational citizenship behavior with 642 employees from more than 70 enterprises as samples, and the results showed that organizational citizenship behavior is positively correlated with organizational justice and organizational commitment, and organizational justice is positively correlated with organizational commitment, and organizational commitment plays a mediating role in organizational justice and organizational citizenship behavior. This study will explore whether teachers'

organizational commitment will also play an intermediary role in the process of the influence of distributed leadership of private university presidents on teachers' organizational citizenship behavior.

2.5.3 The Relevant Research on Organizational Justice and Organizational Commitment

Traditional research on organizational justice mainly explored the unique role of different justice dimensions on organizational outcome variables. It is found out by Konovsky, Folger and Copanzano (1987) that process justice is an important predictor of organizational commitment in the empirical study of the impact of process justice and distribution justice on employees' work attitudes. It is argued by Robbins, Summers and Miller (2000) that when employees believe that they are treated fairly, they will have a positive attitude towards the organization, salary, supervision, etc., and have a higher commitment to the organization. It is found out by Lambert, Hogan and Griffin (2007) that the correlation between perceived process justice and organizational commitment is higher than that between distribution justice and organizational commitment by analyzing the impacts of distribution justice and process justice on employees' job stress, job satisfaction and organizational commitment. Kumar, Bakhshi and Rani (2009) conducted a study on organizational justice, job satisfaction and organizational commitment of medical college staff, and it is shown that distribution justice and process justice are significantly related to organizational commitment. Sulu, Ceylan and Kaynak (2010) studied the relationship

between organizational justice and organizational commitment of medical staff. Taking job alienation as an intermediary variable, they found that both unfair distribution and unfair process have a negative effect on organizational commitment. The higher the levels of distribution justice and process justice are, the higher the organizational commitment of employees will be.

However, with the deepening of the research on organizational justice, it is found out that it is not enough to only focus on the single dimension of organizational justice to explore the individual's comprehensive fair experience. Then the concept of overall justice was proposed by scholars, and its unique advantages were shown in the study of organizational justice. It is confirmed by Aryee et al. (2002) that organizational justice has a significant positive impact on organizational commitment. There are also many researchers believing that organizational justice has a positive impact on organizational commitment (Kim & Mauborgne, 1993; Moorman, Niehoff, & Organ, 1993). It can be seen from the above analysis that organizational justice is closely related to organizational commitment. Therefore, this study will also discuss how the two will play a mediating role in the relationship between the distributed leadership of presidents and the organizational citizenship behavior of teachers in private universities.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter comprises the following six sections: Section 3.1 presents the research design of this study; Section 3.2 explains the research framework; Section 3.3 defines the research hypothesis; Section 3.4 describes the research target; Section 3.5 discusses the research tool; and Section 3.6 provides data analysis.

3.1 Research Design

This section primarily illustrates the research implementation process. First, determine the research topic and, then, collect relevant literature review based on the research topic. Next, write a research plan. Then, prepare and implement the pre-test questionnaire, conduct the reliability and validity tests, correct the questionnaire, and implement the revised formal questionnaire survey, using statistical software to analyze the recovered data. Then, complete the research paper based on the analysis results.

3.2 Research Framework

The research framework is formulated according to the purpose of this study and literature review, as shown in Fig. 3.1.

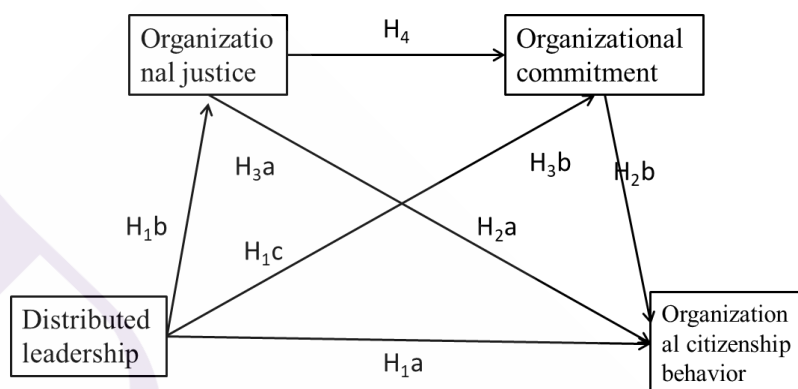


Figure 3.1 Research framework

Source: Somech and Ron (2007); Niehoff and Moorman (1993); Farh et al. (1997); Hulpia et al. (2009)

As shown in the figure, the researcher has collected the data about distributed leadership, organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior between presidents and teachers in private colleges Shandong China. Then explore the association among them by the results of data analysis.

3.3 Research Hypotheses

According to the purpose and research framework of this study, the following hypotheses are formulated:

Hypothesis H₁: Distributed leadership of college presidents directly impacts organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior.

Hypothesis H_{1a}: Distributed leadership of college presidents directly impacts teachers' organizational citizenship behavior.

Hypothesis H_{1b}: Distributed leadership of college presidents directly impacts organizational justice.

Hypothesis H_{1c}: Distributed leadership of college presidents directly impacts teachers' organizational commitment.

Hypothesis H₂: Organizational justice and Teachers' organizational commitment directly impact teachers' organizational citizenship behavior.

Hypothesis H_{2a}: Organizational justice directly impacts teachers' organizational citizenship behavior.

Hypothesis H_{2b}: Teachers' organizational commitment directly impacts teachers' organizational citizenship behavior.

Hypothesis H₃: Organizational justice and teachers' organizational commitment have a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.

Hypothesis H_{3a}: Organizational justice has a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.

Hypothesis H_{3b}: Teachers' organizational commitment has a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.

Hypothesis H₄: Organizational justice and teachers' organizational commitment have a multiple mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.

3.4 Research Objects

Owing to the convenience of the researcher's work, the research object is the study of private universities in the Shandong Province, China. Based on the report of the Ministry of Education of the People's Republic of China (2018), we used this research object to investigate the correlation among distributed leadership, organizational justice, organizational commitment, and organizational citizenship behavior between presidents and teachers in private colleges. It is beneficial for comprehending the impact of distributed leadership of private university presidents in other regions of China on the teachers' organizational citizenship behavior.

3.4.1 Research Scope and Object

In this study, private colleges and universities in the Shandong Province are the research scope and teachers (including concurrently administrative personnel and administrative personnel) working in private universities in the Shandong Province as the research object. According to the Shandong Provincial Department

of Education (2019), as of 2018, the Shandong Province has 26 private colleges and universities with private enrollment qualifications and 18,092 teachers.

Based on the statistics, 26 universities in the Shandong Province are distributed in nine cities; Jinan ($n = 9$) and Qingdao ($n = 5$) have the highest number of private colleges. The remaining seven cities have one to three colleges and universities. Primarily, presidents are males, and only three colleges and universities are headed by women. Nine private college have <500 teachers, 13 private schools have between 501 and 1000 teachers, and four private colleges have >1000 teachers. Schools are divided into undergraduate and specialist schools, with 15 undergraduate and 11 vocational schools. A wide gap exists in the duration of service of school presidents; while some presidents have served only for 1-2 years, others have >20 years of service. School background information is shown in Table 3.1.

Table 3.1 Statistical table of school background description

Demographic variables	Category	N	Percent (%)
Gender of present	female	3	11.5
	male	23	88.5
	total	26	100
No. of teachers	500person and under	9	33.6
	501-1000person	13	50
	1000 person or more	4	15.4
	total	26	100
Education level	vocational school	11	42.3
	undergraduate	15	57.7
Length of service	total	26	100
	Less than 10 years	8	30.85
	11-20 years	10	38.5
	20 years or more	8	30.85
	total	26	100

Source: Compiled by the researcher.

3.4.2 Sampling Method

Typically, the higher the sampling proportion, the higher the stability of factor analysis. The factor analysis requires, at least, 100 samples, while the number of questions exceeding the scale is five times as the minimum (MacCallum, Widaman, Zhang, & Hong, 1999). In this study, the Distributed Leadership Scale has a total of 26 items, five times the recommended amount, and, at least, 150 valid samples are needed for factor analysis. After comprehensive research, Qiu (2010) suggested that 200 is the critical lower limit of the effective number of samples. Thus, this study issued 200 paper questionnaires to assess the reliability and validity

of the questionnaire. After preparation, the pre-test questionnaire was distributed immediately. We received a total of 186 questionnaires, of which 174 were valid. Statistical analysis of the data obtained from the pre-test established the validity and reliability of the research scale. Finally, revisions were made to complete the formal questionnaire.

Using a simple and convenient sampling method, we selected a certain number of individuals as samples. Owing to time and place or other constraints, comprehensive sampling could not be performed, and individuals who can only be within the scope of the conditions can be sampled using a simple method. Limited by conditions such as time and funds, when distributing the formal questionnaire, based on the number of cities and teachers in private universities in Shandong Province, we used a convenient sample to select school teachers for formal questionnaires. Overall, six colleges and universities were selected as the target of formal investigation, and 1500 questionnaires were distributed accordingly.

In this study, the head of the scientific research management department of the relevant university was requested to assist in the questionnaire distribution. After the questionnaire distribution, a total of 1358 questionnaires were collected (recovery rate, 90.5%). After removing the incomplete and invalid questionnaires, we obtained 1147 valid questionnaires (availability rate, 84.4%). The basic data of valid samples are analyzed according to teachers' personal background: gender, age, education level, length of service and current job position, the basic statistics of valid

samples are shown in table 3.2. This summarizes the statistical analysis results of the survey samples and provides the basic characteristics of the teacher sample.

Table 3.2 Summary of background data of the survey samples

Background variables	Group	No. of samples	Percent (%)
Gender	male	388	33.8%
	female	759	66.2%
	total	1147	100%
Age	30 years old or less	276	24.1%
	31-40 years old	581	50.7%
	41-50 years	236	20.6%
	51 years old or above	54	4.7%
	total	1147	100%
	Education level	vocational school	22
	undergraduate	296	25.8%
	master's or above	829	72.3%
	total	1147	100.0%
Length of service	5 years or less	421	36.7%
	6-10 years	361	31.5%
	11-15 years	252	22.0%
	16 years or more	113	9.9%
	total	1147	100%
Current job position	Teacher	717	62.5%
	Teacher-administrator	215	18.7%
	Administrative staff	215	18.7%
	total	1147	100%

Source: Compiled by the researcher

3.5 Research Tools

The questionnaire included the basic information of subjects, the president distributed leadership scale, the organizational justice scale, the teachers' organizational commitment scale and the teachers' organizational citizenship behavior scale. The contents of the four scales in this study are described below.

3.5.1 President Distributed Leadership Scale

We used the distributed leadership scale (Chang & Yen, 2012) as the measurement basis for the distributed leadership of presidents in private colleges and universities. The scale is based on the connotation of distributed leadership (Spillane, 2006) and integrates the scale of Ritchie and Woods (2007) and Hulpia et al. (2009). This scale comprises 26 items in four dimensions (Table 3.3). The scale measured primary school teachers, and the reliability of each dimension was .94, .93, .88, and .92. Of note, the scale has good reliability and can measure presidents' distributed leadership for private universities. In addition, a 5-point Likert-type scale is used in this scale. The score increases in order from "strongly disagree" to "strongly agree". The higher the score of the dimension, the higher the degree of the dimension of the distributed leader of the school and vice versa.

Table 3.3 President distributed leadership scale

Dimension	No.	Item
Open-minded thinking in college presidents	1	The president values the views of the school members.
	2	The president of the school has a good interaction with the school members.
	3	The president of the school has confidence in the ability of the school members to work.
	4	The president of the school trusts the professional performance of the school members
	5	The president of the school encourages school members to work in teams.
	6	The president of the school will assign the appropriate person in charge to face different tasks.
	7	The president of the school can listen to the opinions of the school members.
Member conviction and beliefs	8	I enjoy challenges.
	9	I have a high degree of motivation.
	10	I see myself as a learner.
	11	I agree with the school vision.
	12	I am happy to participate and establish a common vision of the school.
	13	I feel that my talents, skills, and leadership potential are helpful to the school.
	14	I am willing to take responsibility and opportunity.
Active participation by members	15	I feel that I have a high degree of autonomy in school and can make extra efforts spontaneously.
	16	I will provide advice or assistance to the school on my major.
	17	I will try my best when I attend various school activities.
	18	I feel that I'm taking responsibility and sharing responsibility.
	19	I am happy to share and communicate with colleagues.
	20	I will accept the leadership of colleagues in informal positions in our school.

Continued

Dimension	No.	Item
Campus atmosphere	21	Our members feel that they can gain the trust and support of the president and supervisor.
	22	Our members are responsible for all responsibilities and are not eager to clear.
	23	The school supports colleagues to try and innovate without fear of making mistakes.
	24	The school has a smooth communication channel, and anyone can express suggestions and ideas.
	25	Our members can share knowledge, expertise and power.
	26	Members of the school are brave enough to reflect on school affairs and provide advice.

Source: Chang & Yen (2012)

3.5.2 Organizational Justice Scale

We used the three-factor organizational justice scale (Niehoff & Moorman, 1993) as the basis for measuring organizational justice. This scale was developed to determine the mediating role of organizational justice in the leadership management and organizational citizenship behavior, similar to the role of organizational justice in the distributed leadership and teachers' organizational citizenship behavior to be discussed in this study. The scale comprises three dimensions and 20 items (Table 3.4). This scale considered managers and employees of a film company as test objects (reliability, .92, which fulfills the requirements of this study). In addition, a 5-point Likert-type scale is used in this scale, and the score increases from "strongly

disagree” to “strongly agree” The higher the score, the stronger a teacher feels about the justice of school organization and vice versa.

Table 3.4 Organizational justice scale

Dimension	No.	Item
Distributive justice	1	My work schedule is fair.
	2	I think that my level of pay is fair.
	3	I consider my work load to be quite fair.
	4	Overall, the rewards I receive here are quite fair.
	5	I feel that my job responsibilities are fair.
Procedural justice	6	Job decisions are made by the general manager in an unbiased manner.
	7	My general manager makes sure that all employee concerns are heard before job decisions are made.
	8	To make job decisions, my general manager collects accurate and complete information.
	9	My general manager clarifies decisions and provides additional information when requested by employees.
	10	All job decisions are applied consistently across all affected employees.
Interactional justice	11	Employees are allowed to challenge or appeal job decisions made by the general manager.
	12	When decisions are made about my job, the general manager treats me with respect and dignity.
	13	When decisions are made about my job, the general manager treats me with kindness and consideration.
	14	When decisions are made about my job, the general manager is sensitive to my personal needs.
	15	When decisions are made about my job, the general manager deals with me in a truthful manner.
	16	When decisions are made about my job, the general manager shows concern for my rights as an employee.

Continued

Dimension	No.	Item
Interactional justice	17	Concerning decisions made about my job, the general. Manager discusses the implications of the decisions with me.
	18	The general manager offers adequate justification for decisions made about my job.
	19	When making decisions about my job, the general manager offers explanations that make sense to me.
	20	My general manager explains very clearly any decision made about my job.

Source: Niehoff and Moorman (1993)

3.5.3 Teachers' Organizational Commitment Scale

In their comprehensive study on organizational commitment, Allen and Meyer (1990) prepared the Organizational Commitment Scale containing 24 items from three dimensions. Meyer et al. (1993) revised the scale, changing the items of each dimension from the original 8 to 6 and adjusted the expressions of some items to create the present Organizational Commitment Scale, which comprises 18 items of three dimensions (Table 3.5). This scale was applied to nursing students and nurses of Queen's University; After analysis, the reliability of emotional commitment, continuous commitment, and normative commitment was .85, .83, and .77, respectively, which exhibit good reliability and could fulfill the needs of this study. In addition, a 5-point Likert-type scale is used in this scale, and the score gradually increases from "strongly disagree" to "strongly agree". The higher the score, the stronger the perceived organizational commitment of teachers and vice versa.

Table 3.5 Teachers' organizational commitment scale

Dimensions	No.	Items
affective commitment	1	I would be very happy to spend the rest of my career with this organization.
	2	I really feel as if this organization's problems are my own.
	3	I feel a strong sense of belonging to my organization.
	4	I feel emotionally attached to this organization
	5	I feel part of the family at my organization
	6	This organization has a great deal of personal meaning for me.
Continuous commitment	7	Right now, staying with my organization is a matter of necessity as much as desire.
	8	It would be very hard for me to leave my organization right now, even if I wanted to
	9	Too much of my life would be disrupted if I decided to leave my organization now.
	10	I feel that I have too few options to consider leaving this organization
	11	If I had not already put so much of myself into this organization
	12	One of the few negative consequences of leaving this organization would be the scarcity of available alternatives
Normative commitment	13	I do not feel any obligation to remain with my current employer
	14	Even if it were to my advantage ,I do not feel it would be right to leave my organization now
	15	I would feel guilty if I left this organization now
	16	This organization deserves my loyalty
	17	I would not leave my organization right now because I have a sense of obligation to the people in it
	18	I owe a great deal to my organization

Sourc: Meyer et al. (1993)

3.5.4 Teachers' Organizational Citizenship Behavior Scale

We adopted the organizational citizenship behavior scale (Farh et al., 1997) to measure the organizational citizenship behavior of teachers in private colleges and universities. The first objective of this scale is to assess the organizational citizenship behavior under different cultural backgrounds. The second objective is to investigate the correlation between organizational citizenship behavior and organizational justice. The scale comprises five dimensions and 20 questions (Table 3.6). The scale covers a broad range of sectors, including electronics, machinery, chemical industry, food, finance, management consulting and other industries, management personnel of government institutions and institutions, as well as college students. The scale's reliability is 0.92, which could be used for reference. In addition, a 5-point Likert-type scale is used in this scale, and the score increases successively from "strongly disagree" to "strongly agree". The higher the score, the stronger the teachers' perceived organizational citizenship behavior and vice versa.

Table 3.6 Teachers' organizational citizenship behavior scale

Dimensions	No.	Items
Identification with the company	1	Eager to tell outsiders good news about the school and clarify their misunderstandings
	2	Willing to stand up to protect the reputation of the school.
	3	Makes constructive suggestions that can improve the operation of the company
	4	Actively attends company meetings.
Altruism toward colleagues	5	Willing to assist new colleagues to adjust to the work environment
	6	Willing to help colleague solve work-related problems
	7	Willing to cover work assignments for colleague when needed
	8	Willing to coordinate and communicate with colleagues.
Not scrambling for power	9	Often speaks ill of the supervisor or colleagues behind their backs. (R)
	10	Uses illicit tactics to seek personal influence and gain with harmful effect on interpersonal harmony in the organization. (R)
	11	Uses position power to pursue selfish personal gain. (R)
	12	Takes credits, avoids blames, and fights fiercely for personal gain. (R)
	13	Conducts personal business on company time (e.g., trading stocks, shopping, going to barber shops). (R)
Protecting company resources	14	Uses company resources to do personal business (e.g., company phones, copy machines, computers, and cars). (R)
	15	Views sick leave as benefit and makes excuse for taking sick leave. (R)
	16	Often arrives early and starts to work immediately.
Job dedication	17	Takes one's job seriously and rarely makes mistakes.
	18	Complies with company rules and procedures even when nobody watches and no evidence can be traced.
	19	Does not mind taking new or challenging assignments.
	20	Tries hard to self-study to increase the quality of work outputs.

Note: R, reverse item. Source: Farh et al. (1997)

3.6 Data Analysis

3.6.1 Questionnaire Coding and Processing

First, the questionnaire was checked manually to ascertain any omissions or incomplete answers, which when found, were considered invalid and, thus, excluded. Second, to facilitate later statistical analysis, we coded the question numbers of the questionnaire, selected the abbreviations of English letters of each dimension, and sorted each item based on the order in the dimension (Table 3.7).

Table 3.7 Variable and dimension code table

Variables	Abbreviation code	Dimensions	Abbreviation code
Distributed leadership of presidents	DL	Open-minded thinking in college presidents	LT
		Member conviction and beliefs	LB
		Active participation by members	LP
Organizational justice of college	OJ	Campus atmosphere	LA
		Distributive justice	JD
		Procedural justice	JP
Teachers' organizational commitment	OC	Interactional justice	JI
		affective commitment	CA
		Continuous commitment	CC
Teachers' organizational citizen behavior	OCB	normative commitment	CN
		Identification with the company	BI
		Altruism toward colleagues	BA
		Not scrambling for power	BP
		Protecting company resources	BR
		Job dedication	BD

Source: Compiled by the researcher.

3.6.2 Item Analysis

We conducted the item analysis using Qiu (2010) analysis of the project strategy to describe the statistical tests, based on the calculation, for each topic, of the mean, standard deviation, skewness, and kurtosis to comprehend the pilot test sample distribution and distribution characteristics. Next, project extreme group comparison method, correlation analysis, and factor analysis were used to eliminate the judgment problem of the project analysis.

(1) Extreme Group Comparison

Based on the ranking of the total score of the scale, it was categorized into two groups; 27% before and after were selected as the high and low groups. In addition, *t*-test of mean difference was conducted to attain the *t*-value and determine its significance.

(2) Correlation Test

The correlation test comprises two items as follows: “question items related to total score” and “correction question items related to the total score.” The higher the item related to the total score, the better the topic. In this study, the general requirement is $\geq .3$, and the statistical significance level was reached. The revised item and total score correlation method were used to calculate the Pearson product moment correlation coefficient between each item and the total score of the dimension, enabling to determine the relative relevance of one topic to other topics.

In this study, the standard used was that the correlation coefficient between the corrected questions and the total score of the scale should reach >0.4 (Wu, 2009).

(3) Homogeneity Detection

We conducted the homogeneity test by removing α value, commonality and factor conformity quantity. Using Cronbach's α coefficient, we validated the internal consistency of the scale, evaluated the reliability and stability of the whole scale, and modified and adjusted questions with low reliability. If the internal consistency of the whole scale increased after the item was deleted, the item could be considered as having poor internal consistency. Thus, the α value after item deletion must be verified to obtain the high-stability scale. The homogeneity test by the factor analysis method aims to extract common basic factors from the question, decrease the main factors among multiple variables based on their correlation degree, simplify the correlation between variables, and construct the maximum explanatory quantity of the original variables. In this study, the spindle factor method was adopted, and the extraction number was set to 1 to test the factor load between each question and this factor. In addition, Wu (2009)'s factor load < 0.45 was used as the basis for deleting questions. Tables 3.8–3.11 present the analysis results of each variable item.

