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Relationship between University Teacher's Emotional Demands, Occupational Commitment and Work-related Fatigue - Evidence from a Provincial University in China

YANG Qiming

Doctor of Management

Supervisors:
PhD MA Shaozhuang, Associate Professor with Habilitation,
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PhD JU Qingjiang, Associate Professor,
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iscte INSTITUTO UNIVERSITÁRIO DE LISBOA	**Relationship between University Teacher's Emotional Demands, Occupational Commitment and Work-related Fatigue - Evidence from a Provincial University in China**	Yang Qiming

Declaration

I hereby declare that the submitted dissertation is the result of my independent research under the guidance of my tutor. Except for the acknowledgement, the dissertation submitted does not contain any materials that have been used by others or by the author herself to obtain a degree and certificate from any educational institution. And as far as I am concerned, except for the quotations marked in the text, this dissertation does not contain any published works written by others or collectives.

Sign:  Date: June 28, 2021

Name: Yang Qiming

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Abstract

Teaching involves in high degree of emotional demands. Such demanding facets may contribute to issues on teachers' well-being and performance. Chinese universities are undergoing a dramatic transition and such transition imposes significant demand and pressure to the frontline university teachers. Drawing on job demands-resources model, this study established a hypothesized model to explore the relationship between university teachers' emotional demands, occupational commitment, work-related fatigue and the role of emotional labor and perceived organizational support in the process.

Using convenience sampling method, this study collected valid questionnaires from 471 teachers from a local university in Chengdu, China. Structural equation model and hierarchical linear regression analysis were used to test the hypothesized model. The results indicated that 1) emotional demands is negatively associated with occupational commitment and positively with work-related fatigue; 2) surface acting mediates the relationship between emotional demands and work-related fatigue, while deep acting mediates the relationship between emotional demands and occupational commitment, as well as the relationship between emotional demands and work-related fatigue; 3) as moderator, perceived organizational support buffers both surface acting and deep acting's associations with work-related fatigue.

This study contributes the literature as follows. First, this study provides support for the applicability of the job demands-resources model in the transitional setting of Chinese higher education. Second, with an under-researched sample - Chinese local university teachers, this study narrows the knowledge gap about the path between emotional demands, occupational commitment，emotional demands and work-related fatigue.

Keywords: Job demands-resources model; Emotional demands; Emotional labor; Occupational commitment; Work-related fatigue

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Resumo

Ensinar implica um elevado grau de exigências emocionais que podem contribuir para questões sobre o bem-estar e desempenho dos professores. As universidades chinesas estão a atravessar uma transição dramática que impõe uma exigência e pressão consideráveis sobre os professores universitários na linha da frente. Com base no modelo de demandas de emprego-recursos (JD-R), este estudo estabeleceu um modelo hipotético para explorar o impacto das exigências emocionais dos professores universitários' sobre o seu compromisso ocupacional, a fadiga relacionada com o trabalho e os papéis do trabalho emocional e apoio organizacional percebido no processo.

Utilizando o método de amostragem de conveniência, este estudo recolheu questionários válidos de 471 professores de uma Universidade local em Chengdu, China. Foram usads modelos de equação estrutural e análise de regressão linear hierárquica para testar o modelo hipotético. Os resultados indicaram que 1) as exigências emocionais estão negativamente associadas ao compromisso ocupacional e positivamente associadas à fadiga relacionada com o trabalho; 2) A ação superficial medeia a relação entre as exigências emocionais e a fadiga relacionada com o trabalho, enquanto a ação profunda medeia a relação entre as exigências emocionais e o compromisso ocupacional, bem como a relação entre as exigências emocionais e a fadiga relacionada com o trabalho; 3) Como moderador, o apoio organizacional percebido amortece os efeitos da ação superficial e da ação profunda na fadiga relacionada com o trabalho.

Este estudo contribui para a literatura da seguinte forma. Em primeiro lugar, apoia a aplicabilidade do modelo JD-R no contexto transitório do ensino superior chinês. Em segundo lugar, com uma amostra sub-investigada - professores universitários locais chineses - este estudo reduz a lacuna de conhecimento relativo ao caminho entre as exigências emocionais, o compromisso ocupacional, as exigências emocionais e a fadiga relacionada com o trabalho.

Palavras-chave: Modelo de demanda-recursos de emprego; Exigências emocionais; Trabalho emocional; Compromisso ocupacional; Fadiga relacionada com o trabalho
JEL: M54; M12

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摘 要

大学教学涉及到高情感需求。而这种高情绪需求会影响教师幸福感和工作绩效。中国大学正经历着剧烈的转变，这种转变对一线大学教师提出了巨大的要求和压力。基于工作需求-资源模型，本研究建立假设模型，主要探讨了大学教师的情绪需求对其职业承诺、工作倦怠的影响，以及情绪劳动和组织支持感在此过程中的作用。

采用方便抽样的方法，本研究收集了来自中国成都一所地方大学的 471 名教师的有效问卷。本文采用结构方程模型和层次线性回归分析方法对假设模型进行了检验。结果表明：1）情绪需求与职业承诺呈负相关，与工作疲劳呈正相关关系；2）浅层扮演在情绪需求对工作疲劳的影响关系中具有中介作用，深层扮演在情绪需求与职业承诺、情绪需求与工作疲劳的相关关系中具有中介作用；3）作为调节变量，组织支持感缓解了浅层扮演和深层扮演对工作疲劳的影响。

本研究有以下贡献。首先，本研究为工作需求资源模型在我国高等教育转型背景下的适用性提供支持。其次，本研究为情绪需求与职业承诺，情绪需求与工作疲劳之间的路径关系提供了来自中国地方大学的教师样本的实证，丰富了这一领域的文献。

关键词：工作需求-资源模型；情绪需求；情绪劳动；职业承诺；工作疲劳

JEL: M54; M12

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My special thanks go to my husband, my son and my parents for constant support and understanding. I cannot do this without your support.

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Contents

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List of Abbreviation

HE	Higher education
HEIs	higher education institutions
MOE	Ministry of Education of People's Republic of China
QA	Quality assurance
STR	Student-teacher ratio
FOMO	Fear of Missing Out
TOC	Teacher occupational commitment
EDs	Emotional Demands
POS	Perceived Organizational Support
EL	Emotional Labor
SA	Surface Acting
DA	Deep Acting
TSR	Teacher-student relationship
OID	Organizational Identification
OC	Occupational Commitment
WRF	Work-related Fatigue
COR	Conservation of Resources
JD-R	Job demands-resources
EFA	Exploratory factor analysis
CFA	Confirmatory factor analysis
AOC	Affective Occupational Commitment
NOC	Normative Occupational Commitment
COC	Continuance Occupational Commitment
CFS	Chronic Fatigue Syndrome
PWF	Physical work fatigue
MF	Mental fatigue
EF	Emotional fatigue
WHPW	Working hours per week
SEM	Structural equation model
CMV	Common method variance
LSD	Least significant difference

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Chapter 1: Introduction

This chapter first introduces the research background, highlighting the transition taking place in Chinese higher education institutions (HEIs) and the demands and pressure brought to Chinese university teachers. Next the chapter discusses the research gap and theoretical concepts to be investigated in this study. The chapter continues with research objectives and research questions, ends with the structure of the thesis.

1.1 Research background

Along with the economic reform, China has launched a series of higher educational reforms since the early 1980s. These reforms have intended to develop the capacity and quality of higher education and upgrade its competitiveness and excellence (Cai & Yan, 2017). In general, Chinese higher educational reforms have corroborated an incredible move from the Soviet model towards an American approach (Yang, 2000). Chinese higher education (HE) system in the past four decades has experienced transformation from elite to mass form, from central administration to decentralization of the administrative structure (Zha, 2012; Cai & Yan, 2017), from a rigid bureaucratic management to new managerialism (Bao & Wang, 2012; Li, 2014).