Table 3.8 Summary of distributed leadership item analysis

Item	Critical Ratio	Detection Correlations		Homogeneity Test			Under Standard	Remarks
	CR value	Corrected Item-total Correlation	Corrected Item-deleted Correlation	Cronbach's Alpha if Deleted (α -value)	Communalities	CR value		
Criterion	≥ 3.00	≥ 0.3	≥ 0.4		≥ 0.3	≥ 0.45		
LT1	-9.747***	.640***	.755	.910	.623	.790	0	R
LT2	-10.104***	.677***	.795	.906	.694	.833	0	R
LT3	-11.429***	.751***	.761	.909	.646	.804	0	R
LT4	-13.388***	.751***	.835	.902	.776	.881	0	R
LT5	-8.581***	.593***	.702	.915	.539	.734	0	R
LT6	-10.142***	.656***	.705	.915	.538	.733	0	R
LT7	-12.302***	.684***	.748	.911	.606	.778	0	R
LB1	-9.244***	.724***	.745	.855	.625	.790	0	R
LB2	-8.461***	.653***	.731	.856	.601	.775	0	R
LB3	-7.772***	.648***	.680	.862	.557	.746	0	R
LB4	-8.422***	.644***	.666	.864	.537	.733	0	R
LB5	-8.591***	.596***	.661	.865	.533	.730	0	R
LB6	-8.146***	.631***	.723	.858	.599	.774	0	R
LB7	-11.197***	.730***	.686	.862	.523	.723	0	R
LB8	-5.922***	.589***	.391	.901	.166	.408	3	D
LP1	-9.770***	.690***	.649	.836	.480	.693	0	R
LP2	-10.990***	.725***	.692	.826	.597	.773	0	R
LP3	-11.939***	.701***	.812	.797	.837	.915	0	R
LP4	-10.030***	.697***	.732	.817	.659	.812	0	R
LP5	-7.431***	.599***	.546	.872	.336	.580	0	R
LA1	-12.679***	.711***	.701	.906	.540	.735	0	R

Continued

	Criterion ≥ 3.00	≥ 0.3	≥ 0.4		≥ 0.3	$\geq .45$		
LA2	-9.227 ^{***}	.699 ^{***}	.695	.908	.532	.730	0	R
LA3	-10.173 ^{***}	.731 ^{***}	.781	.895	.677	.823	0	R
LA4	-11.494 ^{***}	.714 ^{***}	.783	.894	.685	.827	0	R
LA5	-12.505 ^{***}	.740 ^{***}	.802	.892	.716	.846	0	R
LA6	-13.007 ^{***}	.727 ^{***}	.789	.893	.703	.838	0	R

Note: *** $p < .001$; R = reserve, D = delete; Source: Compiled by the researcher.

The preliminary test data of this study adopted Wu's (2009) project analysis standard. Of the six indexes in the table above, if one item has more than three non-conformities in the test, it was deleted. Question LB8: "I feel that I have a high degree of autonomy in school and can make extra efforts spontaneously." was deleted because it failed to fulfill the three indexes of total score correlation, commonality, and factor load.

Table 3.9 Summary of organizational justice item analysis

Item	Critical Ratio	Detection Correlations		Homogeneity Test			Under Standard	Remarks
	CR value	Corrected Item-total Correlation	Corrected Item-deleted Correlation	Cronbach's Alpha if Deleted (α -value)	Communalities	CR value		
Criterion	≥ 3.00	≥ 0.3	≥ 0.4		≥ 0.3	≥ 0.45		
JD1	-8.944***	.619***	.661	.872	.498	.705	0	R
JD2	-9.259***	.682***	.743	.853	.644	.802	0	R
JD3	-7.717***	.601***	.728	.857	.616	.785	0	R
JD4	-9.549***	.715***	.791	.841	.746	.864	0	R
JD5	-10.880***	.736***	.680	.867	.533	.730	0	R
JP1	-11.562***	.764***	.692	.924	.520	.721	0	R
JP2	-11.747***	.790***	.805	.909	.711	.843	0	R
JP3	-13.014***	.824***	.825	.907	.752	.867	0	R
JP4	-11.726***	.802***	.793	.911	.687	.829	0	R
JP5	-11.057***	.817***	.793	.911	.687	.829	0	R
JP6	-10.428***	.795***	.803	.910	.707	.841	0	R
J11	-14.399***	.847***	.796	.950	.665	.815	0	R
J12	-9.056***	.742***	.756	.953	.600	.775	0	R
J13	-10.732***	.823***	.830	.949	.725	.852	0	R
J14	-10.626***	.828***	.834	.949	.734	.857	0	R
J15	-13.664***	.830***	.814	.950	.701	.837	0	R
J16	-10.971***	.817***	.865	.947	.790	.889	0	R
J17	-12.531***	.820***	.824	.949	.716	.846	0	R
J18	-10.842***	.794***	.823	.949	.714	.845	0	R
J19	-10.216***	.809***	.807	.950	.684	.827	0	R

Note:*** $p < .001$; R=reserve, D=delete; Source: Compiled by the researcher.

After the item analysis, none of the items in the school organizational justice scale failed to reach the standard; all the items were temporarily retained, and the next step of reliability and validity test was performed.

Table 3.10 Summary of teachers' organization commitment item analysis

Item	Critical Ratio	Detection Correlations		Homogeneity Test			Under Standard	Remarks
	CR value	Corrected Item-total Correlation	Corrected Item-deleted Correlation	Cronbach's Alpha if Item Deleted (α -value)	Communalities	CR value		
Criterion	≥ 3.00	≥ 0.3	≥ 0.4		≥ 0.3	≥ 0.45		
CA1	-15.800***	.775**	.784	.910	.659	.812	0	R
CA2	-12.162***	.734**	.672	.926	.484	.696	0	R
CA3	-11.849***	.804**	.854	.900	.801	.895	0	R
CA4	-12.575***	.765**	.832	.904	.764	.874	0	R
CA5	-11.599***	.727**	.783	.910	.683	.827	0	R
CA6	-11.862***	.773**	.782	.910	.684	.827	0	R
CC1	-9.634***	.745**	.569	.705	.562	.749	0	R
CC2	-4.027***	.574**	.626	.674	.447	.669	0	R
CC3	-5.639***	.623**	.656	.667	.481	.694	0	R
CC4	-8.915***	.756**	.534	.705	.490	.700	0	R
CC5	-8.335***	.690**	.464	.725	.385	.621	0	R
CC6	-5.083***	.499**	.264	.824	.354	.834	1	R
CN1	-10.297***	.717**	.632	.905	.443	.666	0	R
CN2	-8.543***	.728**	.787	.883	.681	.825	0	R
CN3	-7.145***	.740**	.732	.895	.589	.767	0	R
CN4	-11.881***	.773**	.803	.881	.725	.852	0	R
CN5	-11.304***	.763**	.810	.881	.754	.868	0	R
CN6	-10.609***	.754**	.733	.893	.605	.778	0	R

Note:*** $p < .001$; R = reserve; Source: Compiled by the researcher.

After analysis, one item of CC6 in the teachers' organizational commitment scale failed to reach the target, which was temporarily retained and observed whether it should be deleted in the following factor analysis.



Table 3.11 Summary of teachers' organization citizenship behavior item analysis

Item	Critical Ratio	Detection Correlations		Homogeneity Test			Under Standard	Remarks
	CR value	Corrected Item-total Correlation	Corrected Item-deleted Correlation	Cronbach's Alpha if Item Deleted (α -value)	if Communalities	CR value		
Criterion	≥ 3.00	≥ 0.3	≥ 0.4		≥ 0.3	≥ 0.45		
BI1	-12.155***	.594***	.665	.806	.590	.768	0	R
BI2	-9.906***	.567***	.699	.789	.664	.815	0	R
BI3	-8.146***	.418***	.668	.803	.512	.715	0	R
BI4	-10.904***	.535***	.700	.786	.567	.753	0	R
BA1	-9.348***	.695***	.790	.838	.765	.875	0	R
BA2	-7.692***	.577***	.811	.826	.814	.902	0	R
BA3	-7.877***	.584***	.729	.857	.599	.774	0	R
BA4	-8.329***	.549***	.679	.881	.511	.715	0	R
BP1	-2.762**	.590***	.659	.963	.447	.668	0	R
BP2	-4.012***	.736***	.875	.912	.802	.896	0	R
BP3	-4.445***	.734***	.874	.913	.855	.925	0	R
BP4	-4.317***	.767***	.897	.908	.895	.946	0	R
BP5	-4.703***	.752***	.909	.907	.927	.963	0	R
BR1	-4.538***	.740***	.405	<u>-.264</u>	.869	.932	1	D
BR2	-3.492**	.756***	.401	<u>-.233</u>	.893	.945	1	D
BR3	<u>-1.361</u>	<u>.167*</u>	<u>-.124</u>	.936	<u>.017</u>	<u>-.129</u>	5	D
BD1	-6.783***	.499***	.760	.920	.628	.793	0	R
BD2	-10.194***	.644***	.844	.892	.795	.892	0	R
BD3	-10.257***	.599***	.830	.897	.767	.876	0	R
BD4	-9.259***	.598***	.855	.888	.824	.908	0	R

Note: * $p < .05$ ** $p < .01$ *** $p < .001$; R= reserve, D= delete; Source: Compiled by the researcher.

After analysis, BR3: “often arrive early for work and start to do business.” was deleted. In the *t*-test, there was no significance, and the items related to the total score, correction items related to the total score, commonality, factor load, and other aspects did not meet the standard; hence, these were deleted. In addition, although only one of the two questions, BR1 and BR2, failed to reach the target, the correlation between them and the total score was negative, suggesting that the question was not good; moreover, the α value after the deletion of the question was negative, which violated the reliability assumption of the model, resulting in its deletion. After the deletion of BR1, BR2, and BR3, the protection of school resources was also deleted. In the following analysis, we analyzed teachers’ organizational citizenship behaviors from four aspects—identifying with the school, assisting colleagues, avoiding trouble and seeking profits, and professional dedication.

3.6.3 Reliability Analysis

In this study, the reliability test was conducted to test the internal consistency and the degree of reflecting the truth of the measurement scale. The reliability factor α value was used to measure the scales’ internal consistency. Tables 3.12–3.15 present the reliability of the integral dimension of each scale.

Table 3.12 Summary of reliability of president distributed leadership scale

Dimensions	No. of Items	Cronbach's α
LT	7	.921
LB	7	.901
LP	6	.859
LA	5	.914
DL	25	.952

Source: Compiled by the researcher.

The Cronbach's α coefficient of the presidents' distributed leadership scale in this study was .952, and the Cronbach's α coefficient of each dimension was greater than .80, suggesting that the internal consistency of the scale was high, and the reliability was sufficiently good to support the research.

Table 3.13 Summary of reliability of organizational justice scale

Dimensions	No. of Items	Cronbach's α
JD	5	.883
JP	6	.926
JI	9	.955
OJ	20	.964

Source: Compiled by the researcher.

In this study, the Cronbach's α coefficient of the organizational justice scale was .964, and the Cronbach's α coefficient of each dimension was greater than .80, suggesting that the internal consistency of the scale was high and the reliability was sufficiently good to support the research.

Table 3.14 Summary of reliability of teachers' organizational commitment scale

Dimensions	No. of Items	Cronbach's α
CA	6	.924
CC	6	.807
CN	6	.907
OC	18	.944

Source: Compiled by the researcher.

In addition, the Cronbach's α coefficient of the Teachers' Organizational Commitment Scale was .944, and the Cronbach's α coefficient of each dimension was greater than .80, suggesting that the internal consistency of the scale was high, and the reliability was sufficiently good to support the research.

Table 3.15 Summary of reliability of teachers' organizational citizenship behavior scale

Dimensions	No. of Items	Cronbach's α
BI	4	.839
BA	4	.883
BP	5	.935
BD	4	.923
OCB	17	.897

Source: Compiled by the researcher.

Furthermore, the Cronbach's α coefficient of the teachers' organizational citizenship behavior scale was 0.897, and the Cronbach's α coefficient of each dimension was >0.80 , suggesting that the internal consistency of the scale was high, and the reliability was sufficiently good to support the research.

3.6.4 Exploratory Factor Analysis

The exploratory factor analysis was performed on the scale of four variables using president components and varimax orthogonal rotation axis to render the scale in this study with higher construct validity.

(1) Factor Analysis of the Presidents' Distributed Leadership Scale

After analysis, the value of measuring sampling appropriateness (Kaiser–Meyer–Olkin, KMO) was .917. Based on the judging principle of KMO statistics proposed by Kaiser in 1974 (Qiu, 2010), value $> .90$ denotes excellent factor analysis suitability.

Table 3.16 KMO and Bartlett's test of president distributed leadership scale

Kaiser-Meyer-Olkin measure of sampling adequacy		.927
Bartlett's test of sphericity	Approx. chi-square	3349.124
	df	300
	significant	.000

Source: Compiled by the researcher.

After the first exploratory factor analysis, four factors with eigenvalues > 1 were extracted to explain the total variation of 69.229%, which was $> 60\%$ threshold recommended by Hair, Black, Babin, and Anderson (2010). The first factor extracted was the open-minded thinking in college presidents, which comprised 7 questions (characteristic value, 11.834; explanatory variation, 19.255%). The second factor was the campus atmosphere, involving 6 questions (characteristic value, 2.231; explanatory variation, 18.111%). The third factor was active participation by

members, involving 7 questions (characteristic value, 1.953; explanatory variation, 16.331%). Finally, the fourth factor was member conviction and beliefs, involving 5 questions (characteristic value, 1.290; explanatory variation, 15.532%).

As Question LB7 deviated from the factors constructed according to the theory of this study, it was deleted. The factor load of other questions exceeded 0.45, and there was no deviation from the theoretical basis of this study. Thus, all other questions were retained. After the deletion of LB7, the president component analysis and maximum variance methods were still used for the factor analysis of the direct axis. Table 3.17 summarizes the final factor analysis results. Meanwhile, as there was no variable with the factor load >0.45 in both dimensions, all the questions after the factor analysis were retained.

Table 3.17 Factor analysis of president distributed leadership scale

	Factor 1	Factor 12	Factor 13	Factor 14
LT1	.785			
LT2	.801			
LT3	.701			
LT4	.796			
LT5	.755			
LT6	.689			
LT7	.705			
LB1			.602	
LB2			.696	
LB3			.718	
LB4			.738	
LB5			.799	
LB6			.682	
LP1				.613
LP2				.644
LP3				.836
LP4				.740
LP5				.587
LA1		.663		
LA2		.651		
LA3		.763		
LA4		.810		
LA5		.776		
LA6		.806		
The eigenvalue	11.299	2.202	1.932	1.279
Explanatory variance	19.907%	18.624%	16.339%	14.765%
The total variance	69.634%			
KMO	.927			

Source: Compiled by the researcher.

According to the above table, the KMO value of sampling suitability is .927, which is suitable for factor analysis. After exploratory factor analysis, four factors with eigenvalues >1 were extracted to explain the total variation of 69.634%. The first

factor extracted was the open-minded thinking in college presidents, which comprised 7 questions (characteristic value, 4.778; explanatory variation, 19.907%). The second factor was the campus atmosphere, involving 6 questions (characteristic value, 4.470; explanatory variation, 18.624%). The third factor was active participation by members, involving 7 questions (characteristic value, 3.921; explanatory variation, 16.339%). Finally, the fourth factor was member conviction and beliefs, involving 5 questions (characteristic value, 3.544; explanatory variation, 14.765%). Meanwhile, as there was no variable with the factor load >0.45 in factors 1–4, all the items after the factor analysis were retained.

(2) Factor Analysis of the Organizational Justice Scale

After analysis, the value of measuring sampling appropriateness (KMO) was 0.952. Based on the judging principle of KMO statistics proposed by Kaiser in 1974 (Qiu, 2010), value > 0.90 denotes excellent factor analysis suitability.

Table 3.18 KMO and Bartlett's test of organizational justice scale

Kaiser-Meyer-Olkin measure of sampling adequacy		.952
Bartlett's test of sphericity	Approx. chi-square	3181.016
	df	190
	significant	.000

Source: Compiled by the researcher.

After the first exploratory factor analysis, three common factors were extracted (total variation, 73.274%). The first factor was interactive justice (eigenvalue, 6.127; explanatory variation, 30.633%), the second factor was

procedural justice (eigenvalue, 4.575; explanatory variation, 22.877%), and the third factor was distributive justice (eigenvalue, 3.953; explanatory variation, 19.764%).

J11: “For my work decision, the leader is very kind to me and considerate of my actual situation.” was deleted. The factor load in factors 1 and 2 was >0.45 ; thus, it was deleted. The factor load of other questions exceeded 0.45 and no deviation occurred from the theoretical basis of this study. Thus, all other questions were retained. After J11 was deleted, the principal component analysis method, maximum variance method, and direct rotation axis were used for factor analysis. Table 3.19 summarizes the results of the second factor analysis.

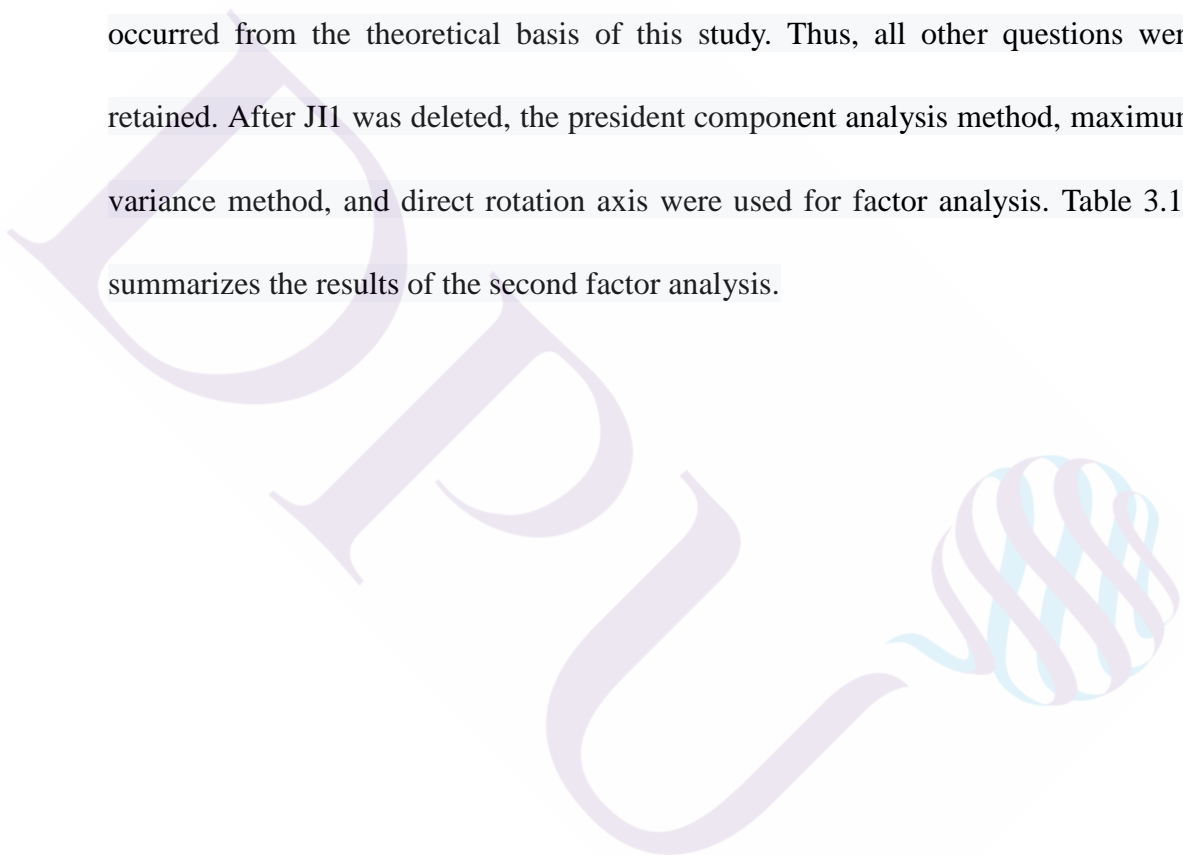


Table 3.19 Factor analysis of organizational justice scale

	Factor 1	Factor 2	Factor 3
JD1			.736
JD2			.743
JD3			.839
JD4			.788
JD5			.630
JP1		.528	
JP2		.766	
JP3		.746	
JP4		.676	
JP5		.663	
JP6		.740	
JI2	.678		
JI3	.724		
JI4	.754		
JI5	.707		
JI6	.851		
JI7	.774		
JI8	.815		
JI9	.739		
The eigenvalue	11.336	1.676	.922
variance	30.891%	22.114%	20.330%
The total variance	73.335%		
KMO	.951		

Source: Compiled by the researcher.

The value of measuring sampling appropriateness (KMO) was 0.951. Based on the judging principle of KMO statistics proposed by Kaiser in 1974 (Qiu, 2010), value >0.90 denotes excellent factor analysis suitability. Three common factors were extracted (total variation, 73.335%). The first factor was interactive justice

(eigenvalue, 5.869; explanatory variation, 30.891%), the second factor was procedural justice (eigenvalue, 4.202; explanatory variation, 22.114%), and the third factor was distributive justice (eigenvalue, 3.863; explanatory variation, 20.330%). Meanwhile, as there was no variable with the factor load >0.45 in factors 1–3, all the questions after the factor analysis were retained.

(3) Factor Analysis of the Teachers' Organizational Commitment Scale

After analysis, the value of measuring sampling appropriateness (KMO) was 0.932. Based on the judging principle of KMO statistics proposed by Kaiser in 1974 (Qiu, 2010), value >0.90 denotes excellent factor analysis suitability.

Table 3.20 KMO and Bartlett's test of teachers' organizational commitment scale

Kaiser-Meyer-Olkin measure of sampling adequacy		.932
Bartlett's test of sphericity	Approx. chi-square	2365.428
	df	153
	significant	.000

Source: Compiled by the researcher.

After the first exploratory factor analysis, three common factors were extracted (total variation, 69.821%). The first factor was emotional commitment (eigenvalue, 5.484; variation, 30.469%), the second factor was normative commitment (eigenvalue, 4.989; variation, 27.719%), and the third factor was continuous commitment (eigenvalue, 2.094; variation, 11.633%). Interpretation and analysis revealed that item CC4: "I feel that I have too few options to consider leaving this organization," and the two dimensions overlapped; thus, it was deleted.

CA2: “I really feel as if this organization’s problems are my own”; CC1: “Right now, staying with my organization is a matter of necessity as much as desire”; and CC5: “If I had not already put so much of myself into this organization” were also deleted. Nevertheless, the president component analysis and maximum variance factor analysis method of orthogonal rotation were used. Table 3.21 summarizes the results of the final factor analysis.

Table 3.21 Factor analysis of teachers’ organizational commitment scale

	Factor 1	Factor 2	Factor 3
CA1	.702		
CA3	.780		
CA4	.835		
CA5	.868		
CA6	.832		
CC2			.737
CC3			.745
CC6			.783
CN1		.568	
CN2		.861	
CN3		.774	
CN4		.816	
CN5		.808	
CN6		.695	
Eigenvalue	4.140	4.072	2.017
Explanatory variation	30.469%	27.719%	11.633%
The total variance	73.063%		
KMO	.908		

Source: Compiled by the researcher.

Based on Table 3.21, the KMO value of sampling the suitability was 0.908, which is suitable for the factor analysis. Three common factors were extracted after the analysis. The first factor was emotional commitment (eigenvalue, 4.140; explanatory variation, 29.571%), the second factor was the normative commitment (characteristic value, 4.072; the explanatory variation, 29.087%), and the third factor was continuous commitment (eigenvalue, 2.017; explanatory variation, 14.405%). The total explained variation was 73.063%. The factor load of each question was >0.45 . Meanwhile, as there was no variable with the factor load >0.45 in factors 1–3, all the questions after the factor analysis were retained.

(4) Exploratory Factor Analysis of the Teachers' Organizational Citizenship Behavior Scale

The sampling appropriateness (KMO) value was 0.877 (Table 3.22 provides details). KMO and Bartlett's test of the teachers' organizational commitment scale are suitable for the factor analysis.

Table 3.22 KMO and Bartlett's test of teachers' organizational citizenship behavior scale

Kaiser-Meyer-Olkin measure of sampling adequacy		.877
Bartlett's test of sphericity	Approx. chi-square	2612.906
	df	136
	significant	.000

Source: Compiled by the researcher

Four common factors were extracted by the exploratory factor analysis (total explanatory variation, 78.355%). The first factor was “not scrambling for

power” (eigenvalue, 4.181; explanatory variation, 24.596%), the second factor was “Job dedication” (eigenvalue, 3.515; explanatory variation, 20.627%), the third factor was “Helpfulness to colleagues” (eigenvalue, 3.191; explanatory variation, 18.772%), and the fourth factor was “Identification with the school” (eigenvalue, 2.433; explanatory variation, 14.311% (Table 3.23).

Table 3.23 Factor analysis of teachers’ organizational citizenship behavior scale

	Factor 1	Factor 2	Factor 3	Factor 4
BI1				.494
BI2				.625
BI3				.851
BI4				.821
BA1			.781	
BA2			.872	
BA3			.728	
BA4			.725	
BP1	.753			
BP2	.906			
BP3	.928			
BP4	.934			
BP5	.949			
BD1		.835		
BD2		.877		
BD3		.834		
BD4		.864		
The eigenvalue	4.181	3.515	3.191	2.433
Variance	24.596%	20.627%	18.772%	14.311
Total variance		78.355%		

Source: Compiled by the researcher

As shown in Table 3.20, the factor load of each item was $> .45$, suggesting that these items had convergent validity. Meanwhile, no factor load of any variable on factors 1–4 was $> .45$, suggesting that these questions had discriminating validity. The convergent validity and discriminating validity of each item suggested that the measurement tool of this study had constructive validity.

3.6.5 Reliability and Validity Analysis of the Formal Questionnaire

Using the confirmatory factor analysis (CFA), this study verified the reliability and validity of the formal questionnaire. First, the model fitting degree of the four variables was verified, followed by calculating the reliability and validity of the four variables in the formal questionnaire by the factor load, laying a good foundation for further research.

Regarding the overall model fitting indexes, according to Wu (2009) and Hair et al. (2009), we referred to the three aspects of absolute fitness, value-added fitness, and streamlined fitness. In this study, 13 indexes, such as χ^2 , χ^2/df , GFI and AGFI were used to evaluate the fit of the model. Then, the reliability and validity indexes of the four-variable scale were calculated by the factor load. The evaluation results are as follows:

3.6.5.1 CFA of Distributed Leadership

Before the analysis of the formal questionnaire, the normality test of the four variables was firstly carried out to determine whether the data of the formal questionnaire in this study were consistent with the normal identification and

whether follow-up analysis could be carried out. According to analysis, absolute value of kurtosis ≤ 10 , absolute value of skewness ≤ 3 , Mardia coefficient of this study is 163.708, less than 675 (24*26) (Kline, 1998). All the above indexes of distributed leadership of presidents in this study meet the requirements, and it can be judged that the sample data of this study have multivariate normality.

After analysis, the results of the CFA of the president distributed leadership scale in this study are shown in Table 3.24.

Table 3.24 Confirmatory factor analysis of president distributed leadership scale

	Evaluation project	Test data	Standard	Model fit
Absolute fit indices	χ^2	p>0.05	000	unfit
	χ^2/df	4.650	<5.0	fit
	GFI	.923	>0.9	fit
	AGFI	.906	>0.9	fit
	RMR	.022	<0.05	fit
	RMSEA	.056	<0.08	fit
Incremental fit indices	NFI	.919	>0.9	fit
	CFI	.935	>0.9	fit
	RFI	.909	>0.9	fit
	IFI	.935	>0.9	fit
Parsimonious fit indices	PNFI	.891	>0.5	fit
	PGFI	.757	>0.5	fit
	CN	285	>200	fit

Source: Compiled by the researcher

According to the CFA of the present distributed leadership scale, only the chi-square value exhibited significance, which did not fulfill the requirements. Yu (2006) highlighted that the chi-square value would be affected by the sample size;

thus, it was necessary to examine other indicators. All other indicators fulfilled the requirements, suggesting that the overall fitness of the model was good. The CFA verified the reliability and validity of the president distributed leadership scale in this study (Table 3.25).

Table 3.25 Analysis of reliability and validity for president distributed leadership scale

Dimension	No. of item	Factor loading	CR	AVE
LT	LT1	.802	.908	.586
	LT2	.806		
	LT3	.814		
	LT4	.810		
	LT5	.684		
	LT6	.677		
	LT7	.749		
LB	LB1	.673	.865	.517
	LB2	.696		
	LB3	.706		
	LB4	.748		
	LB5	.766		
	LB6	.723		
LP	LP1	.689	.856	.546
	LP2	.793		
	LP3	.797		
	LP4	.759		
	LP5	.643		
LA	LA1	.693	.909	.625
	LA2	.768		
	LA3	.841		
	LA4	.834		
	LA5	.796		
	LA6	.802		

Source: Compiled by the researcher

The factor load of each question under the distributed leadership of the president was > 0.50 . The construction reliability of the four dimensions was .908, .865, .856 and .909, respectively, all of which were $> .600$, and all exceeded the standard of good construction reliability (Wu 2009). The average variation extraction was .586, .517, .546 and .625, which fulfilled the ideal standard value (Hair et al., 2009). Thus, observed variables could effectively reflect the characteristics of their potential variables and have good convergence validity, which can be used as a follow-up research tool.

3.6.5.2 CFA of Organizational Justice

According to the analysis of normality test, the absolute value of kurtosis of school organizational justice is ≤ 10 , the absolute value of skewness is ≤ 3 , and the Mardia coefficient is 100.997, less than 399 (24×26), which indicates that the sample data in this study are multivariate normality (Kline, 1998), and can be further studied. After analysis, the results of the CFA of the school organizational justice scale in this study are shown in Table 3.26.

Table 3.26 Confirmatory factor analysis of organizational justice scale

	Evaluation project	Test data	Standard	Model fit
Absolute fit indices	χ^2	$p > 0.05$	000	unfit
	χ^2/df	6.213	<5.0	unfit
	GFI	.903	>0.9	fit
	AGFI	.877	>0.9	unfit
	RMR	.028	<0.05	fit
	RMSEA	.073	<0.08	fit
Incremental fit indices	NFI	.922	>0.9	fit
	CFI	.933	>0.9	fit
	RFI	.910	>0.9	fit
	IFI	.933	>0.9	fit
Parsimonious fit indices	PNFI	.803	>0.5	fit
	PGFI	.813	>0.5	fit
	CN	202	>200	fit

Source: Compiled by the researcher

From the results of the CFA of the organizational justice scale, the chi-square value was significant and failed to reach the index. Other indicators could be tested ($\chi^2/df = 6.213$, which was >5 ; $AGFI = 0.877$, which is close to the mark). Other indicators fulfilled the requirements, suggesting that the overall fitness of this model is good. The CFA verified the reliability and validity of the organizational justice scale in this study (Table 3.27).

Table 3.27 Analysis of reliability and validity for organizational justice scale

Dimension	No. of item	Factor loading	CR	AVE
JD	JD1	.661	.865	.565
	JD2	.814		
	JD3	.797		
	JD4	.831		
	JD5	.631		
JP	JP1	.663	.875	.538
	JP2	.748		
	JP3	.754		
	JP4	.723		
	JP5	.747		
	JP6	.763		
JI	JI2	.726	.926	.610
	JI3	.767		
	JI4	.763		
	JI5	.831		
	JI6	.770		
	JI7	.793		
	JI8	.815		
	JI9	.776		

Source: Compiled by the researcher

The factor load of each item under the organizational justice scale was $>.50$. The construction reliability of the three dimensions was .865, .875 and .926, respectively, all of which were $>.600$, and all exceeded the standard of good construction reliability (Wu 2009). The average variation extraction was .565, .538 and .610, which fulfilled the ideal standard value (Hair et al., 2009). Thus, observed

variables could effectively reflect the characteristics of their potential variables and have good convergence validity, which can be used as a follow-up research tool.

3.6.5.3 CFA of Teachers' Organizational Commitment

According to the normality test, the absolute value of kurtosis of teachers' organizational commitment is ≤ 10 , the absolute value of skewness is ≤ 3 , and the Mardia coefficient is 70.114, less than 224 (24×26), which indicates that the sample data in this study are multivariate normality (Kline, 1998), and can be further studied. After analysis, the results of the CFA of the teachers' organizational commitment scale in this study are shown in Table 3.28.

Table 3.28 Confirmatory factor analysis of teachers' organizational commitment scale

	Evaluation project	Test data	Standard	Model fit
Absolute fit indices	χ^2	$p > 0.05$	000	unfit
	χ^2/df	5.960	<5.0	unfit
	GFI	.947	>0.9	fit
	AGFI	.925	>0.9	fit
	RMR	.024	<0.05	fit
	RMSEA	.062	<0.08	fit
Incremental fit indices	NFI	.948	>0.9	fit
	CFI	.957	>0.9	fit
	RFI	.936	>0.9	fit
	IFI	.957	>0.9	fit
Parsimonious fit indices	PNFI	.771	>0.5	fit
	PGFI	.667	>0.5	fit
	CN	299	>200	fit

Source: Compiled by the researcher

From the results of the CFA of the teachers' organizational commitment scale, the chi-square value was significant and failed to reach the index ($\chi^2/df = 5.960$, which was >5). Other indicators could be tested. Other indicators fulfilled the requirements, suggesting that the overall fitness of this model is good. The CFA verified the reliability and validity of the teachers' organizational commitment scale in this study (Table 3.29).

Table 3.29 Analysis of reliability and validity for teachers' organizational commitment scale

Dimension	No. of item	Factor loading	CR	AVE
CA	CA1	.676	.853	.538
	CA3	.740		
	CA4	.773		
	CA5	.737		
	CA6	.738		
CC	CC2	.698	.711	.458
	CC3	.795		
	CC6	.506		
CN	CN1	.734	.876	.540
	CN2	.748		
	CN3	.721		
	CN4	.784		
	CN5	.723		
	CN6	.698		

Source: Compiled by the researcher

The factor load of each item under the teachers' organizational commitment scale was $> .50$. The construction reliability of the three dimensions was .853、 .711

and .876, respectively, all of which were $> .600$, and all exceeded the standard of good construction reliability (Wu 2009). The average variation extraction was .538, .458 and .540, which fulfilled the ideal standard value (Hair et al., 2009). Thus, observed variables could effectively reflect the characteristics of their potential variables and have good convergence validity, which can be used as a follow-up research tool.

3.6.5.4 CFA of Teachers' Organizational Citizenship Behavior

According to the normality test, the absolute value of kurtosis of teachers' organizational citizenship behavior is ≤ 10 , the absolute value of skewness is ≤ 3 , and the Mardia coefficient is 190.726, less than 323 (17×19), which indicates that the sample data in this study are multivariate normality (Kline, 1998), and can be further studied. After analysis, the results of the CFA of the teachers' organizational citizenship behavior scale in this study are shown in Table 3.30.

Table 3.30 Confirmatory factor analysis of teachers' organizational citizenship behavior

	Evaluation project	Test data	Standard	Model fit
Absolute fit indices	χ^2	$p > 0.05$	000	unfit
	χ^2/df	5.454	<5.0	unfit
	GFI	.947	>0.9	fit
	AGFI	.925	>0.9	fit
	RMR	.032	<0.05	fit
	RMSEA	.062	<0.08	fit
	NFI	.948	>0.9	fit
Incremental fit indices	CFI	.957	>0.9	fit
	RFI	.936	>0.9	fit
	IFI	.957	>0.9	fit
Parsimonious fit indices	PNFI	.771	>0.5	fit
	PGFI	.667	>0.5	fit
	CN	299	>200	fit

Source: Compiled by the researcher

From the results of the CFA of the teachers' organizational citizenship behavior scale, the chi-square value was significant and failed to reach the index ($\chi^2/df = 5.454$, which was >5). Other indicators could be tested. Other indicators fulfilled the requirements, suggesting that the overall fitness of this model is good. The CFA verified the reliability and validity of the teachers' organizational citizenship behavior scale in this study (Table 3.31).

Table 3.31 Analysis of reliability and validity for teachers' organizational citizenship behavior scale

Dimension	No. of item	Factor loading	CR	AVE
BI	BI1	.792	.842	.573
	BI2	.825		
	BI3	.658		
	BI4	.742		
BA	BA1	.816	.835	.560
	BA2	.788		
	BA3	.732		
	BA4	.647		
BP	BP1	.872	.952	.800
	BP2	.928		
	BP3	.956		
	BP4	.960		
	BP5	.938		
BD	BR1	.823	.908	.713
	BR2	.844		
	BR3	.853		
	BD1	.856		

Source: Compiled by the researcher

The factor load of each item under the teachers' organizational citizenship behavior scale was $>.50$. The construction reliability of the four dimensions was .842, .835, .952 and .908, respectively, all of which were $>.600$, and all exceeded the standard of good construction reliability (Wu 2009). The average variation extraction was .573, .560, .800 and .713, which fulfilled the ideal standard value (Hair et al., 2009). Thus, observed variables could effectively reflect

the characteristics of their potential variables and have good convergence validity, which can be used as a follow-up research tool.



CHAPTER 4

RESEARCH RESULTS

This chapter describes the research results in six sections: Section 4.1 is about the current situation of presidents' distributed leadership of private colleges and universities, school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior; Section 4.2 illustrates the direct impact of presidents' distributed leadership in private universities on organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior; Section 4.3 illustrates the direct impact of organizational justice of private universities and teachers' organizational commitment on teachers' organizational citizenship behavior; Section 4.4 illustrates the mediating effect of school organizational justice and teachers' organizational commitment on presidents' distributed leadership and teachers' organizational citizenship behavior; Section 4.5 illustrates the multiple mediating effect of school organizational justice and teachers' organizational commitment; and Section 4.6 examines the research hypothesis on the basis of the results in this chapter.

4.1 Results of Situation Analysis

4.1.1 Results of Distributed Leadership of Presidents

Analysis outcome of the distributed leadership of private college's presidents is shown in Table 4.1. Results show that the average score of distributed leadership of presidents in private colleges ranges from 3.984 to 4.245; dimension of open-minded thinking in college presidents scored an average of 4.109; dimension of member conviction and beliefs scored an average of 4.238; dimension of active participation by members scored an average of 4.245; dimension of campus atmosphere scored an average of 3.984; overall, the private colleges presidents scored an average of 4.138 in distributed leadership. The scores for each dimension, from high to low, are active participation by members, member conviction and beliefs, open-minded thinking in college presidents and campus atmosphere. Based on the subjects' score differences, member conviction and beliefs showed the least individual differences.

Table 4.1 Summary of mean and standard deviation of distributed leadership

Dimension	No. of Items	Mean	Standard Deviation
LT	7	4.109	.552
LB	6	4.238	.490
LP	6	4.245	.501
LA	5	3.984	.668
DL	24	4.138	.465

Source: Compiled by the researcher

4.1.2 Results of Organizational Justice

Analysis outcome of the organizational justice of private college is shown in Table 4.2. Results show that the average score of organizational justice private colleges ranges from 3.829 to 3.976; dimension of distributive justice scored an

average of 3.829; dimension of procedural justice scored an average of 3.917; dimension of interactional justice scored an average of 3.976; overall, the organizational justice scored an average of 3.919, which is in a medium-high range. The scores for each dimension, from high to low, are interactional justice, procedural justice and distributive justice. Overall, the organizational justice scored an average of 3.919. Based on the subjects' score differences, interactional justice showed the least individual differences.

Table 4.2 Summary of mean and standard deviation of organizational justice

Dimensions	No. of Items	Mean	Standard Deviation
JD	5	3.829	.647
JP	6	3.917	.612
JI	8	3.976	.605
OJ	19	3.919	.550

Source: Compiled by the researcher

4.1.3 Results of Teachers' Organizational Commitment

Analysis outcome of the teachers' organizational commitment is shown in Table 4.3. Results show that the average score of teachers' organizational commitment ranges from 3.827 to 4.106; dimension of affective commitment scored an average of 4.106; dimension of continue commitment scored an average of 3.827; dimension of normative commitment scored an average of 4.008; overall, the organizational commitment scored an average of 4.008, which is in a medium-high range. The scores for each dimension, from high to low, are affective commitment, normative commitment, and affective commitment. Overall, the teachers' organizational

commitment scored an average of 3.919. Based on the subjects' score differences, affective commitment showed the least individual differences.

Table 4.3 Summary of mean and standard deviation of teachers' organizational commitment

Dimension	No. of Items	Mean	Standard Deviation
CA	5	4.106	.539
CC	3	3.827	.694
CN	6	4.016	.593
OC	14	4.008	.520

Source: Compiled by the researcher

4.1.4 Results of Teachers' Organizational Citizenship Behavior

Analysis outcome of the teachers' organizational citizenship behavior is shown in Table 4.4. Results show that the average score of teachers' organizational citizenship behavior ranges from 4.148 to 4.286; dimension of identification with the company scored an average of 4.256; dimension of altruism toward colleagues scored an average of 4.286; dimension of not scrambling for power scored an average of 4.148; dimension of Job dedication scored an average of 4.190; The scores for each dimension, from high to low, are altruism toward colleagues, identification with the company, Job dedication and not scrambling for power. Overall, the teachers' organizational citizenship behavior scored an average of 4.216. Based on the subjects' score differences, identification with the company showed the least individual differences.

Table 4.4 Summary of mean and standard deviation of teachers' organizational citizenship behavior

Dimension	No. of Items	Mean	Standard Deviation
BD	4	4.256	0.561
BI	4	4.286	0.565
BP	5	4.148	1.219
BA	4	4.190	0.772
OCB	17	4.216	0.549

Source: Compiled by the researcher

4.2 Results of Direct Impact of Presidents' Distributed Leadership

In this section, Pearson's product-moment correlation is used to analyze the relationship between presidents' distributed leadership and school organizational justice, and the relationship between teachers' organizational commitment and teachers' organizational citizenship behavior. Pursuant to the reference index proposed by Cohen (1988), the absolute values of correlation coefficients of .10, .30 and .50 correspond to three effect sizes: small, medium and large. On the basis of correlation analysis, the influence of presidents' distributed leadership on school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior is judged by linear regression.

4.2.1 Direct Impact of Presidents' Distributed Leadership on School Organizational Justice

Through the statistical analysis of Pearson's product-moment correlation and linear regression analysis, it is found out that presidents' distributed leadership is

closely related to school organizational justice, and the former directly affects the later.

The analysis results are shown as follows.

4.2.1.1 Analysis Results of Correlation between Presidents' Distributed Leadership and School Organizational Justice

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of presidents' distributed leadership in private universities and that of school organizational justice, as well as the correlation between the presidents' distributed leadership as a whole and school organizational justice as a whole. The results are as shown in Table 4.5.

Table 4.5 Analysis of president's distributed leadership and school organizational justice

	LT	LB	LP	LA	DL
JP	.482***	.383***	.356***	.495***	.364***
JD	.637***	.507***	.482***	.700***	.510***
JI	.640***	.545***	.536***	.713***	.535***
OJ	.679***	.550***	.528***	.730***	.540***

Note: *** $p < .001$ Source: Compiled by the researcher

The results show that all dimensions of presidents' distributed leadership are positively correlated with those of school organizational justice, of which the correlation between interaction justice and campus atmosphere is the highest, being .713. The correlation coefficient of active participation by members in distribution justice is slightly lower, which is .356. The highest correlation between dimensions and variables is the coefficient of campus atmosphere and organizational justice, being .730, which is highly correlated. The direct correlation coefficient

between presidents' distributed leadership and school organizational justice is .540, which is also highly correlated (Cohen, 1988).

4.2.1.2 Results of Linear Regression of Presidents' Distributed Leadership and School Organizational Justice

In order to understand the direct impact of presidents' distributed leadership on school organizational justice, regression analysis is used to test their relationship. The statistical results are shown in Table 4.6. The results show that presidents' distributed leadership has a significant direct impact on school organizational justice ($r = .540, p < .001$), indicating that the higher the teachers' perception of presidents' distributed leadership is, the better the school organizational justice will be.

Table 4.6 Linear regression analysis results of college presidents' distributed leadership and organizational justice

	Organizational justice			
	B	SEB		<i>p</i>
DL	.722***	.033	.540***	.000
R^2			.292	
<i>Adj R</i> ²			.291	
<i>F</i>			472.197***	
df			1,1145	

Note: *** $p < .001$ Source: Compiled by the researcher

4.2.2 Direct Impact of President's Distributed Leadership on Teachers' Organizational Commitment

Through the statistical analysis of Pearson's product-moment correlation and linear regression analysis, it is found out that presidents' distributed leadership is

closely related to teachers' organizational commitment, and the former directly affects the later. The analysis results are shown as follows.

4.2.2.1 Results of Correlation between Presidents' Distributed Leadership and Teachers' Organizational Commitment

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of presidents' distributed leadership in private universities and that of teachers' organizational commitment, as well as the correlation between the presidents' distributed leadership as a whole and teachers' organizational commitment as a whole. The results are as shown in table 4.7.