1.1.1 The transition of Chinese higher education

HE expansion and massification

The modern Chinese higher education system has been challenged by a number of local political eruptions, especially the Culture Revolution between 1966 and 1976 (Zha, 2012). During that period, the examination entrance for college (*GaoKao*) had been abolished, all universities had been closed for a year or two, and many of them for serval years. After the Culture Revolution and particularly since 1978 when China initiated its "Reform and Opening Up" era, the examination entrance for college (*GaoKao*) was revived and Chinese higher education system was restored learning from western models and norms (Wu & Zha, 2018; Wu & Li, 2019).

In the early 1990s, Chinese higher education initially established the goal of enrollment expansion in order to meet the needs of the accelerated pace of reform and opening up (Zha,

2012). The expansion of Chinese higher education can initially be dated back to the early 1990s. Thereafter, with a series of policies promulgated, such as the 1993 *Outline for Educational Reform and Development in China* (中国教育改革和发展纲要), the 1996 *China's Ninth Five-Year Plan & Plan for Educational Development by 2010* (全国教育事业"九五"计划和 2010 年发展规划), the 1999 *Decision on Deepening Educational Reform and Pressing Ahead Quality Education in an All-Around Way* (关于深化教育改革，全面推进素质教育的决定), Chinese government clearly set the expansion of higher education as a goal to succeed mass higher education (Zha, 2012). Since then, over the next two decades Chinese higher education has been undergoing a remarkable expansion from the elite position to the massification phase, as a 15% gross participation rate was an internationally acknowledged threshold of popularization (Zha, 2012; Cai & Yan, 2017). As shown by Figure 1.1, the gross enrolment rate in higher education boosted from 1.55 percent in 1978 to 15% in 2002, then to 51.6 percent in 2019, indicating that Chinese higher education has transformed to massification since 2002.

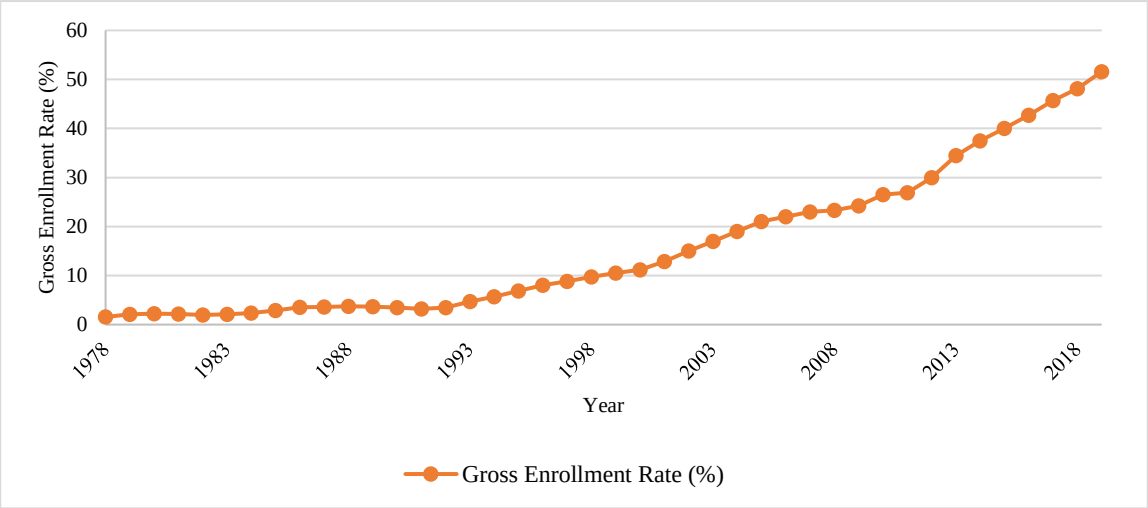

Figure 1.1 Gross enrollment rate in Higher Education in China from 1978 to 2019

Notes: Data of 1978-1997 are from Planning and Finance Bureau of the National Education Commission (1998). Data of 1998-2018 are from Ministry of Education of People's Republic of China [MOE] (2019). Data of 2019 are from Ministry of Education of People's Republic of China [MOE] (2020).