Table 4.7 Analysis of presidents' distributed leadership and teachers' organizational commitment

	LT	LB	LP	LA	DL
CA	.570***	.580***	.544***	.520***	.457***
CC	.386***	.297***	.304***	.505***	.343***
CN	.565***	.529***	.501***	.605***	.464***
OC	.597***	.558***	.533***	.633***	.494***

Note: *** $p < .001$; Source: Compiled by the researcher

The results show that all dimensions of presidents' distributed leadership are positively correlated with those of teachers' organizational commitment, of which the correlation between campus atmosphere and regulatory commitment is the highest, being .605. The correlation coefficient of member conviction and beliefs in continuous commitment is slightly lower, which is .297. The highest correlation between dimensions and variables is the coefficient of campus atmosphere and teachers' organizational commitment, being .633, which is highly correlated. The

direct correlation coefficient between presidents' distributed leadership and teachers' organizational commitment is .494, which is moderately correlated (Cohen, 1988).

4.2.2.2 Results of Linear Regression of Presidents' Distributed Leadership and Teachers' Organizational Commitment

In order to understand the direct impact of presidents' distributed leadership on teachers' organizational commitment, regression analysis is used to test their relationship. The statistical results are shown in Table 4.8. The results show that presidents' distributed leadership has a significant direct impact on teachers' organizational commitment ($r = .494, p < .001$), indicating that the higher the teachers' perception of presidents' distributed leadership is, the better the teachers' organizational commitment will be.

Table 4.8 Summary of linear regression analysis of president's distributed leadership and teachers' organizational commitment

Teachers' organizational commitment				
	B	SEB		<i>p</i>
DL	.624***	.032	.494***	.000
R^2			.244	
<i>Adj R</i> ²			.244	
<i>F</i>			370.258***	
df			1,1145	

Note: *** $p < .001$; Source: Compiled by the researcher

4.2.3 Direct Impact of Presidents' Distributed Leadership on Teachers' Organizational Citizenship Behavior

Through the statistical analysis of Pearson's product-moment correlation and linear regression analysis, it is found out that presidents' distributed leadership is closely related to teachers' organizational citizenship behavior, and the former directly affects the later. The analysis results are shown as follows.

4.2.3.1 Analysis Results of Correlation between Presidents' Distributed Leadership and Teachers' Organizational Citizenship Behavior

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of presidents' distributed leadership in private universities and that of teachers' organizational citizenship behavior, as well as the correlation between the presidents' distributed leadership as a whole and teachers' organizational citizenship behavior as a whole. The results are as shown in Table 4.9.

Table 4.9 Analysis of presidents' distributed leadership and teachers' organizational citizenship behavior

	LT	LB	LP	LA	DL
BI	.451***	.494***	.517***	.323***	.295***
BD	.375***	.437***	.479***	.267**	.266***
BP	.070***	.118***	.115***	-.090**	.044
BA	.259***	.326***	.349***	.196***	.173***
OCB	.331***	.410***	.431***	.149***	.221***

Note: ** $p < .01$ *** $p < .001$ Source: Compiled by the researcher

The results show that correlation between identification with the school and active participation by members is the highest, being .517. The correlation coefficient of not scrambling for power in campus atmosphere is negatively correlated, where the

higher not scrambling for power score, the lower the teachers' organizational citizenship behavior score. There is no significant correlation between distributed leadership and not scrambling for power of teacher organizational citizenship. The direct correlation coefficient between presidents' distributed leadership and teachers' organizational citizenship behavior is .221.

4.2.3.2 Analysis Results of Linear Regression of Presidents' Distributed Leadership and Teachers' Organizational Citizenship Behavior

To determine the direct impact of presidents' distributed leadership on teachers' organizational citizenship behavior, regression analysis is used to test their relationship. The statistical results are shown in Table 4.10. The results show that presidents' distributed leadership has a significant direct impact on school organizational justice (.221, $p < .001$), indicating that the higher the teachers' perception of presidents' distributed leadership is, the better the teachers' organizational citizenship behavior will be.

Table 4.10 Summary of linear regression analysis of president's distributed leadership and teachers' organizational citizenship behavior

Teachers' organizational citizenship behavior				
	B	SEB		<i>p</i>
DL	.296***	.038	.221***	.000
R^2		.049		
<i>Adj R</i> ²		.048		
<i>F</i>		59.074***		
df		1,1145		

Note: *** $p < .001$ Source: Compiled by the researcher

4.3 Results of Direct Impact of School Organizational Justice and Teachers'

Organizational Commitment

4.3.1 Direct Impact of President's Distributed Leadership on Teachers' Organizational Citizenship Behavior

Through the statistical analysis of Pearson's product-moment correlation and linear regression analysis, it is found out that school organizational justice is closely related to teachers' organize citizenship behavior, and the former directly affects the later. The analysis results are shown as follows.

4.3.1.1 Results of Correlation between School Organizational Justice and Teachers' Organize Citizenship Behavior

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of school organizational justice and that of teachers' organize citizenship behavior, as well as the correlation between the school organizational justice as a whole and teachers' organize citizenship behavior as a whole. The results are as shown in Table 4.11.

Table 4.11 Analysis of school organizational justice and teachers' organizational citizenship behavior

	JD	JP	JI	OJ
BI	.345**	.372**	.407**	.275***
BD	.295**	.345**	.388**	-.067*
BP	-.068*	-.067*	-.049	.393***
BA	.237***	.238***	.254***	.427***
OCB	.189***	.208***	.244***	.245***

Note: * $p < .05$ ** $p < .01$ *** $p < .001$; Source: Compiled by the researcher

The results show that correlation between not scrambling for power and procedural justice is negatively correlated, correlation between not scrambling for power and distributive justice is negatively correlated too. There is no significant correlation between not scrambling for power and interactive justice. The direct correlation coefficient between school organizational justice and teachers' organizational citizenship behavior is .245, which is moderately correlated (Cohen, 1988).

4.3.2.2 Results of Linear Regression of School Organizational Justice and Teachers' Organizational Citizenship Behavior

In order to understand the direct impact of school organizational justice on teachers' organizational citizenship behavior, regression analysis is used to test their relationship. The statistical results are shown in Table 4.12. The results show that school organizational justice has a significant direct impact on teachers' organizational citizenship behavior ($.245, p < .001$), indicating that the higher the teachers' perception of school organizational justice is, the better the teachers' organizational citizenship behavior will be.

Table 4.12 Summary of linear regression analysis of organizational justice and teachers' organizational citizenship behavior

Teachers' organizational citizenship behavior				
	B	SEB		<i>p</i>
OJ	.245***	.029	.245***	.000
R^2			.060	
<i>Adj R</i> ²			.059	
<i>F</i>		1718.575***		
df		1,1145		

Note: *** $p < .001$ Source: Compiled by the researcher

4.3.2 Direct Impact of Teachers' Organizational Commitment on Teachers' Organizational Citizenship Behavior

Through the statistical analysis of Pearson's product-moment correlation and linear regression analysis, it is found out that teachers' organizational commitment is closely related to teachers' organizational citizenship behavior, and the former directly affects the later. The analysis results are shown as follows.

4.3.2.1 Results of Correlation between Teachers' Organizational Commitment and Teachers' Organizational Citizenship Behavior

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of teachers' organizational commitment and that of teachers' organizational citizenship behavior, as well as the correlation between the teachers' organizational commitment as a whole and teachers' organizational citizenship behavior as a whole. The results are as shown in Table 4.13.

Table 4.13 Analysis of teachers' organizational commitment and teachers' organizational citizenship behavior

	CA	CC	CN	OC
BI	.577***	.294***	.518***	.551***
BD	.500***	.235***	.455***	.474***
BP	.079**	-.164**	-.033	.034
BA	.350***	.180***	.298***	.327***
OCB	.427***	.080**	.312***	.334***

Note: ** $p < .01$ *** $p < .001$ Source: Compiled by the researcher

The results show that among the dimensions of teachers' organizational commitment and teachers' organizational citizenship behavior, the correlation coefficient of emotional commitment and identification with the school is the highest, which is .577. The correlation coefficient of not scrambling for power in distributive justice is low, which is only .079. There is no significant correlation between not scrambling for power and normative commitment and teacher organizational commitment. The direct correlation coefficient between teachers' organizational commitment and teachers' organizational citizenship behavior is .334, which is moderately correlated (Cohen, 1988).

4.3.2.2 Direct impact of teachers' organizational commitment on teachers' organizational citizenship behavior.

To determine the direct impact of teachers' organizational commitment on teachers' organizational citizenship behavior, regression analysis is used to test their relationship. The statistical results are shown in Table 4.14. The results show that teachers' organizational commitment has a significant direct impact on teachers'

citizenship behavior, $\beta = .334$, $p < .001$, indicating that the higher the teachers' organizational commitment is, the better the teachers' organizational citizenship behavior will be.

Table 4.14 Summary of linear regression analysis of teachers' organizational commitment and teachers' organizational citizenship behavior

Organizational citizenship behavior				
	B	SEB		<i>p</i>
OC	.352***	.029	.334***	.000
R^2			.111	
$Adj R^2$.110	
F			143.324***	
df			1,1145	

Note: *** $p < .001$; Source: Compiled by the researcher

4.4 Results of Mediating Effect of School Organizational Justice and Teachers' Organizational Commitment

4.4.1 Mediating Effect of School Organizational Justice on the Relationship between Distributed Leadership and Organizational Citizenship Behavior.

According to the statistical method in the classical article of Baron and Kenny (1986), the verification of mediating effect shall be validated by three regression models: (1) independent variables shall be able to significantly predict dependent variables; (2) independent variables shall be able to significantly predict mediating variables; and (3) mediating variables shall be able to significantly predict dependent variables. The last testing condition mentioned in the article of Baron and Kenny (1986) is that the effect of independent variables is weakened after the addition

of mediating variables. After the mediating variables are added, if the effect of independent variables on dependent variables is completely non-significant, it is completely mediated; otherwise, if the effect is weakened but still significant, it is partly mediated.

In this research, regression analysis is used to test the mediating effect of school organizational justice on presidents' distributed leadership and teachers' organizational citizenship behavior. The results are shown in Table 4.15. Through analysis, the president's distributed leadership has significant explanatory power for school organizational justice ($\beta = .722, p < .001$); the president's distributed leadership has significant explanatory power for teacher's organizational citizenship behavior ($\beta = .221, p < .001$); and school organizational justice has significant explanatory power for teacher's organizational citizenship behavior ($\beta = .245, p < .001$). Considering the impacts of both presidents' distributed leadership and school organizational justice on teachers' organizational citizenship behavior, the explanatory power of presidents' distributed leadership is still significant ($\beta = .126, p < .001$). Moreover, the value of beta (β) decreases from .221 to .126, indicating that the role of presidents' distributed leadership in teachers' organizational citizenship behavior is weakened.

The results show that all the three regression models in this research have significant effects, and the beta value decreases. According to the judgment criteria of Baron and Kenny (1986), the first mediating effect of this research is established:

school organizational justice plays a partially mediating role in the influence of presidents' distributed leadership on teachers' organizational citizenship behavior.

Table 4.15 Regression analysis of mediating effect in distributed leadership, organizational justice and organizational citizenship behavior

	Organizational justice		Organizational citizenship behavior	
	Model 1	Model 2	Model 3	Model 4
DL	.540 ^{***}	.221 ^{***}		.126 ^{***}
OJ			.245 ^{***}	.177 ^{***}
R^2	.292	.049	.060	.071
Adj R^2	.291	.048	.059	.070
F	472.197 ^{***}	59.074 ^{***}	72.984 ^{***}	43.826 ^{***}
df	(1,1145)	(1,1145)	(1,1145)	(2,1144)

Note: *** $p < .001$; Source: Compiled by the researcher

Sobel test is used to test the mediating effect of school organizational justice on presidents' distributed leadership and teachers' organizational citizenship behavior. The results show that the mediating effect is significant ($z=5.064, p<.001$), indicating that presidents' distributed leadership affects organizational justice, and then affects teachers' organizational citizenship behavior. The standardization of mediating effect is: $d=.096$. That is to say, every additional standard deviation of presidents' distributed leadership will increase .096 standard deviation of teachers' organizational citizenship behavior by affecting school organizational justice.

4.4.2 Mediating Effect of Teachers' Organization Commitment on the Relationship between Distributed Leadership and Organizational Citizenship Behavior.

According to the statistical method in the classical article of Baron and Kenny (1986), the verification of mediating effect shall be validated by three regression models: (1) independent variables shall be able to significantly predict

dependent variables; (2) independent variables shall be able to significantly predict mediating variables; and (3) mediating variables shall be able to significantly predict dependent variables. The last testing condition mentioned in the article of Baron and Kenny (1986) is that the effect of independent variables is weakened after the addition of mediating variables. After the mediating variables are added, if the effect of independent variables on dependent variables is completely non-significant, it is completely mediated; otherwise, if the effect is weakened but still significant, it is partly mediated.

Regression analysis was used to test for mediating effect of teachers' organization commitment on the distributed leadership of college presidents and teachers' organizational citizenship behavior. As shown in Table 4.16, results indicate that the distributed leadership of college presidents has a significant explanatory power for teachers' organizational commitment ($\beta = .494, p < .001$). The distributed leadership of college presidents also shows a significant explanatory power for teachers' organizational citizenship behavior ($\beta = .221, p < .001$), and teachers' organization commitment shows a significant explanatory power for teachers' organizational citizenship behavior ($\beta = .334, p < .001$). In terms of the simultaneous impact of the distributed leadership of college presidents and teachers' organization commitment on teachers' organizational citizenship behavior, the distributed leadership of college presidents continues to show significant explanatory power ($\beta = .075, p < .05$). However, the decrease in the β value from .221 to .075 indicates a

weakening of the impact of distributed leadership on teacher organizational citizenship behavior.

Based on the standards used by Baron and Kenny (1986) for testing mediating effect, this study verified the mediating effect of organizational commitment on the relationship between the distributed leadership of college presidents and teachers' organizational citizenship behavior. Moreover, organizational commitment has a mediating effect on the relationship between the distributed leadership of college presidents and teachers' organization citizenship behavior.

Table 4.16 Regression analysis of mediating effect in distributed leadership, organizational commitment and organizational citizenship behavior

	Organizational commitment		Organizational citizenship behavior	
	Model 1	Model 2	Model 3	Model 4
DL	.494 ^{***}	.221 ^{***}		.075 [*]
OC			.334 ^{***}	.296 ^{***}
R^2	.244	.049	.111	.115
$Adj R^2$.244	.048	.110	.114
F	370.258 ^{***}	59.074 ^{***}	143.324 ^{***}	74.687 ^{***}
df	(1,1145)	(1,1145)	(1,1145)	(2,1144)

Note: ^{***} $p < .001$; Source: Compiled by the researcher

Sobel test is used to test the mediating effect of teachers' organizational commitment on presidents' distributed leadership and teachers' organizational citizenship behavior. The results show that the mediating effect is significant ($z = 8.325$, $p = .000$), indicating that presidents' distributed leadership affects teachers' organizational commitment, and then affects teachers' organizational citizenship behavior. The standardization effect of mediating effect is: $d = .146$. That is to say,

every additional standard deviation of presidents' distributed leadership will increase .146 standard deviation of teachers' organizational citizenship behavior by affecting teachers' organizational commitment.

4.5 Results of Multiple Mediating Effects of School Organizational Justice and Teachers' Organizational Commitment

Referring to the test method of multiple mediating variables by Hayes (2017), using Model 6 in Process and taking 5,000 samples of Process Bootstrap to set a 95% confidence interval, the multiple mediating effects of school organizational justice and teachers' organizational commitment are tested in this research. The results are shown in Table 4.19-4.21.

4.5.1 Results of Correlation between School Organizational Justice and Teachers' Organizational Commitment

Pearson's product-moment correlation is used to analyze and verify the correlation between the average of various dimensions of school organizational justice and that of teachers' organizational commitment, as well as the correlation between the school organizational justice as a whole and teachers' organizational commitment as a whole. The results are as shown in Table 4.17.

Table 4.17 Summary of school organizational justice and teachers' organizational commitment

	JD	JP	JI	OJ
CA	.553***	.603***	.636***	.678***
CC	.505***	.536***	.535***	.593***
CN	.585***	.668***	.665***	.724***
OC	.635***	.703***	.714***	.775***

Note: *** $p < .001$; Source: Compiled by the researcher

The results show that all dimensions of school organizational justice are positively correlated with those of teachers' organizational commitment, of which the correlation between procedural justice and regulatory commitment is the highest, being .668. The correlation coefficient of distributive justice in continuous commitment is slightly lower, which is .505. The direct correlation coefficient between school organizational justice and teachers' organizational commitment is .775, which is also highly correlated (Cohen, 1988).

4.5.2 Direct Impact of School Organizational Justice on Teachers' Organizational Commitment

To determine the direct impact of school organizational justice on teachers' organizational commitment, regression analysis is used to test their relationship. The statistical results are shown in Table 4.18. The results show that school organizational justice has a significant direct impact on teachers' organizational commitment (.775, $p < .001$), indicating that the higher the teachers' perception of school organizational justice is, the better the teachers' organizational commitment will be.

Table 4.18 Summary of linear regression analysis of organizational justice and teachers' organizational commitment

Teachers' organizational commitment				
Organizational	B	SEB		<i>p</i>
justice	.733***	.018	.775***	.000
<i>R</i> ²			.600	
<i>Adj R</i> ²			.600	
<i>F</i>		1718.575***		
df		1,1145		

Note: *** $p < .001$; Source: Compiled by the researcher

4.5.3 Results of Multiple Mediating Effects

Referring to the test method of multiple mediating variables by Hayes (2017), using Model 6 in Process and taking 5,000 samples of Process Bootstrap to set a 95% confidence interval, the multiple mediating effects of school organizational justice and teachers' organizational commitment are tested in this research. The results are shown in Table 4.19, Table 4.20 and Table 4.21.

Table 4.19 Total effect of distributed leadership on teachers' organizational citizenship behavior

	Effect	se	<i>t</i>	<i>p</i>	LLCI	ULCI
Total effect	.296	.038	7.686	.000	.220	.371

Source: Compiled by the researcher

Table 4.20 Direct effect of distributed leadership on teachers' organizational citizenship behavior

	Effect	se	<i>t</i>	<i>p</i>	LLCI	ULCI
Direct effect	.119	.045	2.678	.008	.032	.207

Source: Compiled by the researcher

Table 4.21 Indirect effect of distributed leadership on teachers' organizational citizenship behavior

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.176	.025	.126	.225
Ind1	-.050	.033	-.117	.013
Ind2	.049	.014	.025	.077
Ind3	.177	.026	.129	.230

Note: Ind1 X :DL—>M1:OJ—>Y:OCB; Ind2 X:DL—>M2:OC—>Y:OCB;
Ind3 X: DL—>M1: OJ—>M2: OC—>Y: OCB; Source: Compiled by the researcher

Table 4.19 shows the total effect of presidents' distributed leadership on teachers' organizational citizenship behavior. It can be seen from the table that the confidence interval of distributed leadership on teachers' organizational citizenship behavior is (.220, .371), which does not include zero, and the p value is significant ($t = 7.686$, $p = .000$), indicating that presidents' distributed leadership has a significant impact on teachers' organizational citizenship behavior, with the effect quantity of .296.

Table 4.20 shows the direct effect of distributed leadership on teachers' organizational citizenship behavior after the mediating variables are controlled. It can be seen from the table that the confidence interval of distributed leadership on teachers' organizational citizenship behavior is (.032, .207), which does not include zero, and the p value is significant ($t = 2.678$, $p = .008$), indicating that presidents' distributed leadership has a significant impact on teachers' organizational citizenship behavior after the mediating variables are controlled, with the effect quantity of .119.

Table 4.21 shows the indirect effect of distributed leadership on teachers' organizational citizenship behavior. It can be seen from the table that the confidence interval of "distributed leadership -> school organizational justice -> teachers' organizational commitment -> teachers' organizational citizenship behavior" is (LLCI= .128, ULCI= .230) (excluding 0), indicating that the mediating effect is significant and the effect of mediating path is .177. After controlling the three mediating paths, the confidence interval is (LLCI=.126, ULCI=.229) (excluding 0), indicating that distributed leadership still has a significant impact on teachers' organizational citizenship behavior.

Pursuant to the judgment criteria of mediating effect provided by Preacher & Hayes (2004) and Hayes (2017), the judgment criteria are mainly based on whether the direct and indirect effects are significant, but whether they are significant depends on whether the confidence interval includes 0: excluding 0 indicates a significant effect, and including 0 indicates a non-significant effect. If both direct and indirect effects are significant, the multiple mediating effects will be valid. In this analysis, presidents' distributed leadership has a significant direct impact on teachers' organizational citizenship behavior, and both the direct and indirect effects of distributed leadership on organizational citizenship behavior are significant after the mediating variables are controlled, indicating that school organizational justice and teachers' organizational commitment play multiple mediating roles in the impact of presidents' distributed leadership on teachers' organizational citizenship behavior.

Therefore, presidents' distributed leadership can influence teachers' organizational commitment through school organizational justice, and ultimately influence teachers' organizational citizenship behavior.

4.6 Hypothesis Testing

Based on the literature review, this study proposes that the distributed leadership of presidents affects school organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior; School organizational justice and teachers' organizational commitment both affect teachers' organizational citizenship behavior; School organizational justice and teachers' organizational commitment play an intermediary role in the influence of presidents' distributed leadership on teachers' organizational citizenship behavior; School organizational justice and teachers' organizational commitment play multiple mediating roles in the influence of president distributed leadership on teachers' organizational citizenship behavior. Through correlation analysis, linear regression and Process regression analysis, the above hypothesis was tested as follows.

Table 4.22 Hypothesis testing in this study

Hypothesis	Conclusion
Hypothesis H ₁ : Distributed leadership of college presidents directly impacts organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior.	supported
Hypothesis H _{1a} : Distributed leadership of college presidents directly impacts teachers' organizational citizenship behavior.	supported
Hypothesis H _{1b} : Distributed leadership of college presidents directly impacts organizational justice.	supported
Hypothesis H _{1c} : Distributed leadership of college presidents directly impacts teachers' organizational commitment.	supported
Hypothesis H ₂ : Organizational justice and Teachers' organizational commitment directly impacts teachers' organizational citizenship behavior.	supported
Hypothesis H _{2a} : Organizational justice directly impacts teachers' organizational citizenship behavior.	supported
Hypothesis H _{2b} : Teachers' organizational commitment directly impacts teachers' organizational citizenship behavior.	supported
Hypothesis H ₃ : Organizational justice and teachers' organizational commitment have a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.	supported
Hypothesis H _{3a} : Organizational justice has a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.	supported
Hypothesis H _{3b} : Teachers' organizational commitment has a mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.	supported
Hypothesis H ₄ : Organizational justice and teachers' organizational commitment have a multiple mediating effect on the impact of distributed leadership of college presidents on teachers' organizational citizenship behavior.	supported

Source: Compiled by the researcher

CHAPTER 5

DISCUSSION

This study is aimed at exploring the exact relationship between in-school organizational justice and teachers' organizational commitments (as the mediator), president's distributed leadership (as the independent variable) and teachers' organizational citizenship behavior (as the dependent variable). In this chapter, the research results will be discussed by conducting literature analysis.

5.1 Discussion on Direct Impact of Presidents' Distributed Leadership

This section is split into three parts to investigate both the differences and similarities between this study and the prior ones with regard to the direct impact made by presidents' distributed leadership on school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior.

5.1.1 Discussion on the Relationship between Presidents' Distributed Leadership and School Organizational Justice

As revealed by the analytical result, the presidents' distributed leadership is significantly related to school organizational justice, and the former has a significant impact on the later directly. By performing empirical research, Hsu (2014) found out that the three dimensions of school organizational justice are closely associated with the various dimensions of presidents' distributed leadership as well. Among them,

procedural justice and interactive justice were discovered to be correlated with all the dimensions of the presidents' distributed leadership, higher than that between distributive justice and presidents' distributed leadership. The correlation coefficient between interactive justice and all dimensions is the highest, which conforms well to the results obtained from this study. With regard to the impact made by presidents' distributed leadership on school organizational justice, the findings of this study are consistent with the results obtained from the study carried out by Chen's (2007) on presidents' leadership behavior and school organizational justice. It was revealed that presidents' leadership behavior, mode and style are closely associated with teachers' perception of school organizational justice.

5.1.2 Discussion on the Relationship between Presidents' Distributed Leadership and Teachers' Organizational Commitment

It is discovered by analysis that presidents' distributed leadership is notably related to teachers' organizational commitment, with the former making a significant impact on teachers' organizational commitment directly. This finding conforms to the research conducted by Akdemir & Ayik (2017), Zeinabadi (2010), Hasani, Branch & Boroujerdi (2013) into employees in all aspects of life. For example, it is observed by Akdemir and Ayik (2017) that presidents' distributed leadership bears a positive correlation with teachers' organizational commitment. Besides, the former is found capable of predicting the later. Teachers' organizational commitment to the school is enhanced when the president offers them support, encouragement and goals.

Therefore, the president's leadership is identified as a significant influencing factor in teachers' organizational commitment.

5.1.3 Discussion on the Relationship between Presidents' Distributed Leadership and Teachers' Organizational Citizenship Behavior

It is demonstrated by statistical analysis that the presidents' distributed leadership is closely correlated with teachers' organizational citizenship behavior, with the former having a substantial impact on the later directly. The relationship between leaders and followers is premised on trust, with the purpose of maximizing the effectiveness of operation for the organization. With the study on organizational citizenship behavior carried out, it is discovered that leaders have the capability to promote organizational citizenship behavior by means of developing emotional exchange relationship with their subordinates, offering employee in-work support, and improving the canonical correlation coefficient between employee responsibility and expertise (Lin et al., 1994; Konovsky & Pugh, 1994; Niehoff & Moorman, 1993; Organ & Konovsky, 1989). The results obtained from this study about the impact of distributed leadership on teachers' organizational citizenship behavior are found to be consistent with some empirical studies (Ali & Waqar, 2013; Kılınç, 2014; Organ et al., 2006; Podsakoff et al., 1990; Podsakoff et al., 2000).

Based on the prior studies, the theory of distributed leadership is applied to private colleges and universities across China for this study, so as to explore the relationship between the presidents' distributed leadership of private colleges and

universities and the teachers' organizational citizenship behavior. It is concluded that the presidents' distributed leadership in private colleges and universities could make a considerable impact on the teachers' organizational citizenship behavior in a direct way. Not only does this confirm the previous theories, it also expands the research object and its scope.

5.2 Discussion on Direct Impact of School Organizational Justice and Teachers' Organizational Commitment

This section consists of three parts to examine both the differences and similarities between this study and the previous ones on the direct impact made by school organizational justice on teachers' organizational citizenship behavior, the direct impact of teachers' organizational commitment on teachers' organizational citizenship behavior, and the direct impact made by school organizational justice on teachers' organizational commitment.

5.2.1 Discussion on the Relationship between School Organizational Justice and Teachers' Organizational Citizenship Behavior

As revealed by the relevant analysis, all dimensions along with the whole of school organizational justice are noticeably associated with those of teachers' organizational citizenship behavior, and the presidents' distributed leadership makes an enormous impact on teachers' organizational citizenship behavior in a direct way.

Further with the investigation conducted into the relationship between organizational justice and organizational citizenship behavior, Hassan (2014) carried out an empirical study to demonstrate that organizational justice as an independent variable could make a massive impact on organizational citizenship behavior, with organizational justice as a dependent variable and organizational trust as a mediating variable. Despite organizational justice being treated as a mediating variable in this study, it investigates how organizational justice relates to organizational citizenship behavior. The organizational justice scale developed by Niehoff and Moorman (1993) is also employed in this study. The first conclusion drawn by Hassan (2014) through analysis is that organizational justice and its three dimensions can exert a substantial effect on organizational citizenship behavior directly. The conclusion reached in this study conforms to that as to the impact of organizational justice on organizational citizenship behavior. The direct impact of organizational justice on organizational citizenship behavior is discovered to be significant and has been validated for many times both in enterprises and educational institutions (Aryee et al., 2002; Guh, Lin, Fan, & Yang, 2013; Chhetri, 2014). The differences of these research results lie in the role played by different dimensions in how organizational justice impacts on organizational citizenship behavior. Questionnaires were distributed to all employees working in one of six government agencies selected on a random basis by Alotaibi (2001). As indicated by the results, process justice and distribution justice can have a notable effect on employees' organizational citizenship behavior. The conclusion

drawn by Organ (1988) and Cheng (2004) believed that distributive justice plays the most significant role in organizational citizenship behavior, based on a study of the relationship between organizational justice and organizational citizenship. As found out by Folger and Copanzano (1998), and Moorman (1991), interactive justice has an effect on how organizational citizenship behavior is performed. In the analysis of this study, it is also found that among the private colleges and universities in China, with the ones in Shandong Province as a representative, interactive justice plays the most crucial role in organizational citizenship behavior, which needs to be further investigated in the light of research practice why there is such a difference.

5.2.2 Discussion on the Relationship between Teachers' Organizational Commitment and Teachers' Organizational Citizenship Behavior

As revealed by the relevant analysis, teachers' organizational commitment is closely correlated with teachers' organizational citizenship behavior. Moreover, the former creates a considerable effect on the later directly.

In respect of the impact made by teachers' organizational commitment on teachers' organizational citizenship behavior, it has been discovered in prior studies that teachers' organizational commitment bears a noticeably positive correlation with teachers' organizational citizenship behavior. For example, the results obtained from this study conform to the surveys of employees in all aspects of life conducted by Mowday, Porter and Steer (1982), Organ and Ryan (1995), Alen and Rush (1998), Baker, Hunt and Andrews (2006). After sorting out 55 research papers in relation to

organizational citizenship behavior by literature analysis, it was concluded by Organ and Ryan (1995) that organizational commitment bears a positive association with organizational citizenship behavior, which implies that organizational commitment is impactful on teachers' organizational citizenship behavior in a positive way.

5.3 Discussion on the Mediating Effect of School Organizational Justice and Teachers' Organizational Commitment

5.3.1 Comparison of the Mediating Effect of School Organizational Justice

In this study, regression analysis is conducted in order to test the mediating effect exerted by school organizational justice on presidents' distributed leadership and teachers' organizational citizenship behavior. As demonstrated by the analysis, the presidents' distributed leadership is capable to account for school organizational justice. The presidents' distributed leadership has a significant explanatory power on teachers' organizational citizenship behavior; and school organizational justice has an excellent capability to account for teachers' organizational citizenship behavior. With regard to the influence exerted by both presidents' distributed leadership and school organizational justice on teachers' organizational citizenship behavior, the explanatory power of presidents' distributed leadership is found to remain significant, with the role played by presidents' distributed leadership on teachers' organizational citizenship behavior diminishing. School organizational justice is discovered to play

a intermediary role partially in the influence exerted by the distributed leadership on teachers' organizational citizenship behavior.

It can be seen from the research results that despite the positive effect exerted by the presidents' distributed leadership on teachers' behavior, organizational environmental factors play a more significant role in teachers' behavior when being taken into account. Therefore, the president's leadership behavior is speculated to require mediation from organizational environment factors to influence the teacher's behavior. For example, with primary school teachers taken as the research object, it was observed by Hsu (2014) that the relationship between distributed leadership of primary school presidents, organizational justice of schools and organizational citizenship behavior performed by teachers did exist. It was also demonstrated that the presidents' distributed leadership is possible to exert an indirect effect on the performance of organizational citizenship behavior of teachers through the mediating effect created by organizational justice, which is found out to be consistent with the results obtained from this study. However, the results obtained by Hsu (2014) show that school organizational justice is capable of playing a fully mediating role in the president's distributed leadership on teachers' organizational citizenship behavior, which is clearly distinct from the partially mediating role observed in this study. The subjects of this study are identified as different from those of Hsu (2014), being comprised of university teachers and primary school teachers, respectively. The differences between basic education and higher education have a potential to result

in different perceptions towards the subjects, which possibly contributes to some differences between the results of this study and Hsu (2014). There are also similar research results. As discovered by Ngodo (2008), transformational leadership has a positive effect on organizational citizenship behavior through the intermediary role performed by organizational justice and trust. By studying the association between servant leadership and organizational citizenship behavior, Walumbwa, Hartnell and Oke (2010) conducted cross-level interactive research, the results of which indicated that process justice and positive service atmosphere are conducive to strengthening organizational citizenship behavior and organizational commitment for supervisors.

To sum up, by practicing distributed leadership, presidents can create a fair environment for teaching and learning, while improving the teachers' organizational citizenship behavior through the intermediary of the fair environment for school.

5.3.2 Comparison drawn of the Mediating Effect of Teachers' Organizational Commitment

In this study, regression analysis is conducted to test the mediating effect exerted by teachers' organizational commitment on presidents' distributed leadership as well as teachers' organizational citizenship behavior. Through analysis, presidents' distributed leadership is shown to have substantial explanatory power on teachers' organizational commitment. The presidents' distributed leadership is discovered to be capable to account for organizational citizenship behavior performed by teachers. Teachers' organizational commitment has significant explanatory power on teachers'

organizational citizenship behavior. Taking into consideration the influence exerted by both presidents' distributed leadership and teachers' organizational commitment on teachers' organizational citizenship behavior, the explanatory power of presidents' distributed leadership remains significant, but the role performed by the presidents' distributed leadership on teachers' organizational citizenship behavior diminishes. Teachers' organizational commitment is found to partially play an intermediary role in the influence exerted by the distributed leadership on organizational citizenship behavior performed by teachers.

As indicated by the research results, despite the positive effect exerted by the presidents' distributed leadership on teachers' behavior, teachers' organizational commitment plays a more important role in teachers' behavior when being taken into account. Therefore, the presidents' leadership behavior possibly requires mediation by organizational commitment factors to exert influence on the behavior performed by teachers. For example, a mixed study was carried out by Hsu (2016) to examine the potential relationship between perceived leadership, organizational commitment and teaching effectiveness of presidents in public and private kindergartens. Through analysis, a conclusion was reached that organizational commitment plays a partially intermediary role in the influence exerted by transformational leadership on teaching effectiveness, which implies that transformational leadership can make a difference to teaching effectiveness via organizational commitment of teaching and insurance

personnel. Meanwhile, transformational leadership of presidents could make a direct effect on teaching effectiveness.

By conducting analysis of the association between distributed leadership, teachers' organizational commitment, school innovation and management efficiency, it was concluded by Huang (2012) that teachers' organizational commitment exerts a partially mediating effect on the impact made by distributed leadership in terms of school innovation and management efficiency, which is discovered to conform to the mediating effect of organizational commitment found in this study. By exploring the correlation existing between presidents' teaching leadership, teachers' organizational commitment and teachers' teaching effectiveness, Yeh (2007) made a discovery that the presidents' teaching leadership exerts influence on teaching effectiveness through teachers' organizational commitment.

To sum up, if presidents expect to enhance the performance of teachers' organizational citizenship behavior, they are recommended to consider strengthening teachers' organizational commitment by practicing distributed leadership and giving full play to the intermediary of teachers' organizational commitment, in order to motivate teachers to contribute to schools and perform organizational citizenship behavior.

5.4 Discussion on Multiple Mediating Effert of School Organizational Justice and Teachers' Organizational Commitment

As indicated by the analysis, school organizational justice is significantly correlated with teachers' organizational commitment, and the former has a notable effect on the later in a direct way, which is found to be consistent with the research results obtained by Lamber, Hogan and Griffin (2007), Aryee et al. (2002), Kim and Mauborgne (1993), Moorman, Niehoff and Organ (1993). The implication is that, the president ought to enhance the teachers' identification with the organization, let the teachers derive a sense of belonging to the school, motivated to stay in the school, devote themselves to the school, as a result of which organizational commitment and organizational justice can be strengthened mutually.

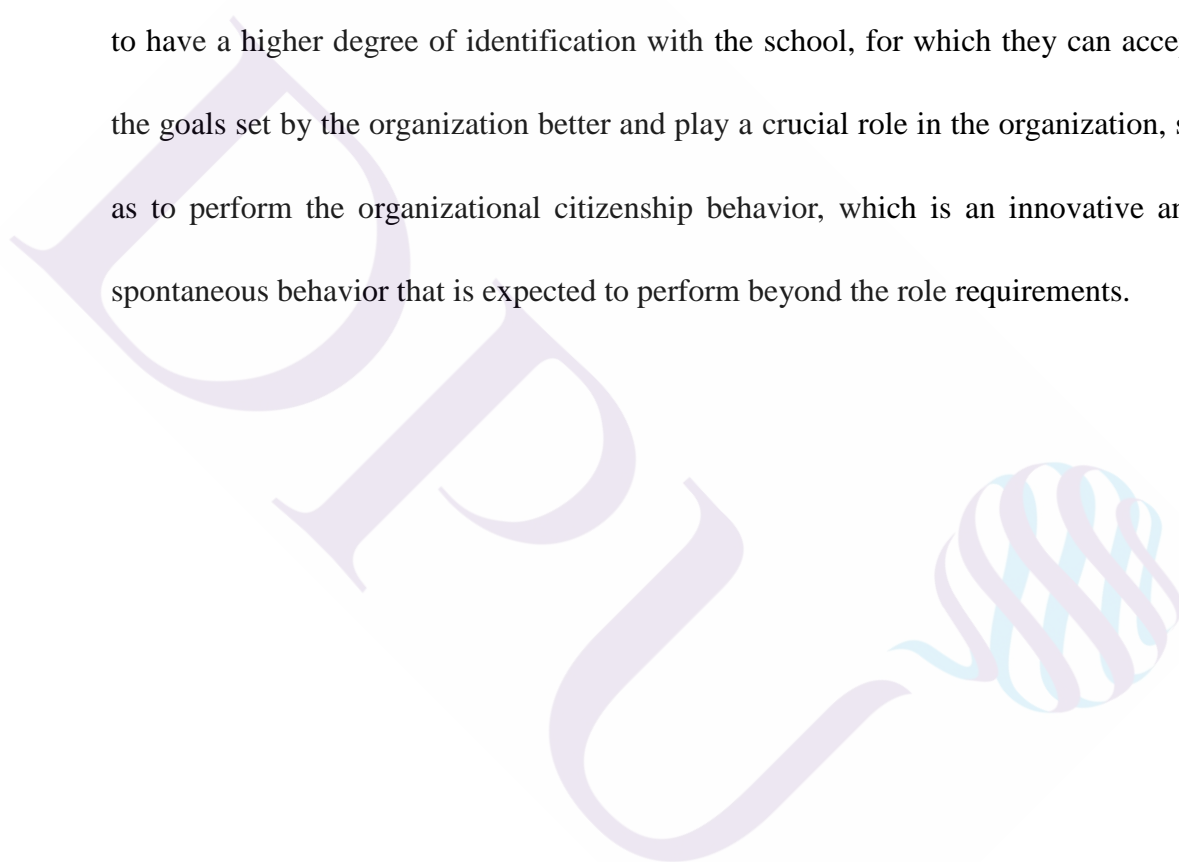
As confirmed by the results of regression analysis from Process Model 6, the presidents' distributed leadership can play a vital role in teachers' organizational commitment through school organizational justice, and further impose influence on teachers' organizational commitment as well as teachers' organizational citizenship behavior. School organizational justice and teachers' organizational commitment are found to play a mediating role in the influence of presidents' distributed leadership on teachers' organizational citizenship behavior. Moreover, the results obtained from this study demonstrate that teachers' organizational commitment is capable to play a fully intermediary role in the process of presidents' distributed leadership through school organizational justice to teachers' organizational citizenship behavior.

As indicated by literature review, the current results are generally limited to the discussion about the relationship between two or three variables in the four

variables of presidents' distributed leadership, school organizational justice, teachers' organizational commitment as well as teachers' organizational justice behavior, or the study performed of the correlation between one or two variables and other variables. Taking 642 employees working for more than 70 enterprises as samples, structural equation model was applied by Yan Dan and Zhang Lijun (2010) to verify the potential relationship between organizational justice, organizational commitment and organizational citizenship behavior. As revealed by the results, organizational justice bears a positive relation with organizational commitment, and organizational commitment performs a mediating role in organizational justice and organizational citizenship behavior. Such a conclusion confirms that with other factors discounted, organizational commitment can play a mediating role between organizational justice and organizational citizenship behavior, which evidences the research results in this study.

By conducting a questionnaire survey of employees, Ke, Huang and Yao (2009) drew a conclusion that organizational commitment can be considered to be a mediating variable and play a mediating role in the relationship that exists between organizational justice and organizational citizenship behavior. Apart from that, the research result demonstrates that organizational commitment plays a fully mediating role. Despite this being supportive of this study, a simple intermediary relationship is investigated in this paper only with no consideration given to a variety of ways to enhance organizational citizenship behavior.

To sum up, if presidents expect to effectively enhance the performance of teachers' organizational citizenship behavior, they can create a fair organizational environment by displaying the functions of distributed leadership. Teachers' sense of organizational justice could have a direct impact on their attitudes and behaviors towards the organization. Teachers with a higher sense of organizational justice tend to have a higher degree of identification with the school, for which they can accept the goals set by the organization better and play a crucial role in the organization, so as to perform the organizational citizenship behavior, which is an innovative and spontaneous behavior that is expected to perform beyond the role requirements.



CHAPTER 6

RESEARCH CONCLUSIONS

Based on the conclusions drawn in this study, the theoretical and practical application value embodied by this study is explored in this chapter. Then, in view of the limitations on this study, the corresponding suggestions are made for future research.

6.1 Research Conclusions

With teachers working for private colleges and universities in Shandong Province as the research object, the association between presidents' distributed leadership, school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior is investigated in this study. Through a combination of literature review, data analysis and comparison drawn with the prior research results, the conclusions are reached as follows.

a. The presidents' distributed leadership makes a direct impact on school organizational justice, teachers' organizational commitment and the organizational citizenship behavior performed by teachers.

b. Both school organizational justice and teachers' organizational commitment exert direct effect on teachers' organizational citizenship behavior.

c. Both school organizational justice and teachers' organizational commitment play a partially mediating role in how presidents' distributed leadership relates to teachers' organizational citizenship behavior.

d. School organizational justice and teachers' organizational commitment are capable to play various mediating roles in the relationship between presidents' distributed leadership and teachers' organizational citizenship behavior.

6.2 Theoretical Contributions

6.2.1 Enriching the Theoretical and Empirical Research Results in the Field of Distributed Leadership

It was in the 1990s that distributed leadership theory emerged. Since then, it has attracted a great deal of attention from many researchers. However, the relevant research conducted by the scholars in mainland China and that focusing on distributed leadership in various fields remain at the initial stage, let alone the research results. It is discovered in empirical research that not only does the distributed leadership in private college presidents exert a direct effect on school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior, it also performs a role in teachers' organizational citizenship behavior through school organizational justice and teachers' organizational commitment. This study enriches

the research results regarding distributed leadership, in addition to broadening the research scope for distributed leadership, and adding to the theoretical support to the research results about private university presidents in China.

6.2.2 Improving the Theoretical and Empirical Research Results in the Field of Organizational Citizenship Behavior

In this study, a new perspective is taken for the study of teachers working in private colleges and universities. Organizational citizenship behavior, which was used to perform study on the variables of employees and teachers in primary and secondary schools, is now involved to study teachers working in private colleges and universities and explore how to make teachers in private colleges and universities willing to strive for the development of their school. Concerning the study, the pre-variable of teachers' organizational citizenship behavior performed in private colleges and universities is set as distributed leadership, and the presidents of private colleges and universities are connected with a large majority of teachers at the grass-roots level. Different cultural backgrounds and different groups of subjects show certain significance to enriching the theoretical and empirical research results with regard to teachers' organizational citizenship behavior.

In addition, organizational citizenship behavior scale by Farh et al. (1997) is taken as a measurement tool for the organizational citizenship behavior performed by teachers in private colleges and universities. In the original scale, the organizational citizenship behavior is classified into five dimensions: identifying with the company,

assisting colleagues, not being driven by profits, dedication and protecting corporate resources. When the scale is integrated into the environment of private colleges and universities for testing, the dimension of protecting school resources is discovered to fail the reliability test. Therefore, the remaining four dimensions of identifying with the company, assisting colleagues, not being motivated by profits and dedication are taken as measurement tools in this study, so as to analyze the association between teachers' organizational citizenship behavior and different variables. The hypotheses of this study are validated, and the conclusions of this study are drawn, showing that the scale after deleting some dimensions are also suitable for reference.

6.3 Practical Applications

By analyzing the influence exerted by presidents' distributed leadership on teachers' organizational citizenship behavior, reference is provided in this study for private university presidents regarding how to perform leadership function, enhance teachers' awareness of organizational citizenship, and make even greater contribution to school development.

6.3.1 Reference for Presidents

The presidents are leaders of schools, who are required to constantly absorb new leadership knowledge, improve their professional skills and develop leadership skills to put leadership theory into practice, for which schools can have better

adaptivity to the constantly-changing situations outside, while achieving effective use of distributed leadership.