Decentralization of administration

Along with the expansion and massification of Chinese higher education, an increasingly decentralized and stratified structure of higher education institutions has developed by a deliberate policy. Currently the regular public colleges and universities are established at a two-tiered structure: the central and local governments. The central government, mainly the Ministry of Education (MOE), directly administers only a small quantity of "backbone" institutions as models to serve national development and function. While provincial governments are expected to play the main role of promoting the development of higher education in their authorities

(Zha, 2009, 2012). Higher education institutions run by local authorities (e.g., provincial universities, short-cycle higher vocational and non-government colleges) have taken in most of the increased enrollment, however, the elite national institutions have engaged in much more restricted expansion. Provincial and local universities increased the enrollment from 2.26 million in 1998 to 30.31 million in 2019, while the enrollment of the elite national institutions grew from 1.15 million to 1.85 million over the same period (Department of Planning of Ministry of Education of China [DPMEC], 1999; National Bureau of Statistics of China [NBSC], 2019).

Hence, a pyramid structure has taken form with the national elite universities under central ministries and agencies (i.e., those in Project 211 and Project 985) at the top, provincial universities under local authorities, independent colleges, and some private universities in the middle, higher vocational colleges and non-degree private colleges at the bottom (Zha, 2012; Chen, 2015; Cai & Yan, 2015). Figure 1.2 illustrates the evolving structure in Chinese higher education system as for the level of jurisdiction from 1953 to 2019. It has shown that the colleges and universities sponsored by the Ministry of Education (MOE) gradually decreased from the peak of 367 out of 1080 in 1994 to 111 out of 1552 in 2003, and then to 118 out of 2688 in 2019. However, those provincial universities under local authorities steadily increased from 713 in 1994 to 1268 in 2003, and then to 1814 in 2019.

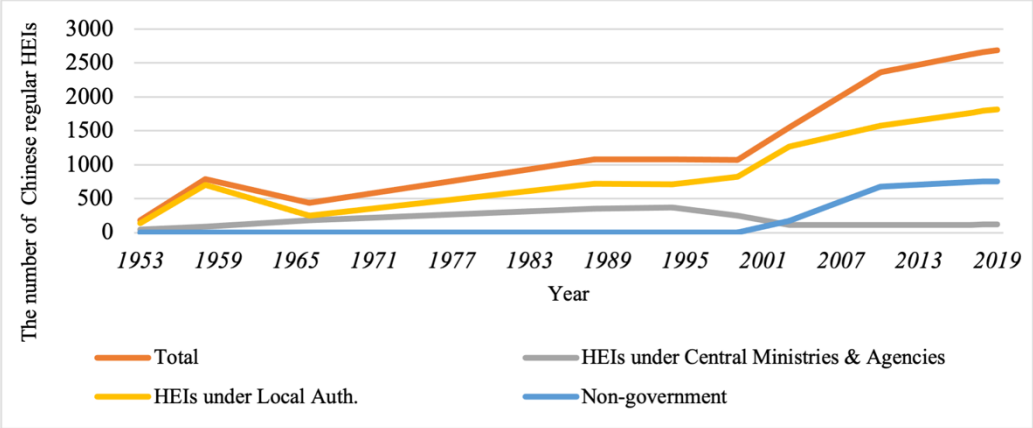

Figure 1.2 The number of different types of Chinese regular HEIs from 1953 to 2019

Notes: Data of 1953-1997 are from Planning and Finance Bureau of the National Education Commission (1998). Data of 1998-2004 are form NBSC (2004). Data of 2005-2011 are from NBSC (2011). Data of 2012-2019 are from NBSC (2019).

New managerialism and rising pressure for efficiency of higher education

With the marketization and stratification of higher education, Chinese universities have been increasingly operating in a paradigm of managerialism (Mok & Jiang, 2017; Wu & Zha, 2018), including the use of standardized evaluation mechanisms across disciplines, centralized resource allocation and more efficient management (Bao & Wang, 2012; Li, 2014).