Firstly, the presidents' distributed leadership ought to be strengthened so as to improve teachers' organizational citizenship behavior.

It is observed in this study that not only can presidents' distributed leadership have direct effect on teachers' organizational citizenship behavior, it can also mediate teachers' organizational citizenship behavior through school organizational justice and organizational commitment. Then, the presidents in private colleges and universities can enhance teachers' organizational citizenship behavior by enhancing the distributed leadership from the following aspects. (1) Build a vision that is consistent with the characteristics of the school. Presidents are required to have sufficient understanding of the relevant educational theories and changes in the educational environment, develop specific and feasible important principles and indicate the directions for the enforcement of corresponding policies and operational processes as well as planned vision and operating principles. In doing so, schools can achieve sustainable operation. Only in this way can we really mobilize the majority of teachers to collaborate and make contribution to the development of schools. (2) Presidents in private colleges and universities are supposed to further standardize school management and clarify the responsibilities undertaken by teachers. Faced with different tasks, teaching staff shall be appointed to the post suited to them, thus avoiding temporary apportionment and even arbitrary assignment of tasks. (3) Place trust on teachers for sharing of the

leadership responsibilities. Presidents are supposed to offer teachers the opportunity to participate in the decision-making process over school affairs and share leadership responsibilities. (4) Presidents shall attach sufficient importance to the cultivation and promotion of teachers' professional knowledge, and take proper measures to stimulate teachers' enthusiasm and their sense of achievement.

Secondly, a fair organizational environment shall be created so as to enhance teachers' organizational citizenship behavior.

It is discovered that presidents' distributed leadership can influence teachers' organizational citizenship behavior through school organizational justice and teachers' organizational commitment, which indicates that the presidents can make good use of this model in the process of leading the school to boost the performance of teachers' organizational citizenship behavior. It is suggested that presidents need to develop a fair management system to enhance teachers' organizational citizenship behavior by making improvement to distribution, process as well as interaction justice. In respect to distribution justice, presidents are required to pay more attention to the equality in the assignment of works undertaken by teachers, and the allocation of welfare and responsibilities. Teachers working in private colleges and universities are tasked with heavy workloads, for which they shall be presented with certain rewards. In terms of process justice, presidents shall make decisions as open and transparent as possible, act in accordance with the system, and deal with matters in an impartial way. In terms of interaction justice, presidents shall show respect to and have more interaction with

teachers, and all teachers shall be treated equally. In order to make improvement to teachers' organizational citizenship behavior, interaction justice is more significant as compared to distribution justice and process justice, and the awareness of caring behavior is more important than that of advocacy behavior. For the assignment of teachers' important work, presidents shall take into consideration the actual situation of grass-roots staff and individual differences, and show their expected respect for the legitimate needs from individuals. Presidents shall also pay close attention to process justice and interaction justice, and to teachers.

Thirdly, teachers' organizational commitment shall be prioritized and strengthened to make teachers more willingness to perform organizational citizenship behavior.

Teachers' organizational commitment is regarded as a bridge between teachers and schools. When teachers identify with the school organizational goals and values, they tend to exhibit higher organizational commitment, which makes it easier for them to perform organizational citizenship behavior. Therefore, presidents shall be fully aware of the importance attached to teachers' organizational commitment, bring together teachers' centripetal force, enhance their sense of belonging to the school, and transform teachers' organizational commitment into organizational citizenship behavior.

The instability of teachers in private colleges and universities presents a problem that confronts the leaders in private colleges and universities. Presidents shall

develop teachers' professional and leadership abilities, pay attention to improving their leadership quality, entrust them with leadership responsibilities based on their respective professional fields, and encourage teachers to be more open and proactive in expressing their concern about school affairs. Meanwhile, presidents shall allow them flexibility and space, create communication platforms, offer them opportunities, and provide them with full support whenever possible. Only by developing a healthy emotional exchange relationship between presidents and teachers, can teachers derive a sense of accomplishment from their work, devote themselves to the school, and be proactive in getting involved in the operation of the school, so as to actively stimulate work motivation and perform teachers' organizational citizenship behavior which is conducive to school development and enhancing their educational performance. In addition, teachers are more willing to share the major responsibilities undertaken by school leaders.

Fourthly, a school culture of sharing and supporting shall be created to achieve a good interaction between leaders and followers.

Distributed leadership makes teachers capable to recognize the coordination and cooperation among themselves and create a positive and harmonious atmosphere in campus. Therefore, schools shall build up a highly shared and mutually supportive school culture. Presidents ought to endeavor to promote effective leadership values and beliefs among all members of schools, lay emphasis on mobile leadership rights and broad membership participation, and mobilize senior teachers. Senior teachers are

supposed to be a good model in performing their organizational citizenship behaviors, which is beneficial to their colleagues and the school. Besides, it is in line with the expectations of the school, which are, to selflessly contribute their own expertise and abilities, to play a leading role in professional leadership, and to make contribution to the development of the school. Meanwhile, a good interactive relationship between leaders and followers shall be developed and maintained, where senior teachers take the lead in demonstration and teachers are encouraged to actively deal with all kinds of school affairs. They are dedicated to collaboration on school education, teaching and management works for the development of schools.

6.3.2 Suggestions for Teachers

Firstly, teachers shall be devoted to teaching and derive the sense of teaching achievements.

It is a duty placed on teachers to teach and educate students. Teachers shall be proactive in devoting themselves to education and derive the sense of mission and achievement from delivering education. In addition to the presidents' leadership in making teachers more willing to participate in school affairs and teachers' perception towards organizational supports, teachers themselves shall also devote more time and pay more attention to their teaching effectiveness and dealing with various school affairs, in addition to devoting themselves enthusiastically and selflessly to their work. Only in this way can teachers' organizational citizenship behavior be improved, and can their teaching effectiveness be improved.

Secondly, teachers shall be proactive in conducting further study to improve professional ability and enthusiasm for work.

In addition to the wise use of distributed leadership strategies by presidents to encourage teachers, teachers themselves shall also be active to engage in further education and enhance their professional competence. There are a variety of different ways for teachers to engage in learning. They can learn from their colleagues at any time while in work on a daily basis. They can consult the elder and more experienced teachers as well. Moreover, they can consider getting involved in short-term refresher education or special training. Teachers shall ensure that attention is paid to acquiring new knowledge when they practice knowledge teaching. To acquire knowledge in a quick way, thematic training, short-term refresher courses and academic conferences are all considered effective ways. For private colleges and universities placing focus on the development of hands-on ability and practical innovation ability, teachers can also acquire specialist technical knowledge and practical operation within companies. Besides, they can absorb the requisite professional knowledge and improve the ability to taken on leadership roles and engage in decision-making in the organization. Young teachers can also make improvement to their both professional and scientific research abilities by raising their academic qualifications, and by applying their professional knowledge and scientific research capability to their work. In doing so, they will be more proficient in coping with affairs with improved ability. As a result of that, their enthusiasm for work will be stimulated, which will make them more willing to devote

themselves to teaching, thus taking the organizational citizenship behavior to a higher level.

6.4 Research Limitations

This study is subjected to the influence from some factors, for which there are some drawbacks, as manifested in three aspects, including research variables, research tools and research methods.

6.4.1 Limitation of Research Content

In this study, literature review and questionnaire survey are conducted, and the theoretical basis of literature review is taken as the basis for checking the content structure of the questionnaire. Because of a limited number of questions contained in the questionnaire and the fact that the participants know merely the actual situation based on their individual judgment, it is possibly unlikely to achieve an objective description of the president's distributed leadership, school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior owing to a combination of perceptual bias, personality traits or lack of observation, interviews and other factors. Meanwhile, some questions raised in the questionnaire involve subjects' sensitivity to presidents' leadership, personal job satisfaction or peer relationship. When providing answers to such questions, the subjects are possible to have reservations or concerns, which can cause deviations from the intended answers. For example, in the questionnaires on the teacher's organizational citizenship behavior,

the questions on not being driven by profits are all reverse and sharp questions, such as "often blaming the supervisor or discussing the privacy of colleagues without their knowledge", "competing for power and interests in schools, colluding with each other, undermining organizational harmony", "self-dealing, exercising their powers to seek personal interests" and "haggling over every single ounce, fighting for merit and responsibility, scrambling for personal benefit". Even if such a situation arises, it is a challenge for the subjects to make response based on their own situation in practice.

6.4.2 Limitations of Research Tools

With regard to the scales involved in this study, the scale of president's distributed leadership is employed in the field of education, and the other three are utilized in enterprises. Besides, the organizational justice scale and the organizational commitment scale show distinctions from each other in different countries. People living in different regions and working in industries tend to be affected by cultural background, work experience and other influencing factors, for which there will be disparities in understanding and answering the questionnaire. The three inventories, including school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior are all specified in English in original. Despite the researchers employing the scale of organizational justice and that of organizational citizenship behavior in combination with a mature translation method and the researchers of the scale of organizational commitment making attempt to

minimize the effect exerted by linguistic and cultural differences on the process of translation, it remains unlikely to prevent the influence imposed by cultural and linguistic differences on the answers provided by the subjects owing to the limited competence and the misunderstanding of the subjects.

6.4.3 Limitations of Research Methods

In this study, data are gathered through questionnaires. When it is filled in, the teachers' psychological process and exact ideas were not revealed. Therefore, there is a possibility that interpretation and inference of the research results is limited. Moreover, quantitative research is restricted to data collection through questionnaires, followed by statistical analysis being conducted of the survey results. In the study, observation and interviews are excluded from the study. Therefore, it is unlikely to gain understanding of teachers' opinions, perceptions or feelings.

6.5 Research Recommendations

6.5.1 Expanding Research Scope and Research Object

In this study, the president's distributed leadership is identified as a direct influencing factor in teachers' organizational citizenship behavior. In addition, school organizational justice and teachers' organizational commitment are taken as mediating variables. Despite this, it is clearly indicated by consolidating other literature that there are other influencing factors in teachers' organizational citizenship behavior, for which further investigations are required. The research object could be expanded to

other regions and other educational stages, for instance, kindergartens, primary schools and senior high schools, in order to conduct further discussion on the theme concerned in this study.

6.5.2 Making Research Tools for Colleges and Universities

Allowing for the lack of distributed leadership scale for the higher education stage, the presidents' distributed leadership scale devised by Zhang Yihua and Yan Hongqin (2012) for primary schools is employed in this study for assessment of the presidents' distributed leadership. In the future, researchers can consider compiling a scale of presidents' distributed leadership for higher education, which can be applied to assessing the effect created by presidents' distributed leadership on all aspects of schools. The scale on school organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior can be compiled as well to achieve a better measurement of the organizational justice, teachers' organizational commitment and teachers' organizational citizenship behavior across Chinese universities.

6.5.3 Qualitative Method Matching with Quantitative Method to make the Research more Perfect

In this study, literature analysis and questionnaire survey are primarily used. It is capable to gather a large number of school data in a quantitative way quickly, perform rigorous logical reasoning and lead to the experimental statistics results that can be validated repeatedly. Nevertheless, the results are only capable of showing the

overall trend and general views, as a result of which teachers are possible to make some reservations when filling in the questionnaire because of self-defense psychology or social desirability. Also, it is made less likely to obtain the details and learn about the depth of the current situation. Therefore, for the true significance behind the questionnaire as well as the contradictions and conflicts to be clarified, it remains necessary to conduct further research by using qualitative methods in order to make the research more complete.

In this sense, in the future, in addition to quantitative research, researchers are recommended to take other research methods, such as in-depth interviews, case studies and long-term observation, to gain deeper understanding, for further investigation into the significant differences in teachers' perception, which will be beneficial to gather more supporting data to minimize the existence of measurement errors. Moreover, it is made possible to gain better understanding of the causes and psychological process for the participants to provide answers. In conclusion, qualitative method can be deemed matching with quantitative method to make the research complete.

References:

- Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology, 67*(5), 422-436.
- Akdemir, O. A. & Ayik, A. (2017). The impact of distributed leadership behaviors of school principals on the organizational commitment of teachers. *Universal Journal of Educational Research, 5*(12B), 18-26.
- Akdemir, O. A. (2019). The effect of teacher burnout on organizational commitment in Turkish context. *Journal of Education and Training Studies, 7*(4), 171-179.
- Aksoy, C., Sengun, Y. H., & Yilmaz, Y. (2018). Examination of the relationship between job satisfaction levels and organizational commitments of tourism sector employees: A research in the southeastern anayolia region of Turkey. *Elektronik Sosyal Bilimler Dergisi, 17*(65), 356-365. Doi: 10.17755 /esosder.343032
- Alam, S., Bahmaei, S., Monazami, M., & Alam, Z. (2013). The relationship between organizational commitment and job burnout among high schools physical education teachers. *Life Science Journal Acta Zhengzhou University Overseas Edition, 10*(1), 1268-1273.
- Alamri, M. S. & Duham, T. I. (2017). Employees perception of training and its relationship with organizational commitment among the employees working at Saudi industrial development fund. *International Journal of Business Administration, 8*(2), 25-39.
- Ali, U. & Waqar, S. (2013). Teachers' organizational citizenship behavior working under different leadership styles. *Pakistan Journal of Psychological Research, 28*(2), 297-316.
- Allen, N. J. & Meyer, J. P. (1990). The measurement and antecedents of affective continuance and normative commitment to the organization. *Journal of Occupational Psychology, 63*(1), 1-18.

- Alotaibi, A.G. (2001). Antecedents of organizational citizenship behavior: A study of public personnel in Kuwait, *Public Personnel Management*, 30(3), 363-377.
- Ameijde, J. D. J., Nelson, P. C., Billsberry, J., & Meurs, N. (2009). Improving leadership in higher education institutions: A distributed perspective. *Higher Education*, 58(6), 763-779.
- Ameijde, J. D. J., Nelson, P. C., Billsberry, J., & van Meurs, N. (2009). Improving leadership in higher education institutions: A distributed perspective. *Higher Education*, 58(6), 763-779.
- Ardani, D. S. (2017). Influence of organizational culture, team conductivity, personality, and trust to the outlet leading organization commitment. *International Journal of Human Capital Management*, 1(2), 10-18. Doi: 10.21009/IJHCM.012.02
- Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behavior*, 23(3), 267-285. Doi: 10.1002/job.138
- Ashkanasy, N. M. (2011). International happiness: A multilevel perspective. *Academy of Management Perspectives*, 25(1), 23-29. doi: 10.5465/AMP.2011.59198446
- Aydin, A., Sarier, Y., & Uysal, S. (2013). The effect of school principals' leadership styles on teachers' organizational commitment and job satisfaction. *Educational Sciences: Theory and Practice*, 13(2), 806-811.
- Baker, T. L., Hunt, T. G., & Andrews, M. C. (2006). Promoting ethical behavior and organizational citizenship behaviors: The influence of corporate ethical values. *Journal of Business Research*. 59(7), 849-857. <https://doi.org/10.1016/j.jbusres.2006.02.004>.
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical

- considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Barry, D. (1991). Managing the bossless team: Lessons in distributed leadership. *Organizational Dynamics*, 20(1), 31-47.
- Barsky, A. & Kaplan, S. (2007). If you feel bad, It's unfair: A quantitative synthesis of affect and organizational justice perceptions. *Journal of Applied Psychology*, 92(1), 286-295.
- Bateman, T. S. & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee citizenship. *Academy of Management Journal*, 26(4), 587-595.
- Bennett, N., Wise, C., Woods, P., & Harvey, J. (2003). *Distributed leadership: Summary report*. Nottingham, UK: National College for School Leadership.
- Bernard, C. I. (1938). *The functions of the executive*. Cambridge, MA: Harvard University Press.
- Beycioglu, K., Ozer, N., & Ugurlu, C. T. (2012). Distributed leadership and organizational trust: the case of elementary schools. *Procedia Social and Behavioral Sciences*, 46(5), 3316-3319.
- Bies, R. J. & Moag, J. S. (1986). Interactional justice: communication criteria of justice. *Research on Negotiation in Organizations*, 3(1), 43-55.
- Bobocel, D. R. (2013). Coping with unfair events constructively or destructively: the effects of overall justice and self other orientation. *Journal of Applied Psychology*, 98(5), 720-731.
- Bogler, R. & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and Teacher Education*, 20(3), 277-289.
- Chang, I. H. & Yen, H. C. (2012). Exploring the dimensions of school distributed leadership: verification of the triarchic theory of interaction among the leaders,

- followers, and situation, *Journal of Education Practice and Research*, 25(2), 225-254.
- Chen, H. Y. (2007). The study on the relationship of principals' leadership behavior, organizational justice and teachers' organizational citizenship behavior-The example of the four public elementary schools in the south county. *Unpublished master dissertation*. Institute of educational management, National Tainan University, Tainan.
- Chen, J. Z. & Zhong, Q. R. (2014). The development and application of contemporary distributed leadership in the field of education leadership, *Journal of Educational Research and Development*, 10(3), 1-24.
- Chen, L. & Liu, W. J. (2018). Distributed leadership in western higher education: Connotation, implementation and effect. *Tsinghua Journal of Education*. 39(6), 117-128.
- Cheng, J. N. (2004). The influential model of teachers' "Organizational citizenship behavior" in elementary and junior high schools. *Journal of Taiwan Normal University: Education*, 49(1), 41-62.
- Cheng, Y. L. & Zhang, W. P. (2017). Performance and Influencing factors of distributed leadership of junior middle school principals from the international perspectives : An empirical analysis based on TALIS 2013. *Forum on Contemporary Education*, 282(6), 48-60.
- Cheng, Y. T., Hsu, W. H., & Chiu, H. Y. (2015). Commitment and organizational climate on job satisfaction. *Chaoyang Journal of Humanities and Social Sciences*, 13(2), 97-116.
- Chhetri, P. (2014). The role of cognitive and affective trust in the relationship between organizational justice and organizational citizenship behavior: a conceptual framework. *Business: Theory and Practice*, 15(2), 170-178.
- Chin, J. M. C. (2011). *Educational Administration Theory and Model*, Taipei, wunan.
- Chin, M. C. (2013). *Theory and application of educational leadership*, Taipei, wunan.

- Cho, J. & Dansereau, F. (2010). Are transformational leaders fair? A multi-level study of transformational leadership, justice perceptions, and organizational citizenship behaviors. *The Leadership Quarterly*, 21(3), 409-421. Doi: 10.1016/j.leaqua.2010.03.006
- Chou, T. Y., Chou, S. T., Jiang, J. J., & Klein, G. (2013). The organizational citizenship behavior of is personnel: Does organizational justice matter? *Information and Management*, 50(2), 105-111. Doi: 10.1016/j.im.2013.02.002
- Clift, R. T. & Thurston, P. W. (eds.) (1995). *Distributed leadership: School improvement through collaboration*. CT: JAI Press, Inc.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cole, M. S. & Bruch, H. (2006). Organizational identity strength, identification, and commitment and their relationships to turn over intention: Does organizational hierarchy? *Journal of Organization Behavior*, 27(5), 585-605.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386-400.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. & Ng, K. Y. (2001). Justice at the millennium: a meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 424-445. Doi: 10.1037 //0021-9010.86.3.425
- Copland, M. A. (2003). Leadership of inquiry: building and sustaining capacity for school improvement. *Education Evaluation and Policy Analysis*, 25(4), 375-395.
- Corrigan, J. (2012). Distributed Leadership: Rhetoric or Reality? *Journal of Higher Education Policy and Management*, 35(1), 66–71. Doi.org/10.1080/ 1360080X.2013.748479
- Dampson, D. F., Havor, F. M., & Laryea, P. (2018). Distributed leadership an instrument for school improvement: The study of public senior high schools in

- Ghana. *Journal of Education and Learning Research*, 5(2). 79-85. Doi:10.20448/journal.509.2018.52.79.85
- DiPaola, M. F. & Hoy, W. K. (2005). Organizational citizenship of faculty and achievement of high school students. *The High School Journal*, 88(3), 35- 44.
- DiPaola, M. F. & Tschannen, M. (2001). Organizational citizenship behavior in schools and its relationship to school climate. *Journal of School Leadership*, 11(5), 424-447. doi: 10.1177/1741143213497635
- Dyne, L., Graham, J. G., & Dienesch, R. M. (1994). Organizational citizenship behavior: Construct redefinition, measurement, and validation. *Academy of Management Journal*, 37(5), 765-802.
- Eberlin, R. J. & Tatum, B. C. (2008). Making just decisions: organizational justice, decision making, and leadership. *Management Decision*, 46(2), 310-329. Doi: 10.1108/00251740810854177
- Elamin, A. M. & Tlaiss, H. A. (2015). Exploring the relationship between organizational citizenship behavior and organizational justice in the Islamic Saudi Arabian context. *Employee Relations*, 37(1), 2-29.
- Elmore, R. (2000). *Building a new structure for school leadership*. Washington, DC: Albert Shanker Institute.
- Fako, T. T., Nkhukhu, O. E., Wilson, D. R., Forcheh, N., & Linn, J. G. (2018). Factors associated with organizational commitment of academic employees in Botswana. *International Journal of Educational Administration and Policy Studies*, 10(6), 56-64. Doi: 10.5897/IJEAPS2017.0563
- Fard, P. G., & Karimi, F. (2015). The relationship between organizational trust and organizational silence with job satisfaction and organizational commitment of the employees of university. *International Education Studies*, 8(11), 219-227.
- Farh, J. L., Earley, P. C., & Lin, S. C. (1997). Impetus for action: acultural analysis of justice and organizational citizenship behavior in Chinese society. *Administrative Science Quarterly*, 42(3), 421-444.

- Fischer, R. (2008). Rewarding seniority: Exploring cultural and organizational predictors of seniority allocations. *The Journal of Social Psychology, 148*(2), 167-186.
- Folger, R. & Cropanzano, R. (1998). *Organizational justice and human resource management*. Thousand Oaks, CA: SAGE Publication Inc.
- Folger, R. & Greenberg, J. (1985). Procedural justice: an interpretive analysis of personnel systems, *Research in Personnel and Human Resources Management, 1*(1), 141-183.
- Fun, C. W. (2005). A study of the relationship between principal's transformational leadership and teacher's organizational commitment in elementary schools, *Journal of National Taichung University, 19*(2), 1-22.
- Gordon, Z. V. (2005). The effect of distributed leadership on student achievement. *Unpublished doctoral dissertation*. Central Connecticut State University, New Britain, CT.
- Graham, J. W. (1991). Servant leadership in organizations: Inspirational and moral. *Leadership Quarterly, 5*(2), 105-119.
- Graham, J. W. (1995). Leadership, moral development, and citizenship behavior. *Business Ethics Quarterly, 5*(1), 43-54.
- Greenberg, J. (1987). A taxonomy of organizational justice theories. *Academy of Management Review, 12*(1), 9-22.
- Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management, 16*(2), 399-432. Doi: 10.1177/014920639001600208
- Greenberg, J. (2004). Stress justice to fare no stress: Managing workplace stress by promoting organizational justice. *Organizational Dynamics, 33*(4), 352-365. doi: 10.1016/j.orgdyn.2004.09.003
- Gronn, P. (2000). Distributed properties: A new architect for leadership. *Educational Management and Administration, 28*(3), 317-338.

- Gronn, P. (2002). Distributed leadership as a unit of analysis. *The Leadership Quarterly*, 13(4), 423-451.
- Gronn, P. (2003). *The New Work of educational leaders: Changing leadership practice in an era of school reform*. London: Paul Chapman Publishing.
- Gronn, P. (2009). Leadership Configurations, *Leadership*, 5(3), 381-394. Doi.org/10.1177/1742715009337770
- Grusky, O. (1966). Career mobility and organizational commitment. *Administrative Science Quarterly*, 10(4), 488-503. Doi: 10.2307/2391572
- Guh, W. Y., Lin, S. P., Fan, C. J., & Yang, C. F. (2013). Effects of organizational justice on organizational citizenship behaviors: mediating effects of institutional trust and affective commitment. *Psychological Reports: Human Resources & Marketing*, 112(3), 818-834.
- Gupta, V. & Singh, S. (2013). An empirical study of the dimensionality of organizational justice and its relationship with organizational citizenship behaviour in the Indian context. *International Journal of Human Resource Management*, 24(6), 1277-1299.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate data analysis(7th Ed.)*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Harris, A. (2008). *Distributed school leadership: Developing tomorrow's leaders*. London: Routledge.
- Harris, A. (2009). *Distributed leadership: Different perspectives*. Dordrecht, Netherlands: Springer.
- Harris, A. (2013). Distributed leadership: Friend or foe? *Educational Management Administration and Leadership*, 41(5), 545-554.
- Harris, A., & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education*, 22(1), 31-34.

- Hasani, K., Branch, S., & Boroujerdi, S. (2013). The effect of organizational citizenship behavior on organizational commitment. *Glob Bus Perspect*, 5(1), 452-470.
- Hassan, I. (2014). Organizational justice and citizenship behavior, the mediating role of trust. *International Journal of Human Resource Studies*, 5(1), 86-96.
- Hay, G. (2004). *The five pillars of distributed leadership in schools*. Nottingham, UK: NCSL.
- Hietapakka, L., Elovainio, M., & Heponiemi, T. (2013). Do nurses who work in a fair organization sleep and perform better and why testing Potential psychosocial mediators of organizational justice. *Journal of Occupational Health Psychology*, 18(4), 481-491.
- Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6), 597-606.
- Hosmer, L. T. & Kiewitz, C. (2005). Organizational justice: A behavioral science concept with critical implications for business ethics and stakeholder theory. *Business Ethics Quarterly*, 15(1), 67-91.
- Hoy, W. K. & Tarter, C. J. (1997). *The road to open and healthy school: A handbook for change*, Elementary Edition. Thousand Oaks, CA: Corwin Press.
- Hrebiniak, L. G. & Alutto, J. A. (1972). Personal and rolerelete factors of the development of organizational commitment, *Administrative Sciences Quarterly*, 17(5), 555-573.
- Hsieh, C. C., Lai, H. C., & Hsu, H. C. (2016). A Study on the relationships among principals' distributed leadership, teachers' organizational commitment and the use of information communication technology in elementary schools, *Forum of Educational Administration*, 8(2), 1-23.
- Hsieh, F. Y. & Lai, C. F. (2012). The Study on the relationships among principals' servant leadership, teachers' organizational citizenship behavior and teachers'

- teaching effectiveness in junior high schools. *School Administration*, 82, 47-69.
Doi: 10.6423/hhhc.201211.0047
- Hsieh, P. Y. (2014). The influence of elementary school teachers' perceived organizational justice on loyalty to principal: Emotional expression as a mediator. *School Administrators*, 90(3), 26-63. Doi.10.3966/160683002014030090002
- Hsieh, W. Q. (2005). *Educational Administration*, Taipei, Higher educational press.
- Hsu, L. C. (2016). A Study on the relationship among principals' transformational leadership, organizational commitment and teaching efficacy of preschool. *Unpublished doctoral dissertation*. Department of Education National Chiayi University Doctoral Dissertation, Chiayi.
- Hsu, S. W., Chang, H. H., Hsu, C. C., & Wei, H. Y. (2016). Does knowledge sharing matter? Study of organizational support moderating effect on organizational trust, employees' citizenship behavior, and knowledge sharing. *Journal of Human Resource Management*, 16(3), 29-59.
- Hsu, T. H. (2014). The relationship among the principals' distributed leadership, school organizational justice and teachers' organizational citizenship behavior in the elementary school. *Unpublished doctoral dissertation*. School of education, National Chengchi University, Taipei.
- Huang Y. L. & Ding, F. (2007). An empirical study of the relationship of the personality traits and organizational commitment with turnover intention. *Chinese Journal of Management*. 4(3), 358-362.
- Huang, T. H (2010). The new research horizon in school leadership: Leaders' aesthetic practice. *Bulletin of Educational Research*, 56(3), 1-28.
- Huang, Y. Z. (2012). A study of relationships among distributed leadership, teacher's organizational commitment and school innovation management effectiveness in elementary schools. *Unpublished doctoral dissertation*. National Chengchi University.

- Hulpia, H. & Devos, G. (2010). How distributed leadership can make a difference in teachers' organizational commitment? A qualitative study. *Teaching and Teacher Education, 26*(3), 565-575. Doi:10.1016/j.tate.2009.08.006
- Hulpia, H., Devos, G., & Rossel, Y. (2009). The influence of distributed leadership on teachers' organizational commitment: a multilevel approach. *The Journal of Educational Research, 103*(1), 1-34.
- Hystad, S.W., Mearns, K. J., & Eid, J. (2014). Moral disengagement as a mechanism between perceptions of organizational injustice and deviant work behaviors. *Safety Science, 68*(2), 138-145.
- Ishimaru, A. (2013). From heroes to organizers: Principals and education organizing in urban school reform. *Educational Administration Quarterly, 49*(1), 3-51.
- Jameson, J. (2006). *Leadership in post compulsory education: Inspiring leaders of the future*. London: David Fulton.
- Jia, M. N., Zhong, Z., Wang, Q., & Cai, T. S. (2012). Study on the relationship between working stress, organizational justice and job burnout of vocational college teachers. *China Journal of Health Psychology, 20*(5), 690-692.
- Jiang, J. Y. & Law, K. S. (2013). Two parallel mechanisms of the relationship between justice perceptions and employees' citizenship behavior: A comparison of the organizational identification and social exchange perspective. *European Journal of Work and Organizational Psychology, 22*(4), 423-435.
- Jimmieson, N L., Hannam, R. L., & Yeo, G. B. (2010). Teacher organizational citizenship behaviors and job efficacy: Implications for student quality of school life. *British Journal of Psychology, 101*(3), 453-479.
- Jordan, S. J., Gillentine, J. A., & Hunt, B. P. H. (2004). The influence of justice: The application of organizational justice in a team sport setting. *International Sports Journal, 8*(1), 139-153.
- Ju, G. Y. (2010). Study on the transformation of form structure of higher education. *Journal of National Academy of Education Administration, 7*(5), 43-47.

- Kanter, R. M. (1968). Commitment and social organization. *American Sociological Review*, 33(5), 499-517.
- Kao, C. P. & Su, L. H. (2013). A meta-analysis of the studies on elementary and secondary teachers' organizational citizenship behaviors, *Journal of Educational Theory and Practice*, 27(3), 73-107.
- Karim, J. (2009). Justice-turnover relationship: Commitment as a mediator. *The Icfai University Journal of Organizational Behavior*, 8(1), 7-27.
- Katz, D. & Kahn, R. L. (1966). *The social psychology of organizations*. New York: Wiley.
- Kaya, A. (2015). The relationship between spiritual leadership and organizational citizenship behaviors: A research on school principals' behaviors. *Educational Sciences: Theory & Practice*, 15(3), 597-606.
- Ke, L. F., Huang, Y. Z., & Yao, J. M. (2009). The relationship between organizational citizenship behavior, organizational commitment, and organizational justice: An empirical study on service corporations' employees. *Soft Science*, 21(5), 17-21.
- Kiesler, C. A. (1971). *The psychology of commitment: Experiments linking behavior to belief*. New York: Academic Press.
- Kılınç, A. Ç. (2014). A quantitative study of the relationship between distributed leadership and organizational citizenship behavior: perceptions of Turkish primary school teachers. *Journal of Curriculum and Teaching*, 3(2), 69-78.
- Kim, W. C. & Mauborgne, R. A. (1993). Procedural justice, attitudes, and subsidiary top management compliance with multinationals' corporate strategic decisions. *Academy of Management Journal*, 36(3), 502-526.
- Kline, R. B. (1998). *Principles and practices of structure equation modeling*. New York, NY: Guilford.
- Knippenberg, D. & Sleebos, E. (2006). Organizational identification versus organizational commitment: Self-definition, social exchange, and job attitudes. *Journal of Organizational Behavior*, 27(5), 571-584.

- Konovsky, M. A. & Pugh, S. D. (1994). Citizenship behavior and social exchange, *Academy of Management Journal*, 37(3), 656-669.
- Konovsky, M. A. (2000). Understanding procedural justice and its impact on business organizations. *Journal of Management*, 26(3), 489-511.
- Konovsky, M. A., Folger, R., & Cropanzano, R. (1987). Relative effects of procedural and distributive justice on employee attitudes. *Representative Research Social Psychology*, 17(1), 15-24.
- Kumar, K. (2009). Organizational justice perceptions as predictor of job satisfaction and organizational commitment. *The UP Journal of Management Research*, 26(10), 25-37.
- Kumar, K., Bakhshi, A., & Rani, E. (2009). Organizational justice perceptions as predictor of job satisfaction and organizational commitment. *The IUP Journal of Management Research*, 8(10), 24-37.
- Lai, C. F. & Chin, M. C. (2014). Successful principal leadership of elementary and junior high schools in Taiwan: Dimensions and validation, *Journal of Educational Research in National University of Tainan*, 48(2), 1-26.
- Lai, C. F. (2008). The study on the theories of distributed leadership: the interaction among school leaders, followers, and situations. *Journal of Research on Elementary Education*, 20, 87-113.
- Lai, C. F. (2009). The validation of an assessment instrument of distributed leadership style in secondary and elementary schools, *Journal of Elementary Education*, 34, 5-52.
- Lai, C. F. (2011). Toward an excellent school: A case study of the art of successful principal leadership. *Bimonthly of Educational Materials and Research*, 101(8), 1-30.
- Lambert, E. G., Hogan, N. L., & Griffin, M. L. (2007). The impact of distributive and procedural justice on correctional staff job stress, job satisfaction, and organizational commitment. *Journal of Criminal Justice*, 35(6), 644-656.

- Lambert, E. G., Hogan, N. L., & Griffin, M. L. (2007). The impact of distributive and procedural justice on correctional staff job stress, job satisfaction, and organizational commitment. *Journal of Criminal Justice*, 35(6), 644-656.
- Lapalme, M., Simard, G., & Tremblay, M. (2011). The influence of psychological contract breach on temporary workers' commitment and behavior: A multiple agency perspective. *Journal of Business and Psychology*, 26(3), 311-324.
- Lee, H. H. & Yang, C. Y. (2009). A study on the present situations and differences of the teachers' job stresses and organizational commitment for elementary and junior high schools in Kinmen county. *Forum of Educational Administration*, 1(2), 1-23.
- Lee, H. M. & Jeng, B. J. (2014). A preliminary study on the relationship between distributed leadership and preschool teachers' organizational commitment. *Hua Yi Journal of the Social Sciences and the Humanities*, 29, 35-59.
- Leithwood, K., Jantzi, D. & Steinbach, R. (1999). *Changing leadership for changing times*. Open university press, USA. Philadelphia.
- Leithwood, K., Mascal, B., & Strauss, T. (2009). *Distributed leadership according to the evidence*. New York, NY: Academic Press.
- Leithwood, K., Mascal, B., Strauss, T., Sacks, R., Memon, N., & Yashkina, A. (2007). Distributing leadership to make schools smarter: Taking the ego out of the system. *Leadership and Policy in Schools*, 6(1), 37-67.
- Lin, C. C. (2004). The relationships among organizational justice, organizational trust and organizational citizenship behaviors based on the perspective of social exchange theory, *Chung Hua Journal of Management*, 5(1), 91-112.
- Lin, S. C., Farh, L. J., Wu, J. J., & Seetoo, D. H. (1994). The effects of distributive and procedural justice on organizational commitment and organizational citizenship behavior, *Management Review*, 13(2), 87-107.
- Ling, W. Q., Zhang Z. C., & Fang L. L. (2001). A study of the organizational commitment of Chinese employees. *Social Sciences in China*. 242(2), 90-102.

- Liu, M. F. (2015). A Study on the relationships among elementary school directors' personality, organization commitment, organizational citizenship behaviors and their job performance. *Unpublished doctoral dissertation*, Department of Education National Chiayi University Doctoral Dissertation.
- Liu, Y. T. & Chen, S. J. (2017). The connotation and practical path of distributed school leadership. *Global Educaiton*, 46(1), 109-115.
- Liu, Y., Long, L. R., & Li, Y. (2003). The influence of organizational justice on organizational effect variables. *Management World*, 17(3), 126-132, 36.
- Long, J. W. & Cao, K. Y.(2006). Teachers' organizational citizenship behavior: Its structure and influence factors, *Psychological Development and Education*, 23(1), 87-92.
- Lu, C. C. & Wu, D. G.(2007). Review and outlook of Non-government higher education in China, *Research in Education Development*, 3B, 1-9.
- Luo, J. H. & Liu, X. (2017). Theoretical, Applicatory and methodological dilemmas in the development of distributed leadership, *International and Comparative Education*, 324(1), 91-98.
- Luo, J. H. & Gan, L. J. (2016). The new progresses of distributed leadership research in educationin western countries. *International and Comparative Education*. 316(5), 99-105.
- Lv, F. X. & Gu, S. S. (2007). Correlational analysis of psychological ownership and organizational citizenship behavior, *Management World*, 164(5), 94~103.
- MacBeath, J., Oduro, G., & Waterhouse, J. (2004). *Distributed leadership*. Nottingham, UK: National College of School Leadership.
- MacCallum, R. C., Michael, W. B., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2), 130-149.

- Marzucco, L., Marique, G., & Stinglhamber, F. (2014). Justice and employee attitudes during organizational change: The mediating role of overall justice. *European Review of Applied Psychology, 64*(6), 289-298.
- Maxham, J. G. & Netemeyer, R. G. (2003). Firms reap what they sow: The effects of shared values and perceived organizational justice on perceived organizational justice on customers' evaluations of complaint handling. *Journal of Marketing, 67*(5), 48-62.
- Meyer, J. P. & Allen, N. J. (1984). Testing the "side-bet" theory of organizational commitment: Some methodological considerations. *Journal of Applied Psychology, 69*(3), 372~378.
- Meyer, J. P. & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 6*(1), 61~89.
- Meyer, J. P., Allen N J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conception. *Journal of Applied Psychology, 78*(4), 538~551.
- Miao, Q., Newman, A., & Huang, X. (2014). The impact of participative leadership on job performance and organizational citizenship behavior: Distinguishing between the mediating effects of affective and cognitive trust. *International Journal of Human Resource Management, 25*(20), 2796-2810.
- Ministry of education of the People's Republic of China. (2018) Statistical Bulletin of National Education Development in 2017. http://www.moe.gov.cn/jyb_sjzl/sjzl_fztjgb/201807/t20180719_343508.html
- Mirza, M. & Redzuan, M. (2012). The relationship between teacher's organizational trust and organizational commitment in primary schools. *Life Science Journal Acta Zhengzhou University Overseas Edition, 9*(3), 1372-1376.
- Moorman, R. H. & Blakely, G., L. (1995). Individualism-Collectivism as an individual difference predictor of organizational citizenship behavior, *Journal of Organizational Behavior, 16*(2), 127-142.

- Moorman, R. H. (1991). Relationship between organizational justice and organizational citizenship behaviors: Do justice perceptions influence employee citizenship. *Journal of Applied Psychology, 76*(6), 845.
- Moorman, R. H., Niehoff, B.P., & Organ, D. W. (1993). Treating employees fairly and organizational citizenship behavior: Sorting the effects of job satisfaction, organizational commitment, and procedural justice, *Employee Responsibilities and Rights Journal, 6*(2), 209-225.
- Morrow, P. C. (1983). Concept redundancy in organizational research: The case of work commitment. *Academy of Management Review, 8*(3), 486-500.
- Mowday, R. T., Porter, L. W., & Steers, R. M. (1982). *Employee organization link age the psychology of commitment absenteeism and turnover*, New York: Academic Press.
- Murat, O. & Ebru, D. (2015). Distributed leadership and contract relations: Evidence from Turkish high schools. *Educational Management Administration & Leadership, 43*(6), 918-938. Doi.org/10.1177/17411 43214543207
- Nayir, F. (2012). The relationship between perceived organizational support and teachers' organizational commitment. *Egitim Arastirmalari-Eurasian Journal of Educational Research, 12*(48), 97-116.
- Netemeyer, R. G., Boles, J. S., McKee, D. O., & McMurrian, R. (1997). An investigation into the antecedents of organizational citizenship behaviors in a personal selling context. *Research Article. 61*(3), 85-98.
- Ngodo, O. E. (2008) Procedural justice and trust: The link in the transformational leadership organizational outcomes relationship. *International Journal of Leadership Studies, 4*(1), 82-100.
- Niehoff, B. P. & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behaviors. *Academy of Management Journal, 36*(3), 527-556.

- Ohly, S. & Fritz, C. W. (2010). Work characteristics, challenge appraisal, creativity, and proactive behavior: A multi-level study. *Journal of Organizational Behavior*, 31(4), 543-565.
- Onukwugha, P. I. (2013). Distributed leadership in schools, teacher practices and student learning. *Unpublished doctoral dissertation*, Grand Canyon University, Phoenix, Arizona.
- Oplatka, I. (2006). Going beyond role expectations: Toward an understanding of the determinants and components of teacher organizational citizenship behavior, *Educational Administration Quarterly*, 42(3), 406.
- Oplatka, I. (2009). Organizational citizenship behavior in teaching: The consequences for teachers, pupils, and the school. *International Journal of Educational Management*, 23(5), 375-389.
- Organ, D. W. (1988). *Organizational citizenship behavior: the good soldier syndrome*. MA : Lexington Books.
- Organ, D. W. & Ryan, K. (1995). A meta analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology*, 48(4), 775-802.
- Organ, D. W. & Konovsky, M. (1989). Cognitive versus affective determinants of organizational citizenship behavior. *Journal of Applied Psychology*, 74(1), 157-164.
- Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. Thousand Oaks, CA: SAGE Publications.
- Parry, K. (2000). Does leadership help the bottom line? *New Zealand Management*, 47(3), 38-41.
- Podsakoff, P. M. & MacKenzie, S. B. (1997). Impact of organizational citizenship behavior on organizational performance: A review and suggestions for future research. *Human Performance*, 10(2), 131-151.

- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly*, 1(2), 107-142.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26(3), 513-563.
- Porter, L. W., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603-609. Doi: 10.1037/h0037335
- Preacher, K. J. & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36 (4), 717-731.
- Qiu, Z. H. (2010). Quantitative research and statistical analysis: SPSS (PASW) data analysis. Taipei: Wu. nan.
- Rabindarang, S., Bing, K. W., & Yin, K. Y. (2014). The influence of distributed leadership on job stress in technical and vocational education. *International Journal of Academic Research in Business and Social Sciences*, 4(1), 490-499.
- Randall, D. M. (1987). Commitment and the organization: The organization man revisited. *Academy of Management Review*, 12(3), 460-471. Doi: 10.5465/amr.1987.4306561
- Reyes, P. (1990). *Teachers and their workplace: Commitment, performance and productivity*. Newbury Park, CA: Sage Publications.
- Ritchie, R. & Woods, P. A. (2007). Degrees of distribution: Towards an understanding of variations in the nature of distributed leadership in schools. *Journal of School Leadership and Management*, 27(4), 363-381.

- Robbins, S. P. & Judge, T. A. (2012). *Organizational behavior (15th Ed.)*. Edinburgh Gate, Harlow, England: Pearson Education Limited.
- Robbins, S. P. (2005). *Organizational behavior (11 Ed.)*. New Jersey: Pearson Prentice Hall.
- Robbins, T. L., Summers, T. P., & Miller, J. L. (2000). Intra- and inter-justice relationships: Assessing the direction. *Human Relations*, 53(10), 1329-1355.
- Robinson, S. L. & Morrison, E. W. (1995). Psychological contracts and organizational citizenship behavior: The effect of unfulfilled obligations on civic virtue behavior. *Journal of Organizational Behavior*, 16(3), 289-298.
- Robinson, V. M. J. (2008). Forging the links between distributed leadership and educational outcomes. *Journal of Educational Administration*, 46(2), 241-256.
- Rowland, C. A. & Hall, R. D. (2012). Organizational justice and performance: is appraisal fair? *Euro Med Journal of Business*, 7(3), 280-293.
- Sarikaya, N. & Erdogan, Ç. (2016). Relationship between the instructional leadership behaviors of high school principals and teachers' organizational commitment. *Journal of Education and Practice*, 7(3), 72-82.
- Schminke, M., Cropanzano, R., & Rupp, D. E. (2002). Organization structure and justice perceptions: The moderating effects of organization level. *Organizational Behavior and Human Decision Processes*, 89(5), 881-905.
- Schnake, M., Cochran, D. M., & Dumler, M. (1995). Encouraging organizational citizenship: The effects of job satisfaction, perceived equity and leadership. *Journal of Managerial Issues*. 7(2), 209-222.
- Scribner, J. P., Sawyer, R. K., Watson, S. T., & Myers, V. L. (2007). Teacher teams and distributed leadership: A study of group discourse and collaboration. *Educational Administration Quarterly*, 43(1), 67-100. Doi: 10. 1177/0013161X06293631

- Shandong Provincial Department of Education (2019). *Statistical Bulletin of the Development of Education in Shandong Province in 2018*. [http:// edu. shandong. gov.cn/art/2018/11/10/art_12182_2106103.html](http://edu.shandong.gov.cn/art/2018/11/10/art_12182_2106103.html)
- Sharoni, G., Tziner, A., Fein, E. C., Shultz, T., Shaul, K., & Zilberman, L. (2012). Organizational citizenship behavior and turnover intentions: Do organizational culture and justice moderate their relationship? *Journal of Applied Social Psychology, 42*(S1), 267-294. Doi: 10.1111/j.1559-1816.2012.01015.x
- Skarlicki, D. P. & Latham, G. P. (1996). Increasing citizenship behavior within a labor union: A test of organizational justice theory, *Journal of Applied Psychology, 8*(2), 161-169.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*(4), 653-663.
- Smylie, M. A., Mayrowetz, D., Murphy, J., & Louis, K. S. (2007). Trust and the development of distributed leadership. *Journal of School Leadership, 17*(4), 469-503.
- Somech, A. & Drach, Z. (2000). Understanding extra-role behavior in schools: the relationships between job satisfaction, sense of efficacy, and teachers' extra-role behavior. *Teaching and Teacher Education, 16*(5-6), 649-659.
- Somech, A. & Ron, I. (2007). Promoting organizational citizenship behavior in schools: The impact of individual and organizational characteristics. *Educational Administration Quarterly, 43*(1), 38-66. Doi: 10.1177/0013161X06291254
- Somech, A., & Bogler, R. (2002). Antecedents and consequences of teacher organizational and professional commitment. *Educational Administration Quarterly, 38*(4), 555-577. Doi: 10.1177/001316102237672
- Spillane, J. (2006). *Distributed leadership*. San Francisco, CA: Jossey-Bass.
- Spillane, J. P. & Diamond, J. B. (2007). *Distributed leadership in practice*. New York: Teachers College Press.