Productivity, efficiency and effectiveness are viewed as key factors for the development of higher education (Wang, 2014). In order to assure and improve higher education quality, MOE issued the *Action Plan for Invigorating Education 2003-2007* and *Project of Quality Assessment of Undergraduate Education* (QAUE) in 2002, shifting the center towards quality assurance (QA) systems (Wang, 2014; Cai & Yan, 2017). Currently, a comprehensive structure of quality assurance is established by evaluation activities organized both by government and non-government agencies， including guiding principles on university operation, teaching staff, teaching conditions and the utilization of teaching facilities, subjects and teaching, teaching management, academic atmosphere, learning outcomes, and special features and so on (Liu, 2015). Student-teacher ratio (STR) is an important indicator to measure efficiency of academic work (Yan, 2009; Ren, 2016). As shown by Figure 1.3, since the enrollment expansion in 1999, the student-teacher ratio in Chinese higher education institutions has been constantly adjusted. The STR of higher education institutions under local authorities increased from 9.05 in 1998 to around 17 in 2004, then fluctuated between 17 to 20 until 2019. As for elite universities under central ministries & agencies, the STR fluctuates around 10.

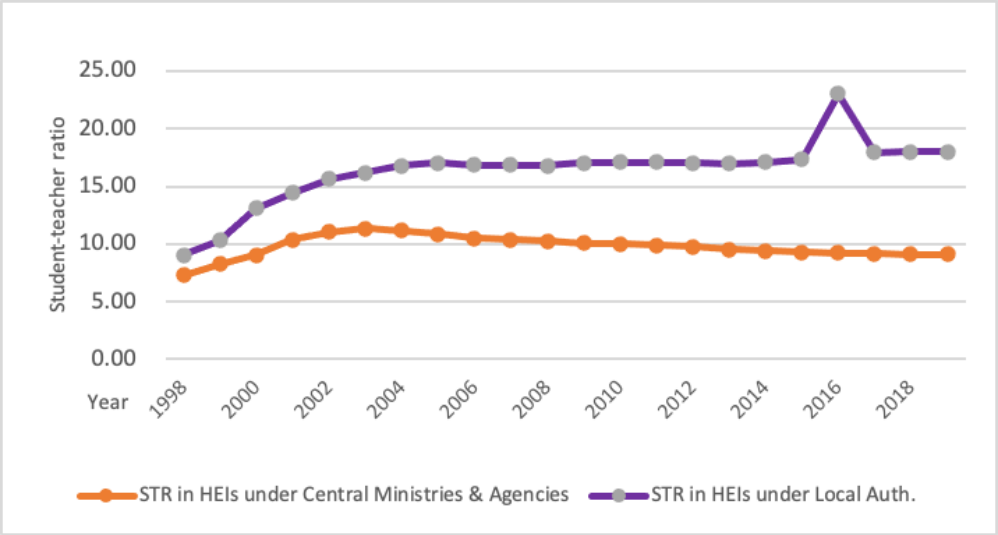

Figure 1.3 Student-Teacher Ratio in Chinese HEIs from 1998 to 2019

Notes: Data are from NBSC (1999, 2000, 2001b, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018b, 2019).

1.1.2 Challenges faced by Chinese universities

The transitions result in many challenges in Chinese universities, including education quality, unbalanced distribution of education resources, and graduates' employment.

Although great efforts have been put into education reform, Chinese universities still are facing many challenging and new issues driven by the massification and restructuring of

Chinese higher education (Cai & Yan, 2017; Li, 2010; Zha, 2012), such as education quality challenges (Cai, 2011; Cai & Yan, 2015), unbalanced distribution of higher education resources, the gloomy employment of graduates (Zha, 2012; Cai & Yan, 2017; Mok & Jiang, 2017).