- Spillane, J. P. & Healey, K. (2010). Conceptualizing school leadership and management from a distributed perspective. *The Elementary School Journal*, *111*(2), 253-281.
- Spillane, J. P. (2003). Educational leadership Special issue. *Educational Evaluation and Policy Analysis*, *25*(4).
- Spillane, J. P., Halverson, R., & Diamond, J. B. (2001). Investigating school leadership practice: A distributed perspective. *Educational Researcher*, *30*(3), 23-28.
- Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, *36*(1), 3-34.
- Staw, B. M. (1977). Commitment to a policy decision: A multitheoretical perspective. *Administrative Science Quarterly*, *23*(5), 40-64.
- Steers, R. M. (1977). Antecedents and outcomes of organizational commitment. *Administrative Science Quarterly*, *22*(1), 46-56.
- Stevens, J. M., Beyer, J. M., & Trice, H. M. (1978). Assessing personal, role, and organizational predictors of managerial commitment. *Academy of Management Journal*, *21*(3), 380-396.
- Stronge, J. H. (2013). Principal evaluation from the ground up. *Educational Leadership*, *70*(7), 60-65.
- Sulu, S., Ceylan, A., & Kaynak, R. (2010). Work alienation as a mediator of the relationship between organizational injustice and organizational commitment: Implications for healthcare professionals. *International Journal of Business and Management*, *5*(8), 27-38.
- Sun, X. X., Zhu, F. W., & Song, H. Y. (2016). Perceived trust and project performance: the mediating effects of organizational commitment. *Management Review*, *26* (12), 155-165.

- Tayfur, O., Bayhan, K. P., & Metin, C. S. (2013). The mediating effects of emotional exhaustion cynicism and learned helplessness on organizational justice turnover intentions linkage. *International Journal of Stress Management*, 20(3), 193-221.
- Tepper, B. J. & Taylor, E. C. (2003). Relationships among supervisors' and subordinates' procedural justice perceptions and organizational citizenship behaviors. *Academy of Management Journal*, 46(1), 97-105.
- Tian, M. & Risku, M (2019). A distributed leadership perspective on the Finnish curriculum reform 2014. *Journal of Curriculum Studies*, 5(2), 229-244.
- Ting, S. C. (2016). The relationships among teachers' perceptions of school organizational justice, principal leadership, and organizational citizenship behavior: The comparison of different theoretic models. *Forum of Educational Administration*. 8(2), 95-122.
- Tomlinson, J. (2012). Exploration of transformational and distributed leadership. *Nursing Management*, 19(4), 30-34.
- Torres, D. G. (2018). Distributed leadership and teacher job satisfaction in Singapore. *Journal of Educational Administration*, 56(1), 127-142.
- Viswesvaran, C. & Deniz, O. S. (2002). Examining the construct of organizational justice: A meta-analytic evaluation of relations with work attitudes and behaviours. *Journal of Business Ethics*, 38(3), 193-203.
- Walumbwa, F. O., Hartnell, C. A., & Oke, A. (2010). Servant leadership, procedural justice climate, service climate, employee attitudes, and organizational citizenship behavior: A cross-level investigation. *Journal of Applied Psychology*, 95(3), 517-529. doi: 10.1037/a0018867
- Wang, G. (2011). The study on relationship between employees' sense of organizational justice and organizational citizenship behavior in private enterprises. *Energy Procedia*, (12)5, 2030-2034.

- Wang, L. (2008). An analysis on the relation between schools' organizational justice and teachers' organizational citizenship behaviors. *Chinese Journal of Clinical Psychology, 16*(4), 378-380.
- Wang, X. Y. & Liao, J. Q. (2009). The impact of organizational justice on work performance: the mediating effects of organizational commitment and leader member exchange. *Industrial Engineering and Management, 14*(2), 97-102.
- Wang, X. Y. (2009). An empirical study on the structure and reality of organizational justice in China. *Management Review, 21*(9), 39-47.
- Warren, A. W. & Michael, K. S. (2009). Organizational justice and job satisfaction in coaching. *Public Organize Review, 9*(5), 157-167.
- Wat, D. & Shaffer, M. A. (2005). Equity and relationship quality influences on organizational citizenship behavior: the mediating role of trust in the supervisor and empowerment. *Personnel Review, 34*(4), 406-422.
- Wiener, Y. (1982) Commitment in organizations: A normative view. *Academy of Management Review, 7*(3), 418-428. Doi: 10.5465/amr.1982.4285349
- Williams, L. J. & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*(3), 601-617.
- Williams, S., Pitre, R., & Zainuba, M. (2002). Justice and organizational citizenship behavior intentions: Fair rewards versus fair treatment, *The Journal of Social Psychology, 142*(1), 33-45.
- Wood, V. R. & Wilbarger, J. S. (2015). Globalization, cultural diversity and organizational commitment: Theoretical underpinnings. *World Journal of Management, 6*(2), 154-171.
- Wu, C. T., Tang, C. W., & Luo, Q. S. (2007). The verification of a structural equation model on psychological contract, organizational justice, organizational trust and organizational citizenship behavior: an example of the junior high school organizations. *Educational Policy Forum, 10*(1), 133-159.

- Wu, M. L. (2009). *Structural equation modeling: method and practical application*. Kaohsiung: Liwen Publishing Group.
- Xu, X. Q. (2006). Construction of the teaching staff: the foundation of sustainable development of private colleges and universities, *China Higher Education*, 4, 13-16.
- Yan, D. & Zhang, L. J. (2010). The influence of organizational justice on organizational citizenship behavior and organizational commitment, *Industrial Engineering and Management*, 15(3), 76-80, 104.
- Ye, B. J., Fu, H. H., Lei, X., You, Y. Y., & Chen, J. W. (2018). Organizational justice and separation tendency of rural preschool teachers: A moderated mediating model. *Chinese Journal of Clinical Psychology*, 26(5), 1030-1033.
- Yeh, C. W. (2007) . A Study on the relationship among principals' instructional leadership, teachers' organization commitment, and teachers' teaching effectiveness in public senior high schools in Taiwan. *Unpublished doctoral dissertation*. Department of Education, National Chengchi University, Taipei.
- Yen, K. L. & Ren, Y. T. (2013). Through organizational justice, organizational trust to enhance school effectiveness, *Journal of Education Research*, 232(8), 48-64.
- Yousef, D. A. (2017). Organizational commitment, job satisfaction and attitudes toward organizational change: A study in the local government. *International Journal of Public Administration*, 40(1), 77-88. Doi:10.1080/01900692.2015.1072217
- Yu, M. N. (2006). *Latent Variable Models: the Application of SMIMPLIS*. Taipei: High Education Press.
- Yukl, G. (2010). *Leadership in organizations (7th)*. Upper saddle River, New Jersey: Pearson.
- Zeinabadi, H. (2010). Job satisfaction and organizational commitment as antecedents of organizational citizenship behavior of teachers. *Procedia Social and Behavioral Sciences*, (12)5, 998-1003.

Zhang, X. L. (1995). *Information management scientific research method*. Sichuan University Press. Chengdu Sichuan.

Zhu, Y., Huang, L. J., & Zeng, C. C. (2014). Is distributed leadership a driving factor of proactive behavior? A test based on multiple mediating effect model. *Foreign Economics & Management*, 36(8), 38-51.



APPENDIX 1

PRE-TEST QUESTIONNAIRE

Questionnaire on Distributed Leadership, Organizational Justice, Organizational Commitment, and Organizational Citizenship Behavior between Presidents and Teachers in Private Colleges

Dear teacher,

The purpose of this questionnaire is to understand your perceptions about the present's leadership, organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior in your college. There is no right or wrong question in the questionnaire; the results of the questionnaire are only for academic analysis. They will not be compared with individual schools, and will not reveal your answers.

Thank you for your support of academic research and me. Please fill in the answers according to the actual situation. Please fill in the form and return it to the responsible person of your school. Thank you!

Dhurakij Pundit University

Advising professor: Dr. Huang yi-jian

Doctoral candidate Pingping Chi

April 5, 2019

I-1 Basic information

(1) Gender: 1. Male; 2. Female

(2) Age: 1. 30 years old or less; 2. 31-40 years old; 3. 41-50 years old; 4. 51 years old or above

(3) Education: 1. Vocational school; 2. Undergraduate; 3. Master's or above

(4) Length of Service: 1. 5 years or less; 2. 6-10 years; 3. 11-15 years; 4. 16 years or more

(5) Current Job Position: 1. Teacher; 2. Teacher-administrator; 3. Administrative staff

I-2 Presidents' Distributed Leadership Questionnaire

The following topics are related to the distributed leadership of the president, Please refer to your opinion on the implementation of distributed leadership and check the degree of compliance with each topic.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= Somewhat agree, 5= Strongly agree

No.	Item	1	2	3	4	5
1	The principal values the views of the school members					
2	The principal of the school has a good interaction with the school members.					
3	The principal of the school has confidence in the ability of the school members to work.					
4	The principal of the school trusts the professional performance of the school members					
5	The principal of the school encourages school members to work in teams					
6	The principal of the school will assign the appropriate person in charge to face different tasks.					
7	The principal of the school can listen to the opinions of the school members					
8	I enjoy challenges					
9	I have a high degree of motivation					
10	I see myself as a learner					
11	I agree with the school vision					
12	I am happy to participate and establish a common vision of the school.					
13	I feel that my talents, skills, and leadership potential are helpful to the school.					
14	I am willing to take responsibility and opportunity					

Continued						
No.	Item	1	2	3	4	5
15	I feel that I have a high degree of autonomy in school and can make extra efforts spontaneously.					
16	I will provide advice or assistance to the school on my major					
17	I will try my best when I attend various school activities.					
18	I feel that I'm taking responsibility and sharing responsibility					
19	I am happy to share and communicate with colleagues.					
20	I will accept the leadership of colleagues in informal positions in our school					
21	Our members feel that they can gain the trust and support of the principal and supervisor.					
22	Our members are responsible for all responsibilities and are not eager to clear					
23	The school supports colleagues to try and innovate without fear of making mistakes.					
24	The school has a smooth communication channel, and anyone can express suggestions and ideas.					
25	Our members can share knowledge, expertise and power					
26	Members of the school are brave enough to reflect on school affairs and provide advice					

Source: Chang & Yen (2012)

I-3 Organizational Justice Questionnaire

The following topics are related to the organizational justice; Please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	My work schedule is fair					
2	I think that my level of pay is fair					
3	I consider my work load to be quite fair					
4	Overall, the rewards I receive here are quite fair					
5	I feel that my job responsibilities are fair					
6	Job decisions are made by the general manager in an unbiased manner					
7	My general manager makes sure that all employee concerns are heard before job decisions are made					
8	To make job decisions, my general manager collects accurate and complete information					
9	My general manager clarifies decisions and provides additional information when requested by employees					
10	All job decisions are applied consistently across all affected employees					
11	Employees are allowed to challenge or appeal job decisions made by the general manager					
12	When decisions are made about my job, the general manager treats me with respect and dignity					
13	When decisions are made about my job, the general manager treats me with kindness and consideration.					
14	When decisions are made about my job, the general manager is sensitive to my personal needs					
15	When decisions are made about my job, the general manager deals with me in a truthful manner					

Continued						
No.	Item	1	2	3	4	5
16	When decisions are made about my job, the general manager shows concern for my rights as an employee					
17	Concerning decisions made about my job, the general manager discusses the implications of the decisions with me.					
18	The general manager offers adequate justification for decisions made about my job					
19	When making decisions about my job, the general manager offers explanations that make sense to me					
20	My general manager explains very clearly any decision made about my job.					

Source: Niehoff & Moorman (1993).

I-4 Organizational Commitment Questionnaire

The following topics are related to the organizational justice; Please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	I would be very happy to spend the rest of my career with this organization.					
2	I really feel as if this organization's problems are my own.					
3	I feel a strong sense of belonging to my organization.					
4	I feel emotionally attached to this organization					
5	I feel part of the family at my organization					
6	This organization has a great deal of personal meaning for me.					
7	Right now, staying with my organization is a matter of necessity as much as desire.					
8	It would be very hard for me to leave my organization right now, even if I wanted to					
9	Too much of my life would be disrupted if I decided to leave my organization now.					
10	I feel that I have too few options to consider leaving this organization					
11	If I had not already put so much of myself into this organization					
12	One of the few negative consequences of leaving this organization would be the scarcity of available alternatives					
13	I do not feel any obligation to remain with my current employer					

Continued						
No.	Item	1	2	3	4	5
14	Even if it were to my advantage ,I do not feel it would be right to leave my organization now					
15	I would feel guilty if I left this organization now					
16	This organization deserves my loyalty					
17	I would not leave my organization right now because I have a sense of obligation to the people in it					
18	I owe a great deal to my organization					

Source: Mayer et al. (1993).

I-5 Organizational Citizenship Behavior Questionnaire

The following topics are related to the organizational citizenship behavior, Please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	Eager to tell outsiders good news about the school and clarify their misunderstandings					
2	Willing to stand up to protect the reputation of the school.					
3	Makes constructive suggestions that can improve the operation of the company					
4	Actively attends company meetings.					
5	Willing to assist new colleagues to adjust to the work environment					
6	Willing to help colleague solve work-related problems					
7	Willing to cover work assignments for colleague when needed					
8	Willing to coordinate and communicate with colleagues.					
9	Often speaks ill of the supervisor or colleagues behind their backs. (R)					
10	Uses illicit tactics to seek personal influence and gain with harmful effect 3.on interpersonal harmony in the organization. (R)					
11	Uses position power to pursue selfish personal gain. (R)					
12	Takes credits, avoids blames, and fights fiercely for personal gain. (R)					

Continued						
No.	Item	1	2	3	4	5
13	Conducts personal business on company time (e.g., trading stocks, shopping, going to barber shops). (R)					
14	Uses company resources to do personal business (e.g., company phones, copy machines, computers, and cars). (R)					
15	Views sick leave as benefit and makes excuse for taking sick leave. (R)					
16	Often arrives early and starts to work immediately.					
17	Takes one's job seriously and rarely makes mistakes.					
18	Complies with company rules and procedures even when nobody watches and no evidence can be traced.					
19	Does not mind taking new or challenging assignments.					
20	Tries hard to self-study to increase the quality of work outputs.					

Source: Farh et al. (1997).

The questionnaire is now over; please return it to the responsible person of your school. Thank you for your painstaking answers.

APPENDIX 2

FORMAL QUESTIONNAIRE

Questionnaire on Distributed Leadership, Organizational Justice, Organizational Commitment, and Organizational Citizenship Behavior between Presidents and Teachers in Private Colleges

Dear teacher,

The purpose of this questionnaire is to understand your perceptions about the present's leadership, organizational justice, teachers' organizational commitment, and teachers' organizational citizenship behavior in you college. There is no right or wrong question in the questionnaire; The results of the questionnaire are only for academic analysis. They will not be compared with individual schools, and will not reveal your answers.

Thank you for your support of academic research and me. Please fill in the answers according to the actual situation. Please fill in the form and return it to the responsible person of your school. Thank you !

Dhurakij Pundit University

Advising professor: Dr. Huang yi-jian

Doctoral candidate Pingping Chi

April 15, 2019

I-1 Basic information

(1) Gender: 1. Male; 2. Female

(2) Age: 1. 30 years old or less; 2.31-40 years old; 3.41-50 years old; 4.51 years old or above

(3) Education: 1. Vocational school; 2.Undergraduate; 3.Master's or above

(4) Length of Service: 1. 5 years or less; 2. 6-10 years; 3. 11-15 years; 4. 16 years or more

(5) Current Job Position; 1. Teacher; 2. Teacher-administrator; 3.Administrative staff

II-2 Presidents' Distributed Leadership Questionnaire

The following topics are related to the distributed leadership of the president; Please refer to your opinion on the implementation of distributed leadership and check the degree of compliance with each topic.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	The principal values the views of the school members					
2	The principal of the school has a good interaction with the school members.					
3	The principal of the school has confidence in the ability of the school members to work.					
4	The principal of the school trusts the professional performance of the school members					
5	The principal of the school encourages school members to work in teams					
6	The principal of the school will assign the appropriate person in charge to face different tasks.					
7	The principal of the school can listen to the opinions of the school members					
8	I enjoy challenges					
9	I have a high degree of motivation					
10	I see myself as a learner					
11	I agree with the school vision					
12	I am happy to participate and establish a common vision of the school.					
13	I feel that my talents, skills, and leadership potential are helpful to the school.					
14	I will provide advice or assistance to the school on my major					
15	I will try my best when I attend various school activities.					
16	I feel that I'm taking responsibility and sharing responsibility					
17	I am happy to share and communicate with colleagues.					

Continued						
No.	Item	1	2	3	4	5
18	I will accept the leadership of colleagues in informal positions in our school					
19	Our members feel that they can gain the trust and support of the principal and supervisor.					
20	Our members are responsible for all responsibilities and are not eager to clear					
21	The school supports colleagues to try and innovate without fear of making mistakes.					
22	The school has a smooth communication channel, and anyone can express suggestions and ideas.					
23	Our members can share knowledge, expertise and power					
24	Members of the school are brave enough to reflect on school affairs and provide advice					

Source: Chang & Yen (2012)

II-3 Organizational Justice Questionnaire

The following topics are related to the organizational justice; Please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	My work schedule is fair					
2	I think that my level of pay is fair					
3	I consider my work load to be quite fair					
4	Overall, the rewards I receive here are quite fair					
5	I feel that my job responsibilities are fair					
6	Job decisions are made by the general manager in an unbiased manner					
7	My general manager makes sure that all employee concerns are heard before job decisions are made					
8	To make job decisions, my general manager collects accurate and complete information					
9	My general manager clarifies decisions and provides additional information when requested by employees					
10	All job decisions are applied consistently across all affected employees					
11	Employees are allowed to challenge or appeal job decisions made by the general manager					
12	When decisions are made about my job, the general manager treats me with respect and dignity					
13	When decisions are made about my job, the general manager is sensitive to my personal needs					
Continued						

No.	Item	1	2	3	4	5
14	When decisions are made about my job, the general manager deals with me in a truthful manner					
15	When decisions are made about my job, the general manager shows concern for my rights as an employee					
16	Concerning decisions made about my job, the general manager discusses the implications of the decisions with me.					
17	The general manager offers adequate justification for decisions made about my job					
18	When making decisions about my job, the general manager offers explanations that make sense to me					
19	My general manager explains very clearly any decision made about my job.					

Source: Niehoff 与 Moorman (1993)

II-4 Organizational Commitment Questionnaire

The following topics are related to the organizational justice; please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	I would be very happy to spend the rest of my career with this organization.					
2	I feel a strong sense of belonging to my organization.(R)					
3	I feel emotionally attached to this organization					
4	I feel part of the family at my organization					
5	This organization has a great deal of personal meaning for me.					
6	It would be very hard for me to leave my organization right now, even if I wanted to					
7	Too much of my life would be disrupted if I decided to leave my organization now.					
8	One of the few negative consequences of leaving this organization would be the scarcity of available alternatives					
9	I do not feel any obligation to remain with my current employer					
10	Even if it were to my advantage ,I do not feel it would be right to leave my organization now					
11	I would feel guilty if I left this organization now					
12	This organization deserves my loyalty					
13	I would not leave my organization right now because I have a sense of obligation to the people in it					
14	I owe a great deal to my organization					

Source: Mayer et al. (1993).

II-5 Organizational Citizenship Behavior Questionnaire

The following topics are related to the organizational citizenship behavior, Please check the degree of compliance with each topic based on your actual feelings.

1= strongly disagree, 2= somewhat disagree, 3= neither disagree/agree, 4= somewhat agree, 5= strongly agree

No.	Item	1	2	3	4	5
1	Eager to tell outsiders good news about the school and clarify their misunderstandings					
2	Willing to stand up to protect the reputation of the school.					
3	Makes constructive suggestions that can improve the operation of the company					
4	Actively attends company meetings.					
5	Willing to assist new colleagues to adjust to the work environment					
6	Willing to help colleague solve work-related problems					
7	Willing to cover work assignments for colleague when needed					
8	Willing to coordinate and communicate with colleagues.					
9	Often speaks ill of the supervisor or colleagues behind their backs. (R)					
10	Uses illicit tactics to seek personal influence and gain with harmful effect 3.on interpersonal harmony in the organization. (R)					
11	Uses position power to pursue selfish personal gain. (R)					
12	Takes credits, avoids blames, and fights fiercely for personal gain. (R)					

Continued						
No.	Item	1	2	3	4	5
13	Conducts personal business on company time (e.g., trading stocks, shopping, going to barber shops). (R)					
14	Takes one's job seriously and rarely makes mistakes.					
15	Complies with company rules and procedures even when nobody watches and no evidence can be traced.					
16	Does not mind taking new or challenging assignments.					
17	Tries hard to self-study to increase the quality of work outputs.					

Source: Farh et al. (1997).

The questionnaire is now over; please return it to the responsible person of your school. Thank you for your painstaking answers.