Education quality

According to "Chinese Higher Education Satisfaction Survey in 2016" initiated by National Institute of Education Science, what students are most dissatisfied with are mainly related to curriculum-related evaluations in the dimension of education quality satisfaction, such as classroom teaching, curriculum organization, teaching methods, academic lectures, learning feedback and so on (National Institute of Education Science, 2017). Over the last three decades, with the gross enrollment rate in Chinese higher education boosted from 9.8 percent in 1998 to 51.6 percent in 2019 (See Figure 1.1), the enrollment from 4.13 million to 28.31 million, the number of full-time teachers nation-wide has accordingly increased from 0.43 million (DPMEC, 1999) to 1.74 million (NBSC, 2020) during the same period. In particular, student source and teacher's teaching capability are the key factors that may affect the education quality for local institutes (Yao, Zhu, & Yang, 2014; Ren, 2016). However, local universities absorbed most of the increased enrollment from 2.26 million in 1998 to 26.49 million in 2019, while the number of full-time teachers related growing from 0.25 million to 1.47 million during the same period (DPMEC, 1999; NBSC, 2019). Meanwhile the academic staff have been undergoing expanded classroom size with strained teaching resources and complaints about the declined education quality (Zha, 2012; Cai, 2013; Yin, Lu, & Wang, 2016).

Unbalanced distribution of education resources

During the process of decentralization and stratification of Chinese higher education institutions, it currently created significant disparity in different regions, levels and types of institutions. Taking the public expenditure per student of higher education in China as an example, it grew rapidly from 7242 RMB (about US$ 1121) in 2005 (Throughout this study, a currency exchange rate has been used of 1 Chinese Yuan = 0.15 US dollars, according to the exchange rate on February 15, 2021) to 19084.94 RMB (about US$ 2954) in 2018 (Finance Department of the Ministry of Education [FDME] & Statistics Department of Social Science, Technology and Cultural Industry of the National Bureau of Statistics [SDSSTCINBS], 2006, 2019; Fang & Liu, 2018), with an average annual growth rate of 11.68% per annum. However, in terms of public expenditure per student in 2018, although that of general institutions nationwide was 19084.94 RMB (about US$ 2954), that of universities under central ministries

& agencies was 33629.83 RMB (about US$ 5206)，that of provincial HEIs under local authorities was 14308.73 RMB (about US$ 2215), and that of Sichuan provincial universities was 9664.35 RMB (about US$ 1496) (FDME & SDSSTCINBS, 2019). Noticeably, provincial universities under local authorities have absolute disadvantage in obtaining financial resources and research support, which may have an impact on the academic output and the scale of salaries and benefits of teachers in such type of higher education institutions.

Graduates' employment

As presented by Figure 1.1, with the expansion of Chinese higher education since 1999, the gross enrolment rate has increased rapidly from 10.5% in 1999 to 51.6% in 2019. Since 2002, college graduates who experienced rapid higher education expansion have entered the labor market with the numbers of graduates of undergraduates in regular HEIs increasing dramatically from 0.9 million in 1999 to 7.88 million in 2018 (DPMEC, 1999; NBSC, 2000, 2019), with an average annual growth rate of 77.55%. While the increase of urban employees (the number of urban employees in that year minus that of urban employees in the previous year) was relatively slow, from 3.36 million in 1999 to 9.57 million in 2018 (NBSC, 2000, 2019), with an average annual growth rate of 18.48%. The overall trend is a decline in employment with the average annual growth rate of college graduates being significantly higher than that of urban employees, which suggest expansion of Chinese higher education may attribute to unemployment in the labor market (Mok & Jiang, 2017; Yue & Zhou, 2017).

1.1.3 New generation of students: diversification, contradiction and pragmatism

In recent years, most undergraduate students enrolled are members of the Generation Z, who were born in the late 1990s and early 21st century (Seemiller & Grace, 2016). As youths, Generation Z students may be influenced by a unique set of forces. Born in the era of rapid development of China's economy, growing up in a time of peace and plenty, the group of Z Generation are more likely to receive comprehensive education with the steady support of protective parents concerned about their safety, their schooling and extracurricular activities (Yu, 2019). Often characterized Digital Natives, current 18-20-year-old-students are also posited the most diverse, contradictory and pragmatic generation (Seemiller & Grace, 2016; Yu, 2019).

Firstly, the college students of Generation Z are growing up in a highly diversified environment. Thanks to a highly sophisticated media and computer environment, Digital Natives are generation with strong ability of network social intercourse, network consumption,

network entertainment and network learning (Wang, 2018). Instead of learning from textbooks, the Z Generation members prefer to rely on other different ways for knowledge and skills, such as learning by doing, experiential learning and E-learning (Seemiller & Grace, 2016; Wang, 2018). They may regard themselves as problem-solvers, would rather work alone and seek information online for further academic achievement.

Secondly, the Z Generation students are considered to be contradictory insights (Mohr & Mohr, 2017; Yu, 2019). For instance, while wanting to be compassionate, they acknowledge to being critical of their peers. And they recognize as entrepreneurial, but do not see themselves as creative. They also describe being confident and optimistic in making a difference, yet anxious and fearful, about the future (Mohr & Mohr, 2017). Further, considering themselves to be independent character, in reality, being a generation of having been protected and sheltered, they tend to seek help and solution from their parents and friends (Yu, 2019). In addition, the students of Generation Z are described to show less like to cooperate with others, while enduring from Fear of Missing Out (FOMO) anxiety (Strong, 2016). Such paradoxical view may encourage a reflect of how university teachers use class time and allocate collaborative projects with this group of students.

Moreover, the Generation Z students have been reported to be with pragmatic life paradigm (Wang, 2018; Yu, 2019). No longer considering that social experience is more important than the knowledge from school, the youth of Z Generation pay more attention to their own self-made characteristics and the opportunities to improve their knowledge and education. They believe entering universities is essential for them to enhance the personal capacity as well as prepare them for a meaningful career. They are highly interested in the challenge of lifestyle change and appreciate the standards. They are eager to know what abilities are expected in their desired livelihood and welcome the list of professional knowledge and aptitudes. These positive traits could support the willingness to learn (Mohr & Mohr, 2017).

To sum up, the university students of Generation Z are a group with the characteristics of diversity, contradiction and pragmatism. It would be an ongoing endeavor for university teachers to teach and mentor them (Mohr & Mohr, 2017). The challenge would go beyond traditional teaching-learning approaches (Cilliers, 2017). First of all, university teachers may need to think critically and creatively, establish a creative teaching-learning environment and strategies. Secondly, university teachers may need to help the Z Generation students reconcile those possible conflicts as they may encounter during their university experiences (Yu, 2019). Then, university teachers may need to establish a healthy connection with this generation, and communicate more effectively on the assignments expected to be completed, so as to prepare

the Z Generation students for their forthcoming professional lives (Mohr & Mohr, 2017; Wang, 2018). In addition, university teachers may need to integrate technology as a part of teaching and learning. It has become a new topic and a lot of burden and pressure for university teachers to educate and instruct the Z Generation students.

1.1.4 Challenges faced by Chinese university teachers

The continuous reforms discussed above have had an impact upon university teachers particularly those under provincial local higher education institutions. University teachers especially those under provincial institutions have been reported to be subject to heavy workloads, role conflict and ambiguity, declining teaching autonomy, organizational climate at workplace and so on. This may be related to a various of factors, such as growing student numbers, diversified knowledge transmission, high job insecurity resulted from reorganization and mergers, increased demands for efficiency and accountability and the move towards financial self-reliance for institutions (Wen, 2017).

Heavy workloads

Most of university teachers considered their academic work being overloaded (Shen, 2016). In addition to undertaking lecturing, university teachers perform a wide range of different tasks including research, service and management (Bao & Wang, 2012; Liu, 2015; Shen, 2016). University teachers were reported to work 52.3 hours a week, 18.8% longer than the legal working hours stipulated in the labor law (Liu, 2015).

Meanwhile, with the expansion of Chinese higher education, university teachers, particularly, those work at local colleges and universities have to deal with growing student numbers and the expanded classroom size (Bao & Wang, 2012; Shen, 2016). And along with Digital Natives being the dominant generation of students enrolling universities (Seemiller & Grace, 2016), for university educators, it is essential to mentor and challenge the current Z Generation students. This challenge may involve helping these students reconcile those possible conflicts as they may encounter during their university experiences (Yu, 2019), using updated course content, and communicating more effectively about the assignments expected to complete in an effort to prepare them for their forthcoming professional lives (Mohr & Mohr, 2017; Wang, 2018).

Moreover, high expectation of academic output is considered to be the other key factor leading to overwork of university teachers, which basically exists in all levels of Chinese higher education institutions (Bao & Wang, 2012). For teachers not only at research universities but also within teaching oriented local institutions, it would be scarcely possible to get higher

professional title and promotion only based on the quality of teaching without publications and external research funding (Hu, 2015; Shen, 2016).

Role conflict and ambiguity

From the socio-cultural aspect, university teachers in China are subject to high expectations, and high requirement from the society, institutions, students and their parents. Historically in the traditional Chinese culture, the teaching profession has been acknowledged to be "keeping silent and thinking, studying without satiety, teaching others without weariness" (The Analects of Confucius) and "preaching, teaching and dispelling confusion" according to Han Yu's "Teacher's Theory". Teachers are suggested to be with the characteristics of "sages", which implies, in addition to delivering knowledge and ousting confusion, they should also strive to improve their personal cultivation and "educate people" through good "virtues" (Zhang, 2008). And as disseminators of knowledge and inheritors of culture, university teachers are highly expected to play the role of moral educators as well as teaching and scientific research.

Furthermore, with conventional Chinese paternalism hierarchy and harmony culture, university teachers are suggested not to challenge authority or leadership, and create divergences or diversity as much as possible, even academically, but to maintain a harmonious and uniform relationship inside and outside workplace. Those who do not follow may be subject to poor appraisals, informal or formal sanctions, and, in a worst scenario, termination from employment (Hu, 2015). However, in reality, with the expansion and marketization of higher education, education increasingly being treated as a service-related industry and educators as service providers (Zha, 2012), university teachers are faced with great challenge and tension due to the contradictions and conflicts between the traditional Confucian culture and commercialization of higher education. Suffering idealistic expectations from public sector and individuals, university teachers may be strongly connected to deterioration in service quality, intense psychological stress, low willing to stay with the existing job (Brotheridge & Gandey, 2002; Maslach & Jackson, 1981).

Eroding job autonomy

Teacher's job autonomy has a great influence on their occupational commitment and loyalty to professional organizations (Zhang, 2016). University teachers may have considerable autonomy, however, there is a strong argument that the prevailing new managerialism and standardized management in HEIs may be connected to eroding teachers' professional autonomy (Constanti & Gibbs, 2004; Zhang, 2016; Zhang & Han, 2017). Specifically, in the development of curriculum resources and curriculum setting, teachers must strictly follow the unified talent training program of the school, which is the case for professional and general

curriculum resources. In terms of teaching methods, teachers are bound by the institutions' rules and regulations. University teachers need to carry out according to the so-called "norms" including the use of multimedia, the selection of teaching places, the management of teaching time, teaching language and other aspects at workplace. And due to the student evaluation system teachers may work on the classroom "acting" all the way for good teaching evaluation results (Zhang & Han, 2017).

Job insecurity

University teachers are reported to be high sense of job insecurity during constant organizational change (Hu, 2015). Chinese HEIs have introduced new managerialism typically with higher education evaluation mechanism and employment system of university teachers (Bao & Wang, 2012; Li, 2014). The wide-ranged enforcement of the evaluation mechanism and the appointment system in universities has a great impact on the balance of psychological contract between university organizations and teachers, which can be a key contributor for teachers' uncertainty of future. With the "iron rice bowl" broken, university teachers may be affected by occupational crisis and survival challenges, caused by intensified job insecurity and lack of confidence in future (Lin, 2011; Berry & Cassidy, 2013). Uncompetitive salary is suggested one of key factors related to the concern of job insecurity (Berry & Cassidy, 2013; Shen, 2016). The annual income of teachers from central and western regions or general undergraduate HEIs is less than 70,000 RMB (about US$ 989) (Li & Shen, 2016), which may make them feel lack of security for the future.

Universities' neglect of emotion

In the context of Chinese higher education, teachers' emotion is mainly related to the interactions with students, colleagues, and administrators. However, teachers' emotion is often neglected by the organization and its administrators. In the traditional Chinese culture, the teaching profession endow teachers with dual roles of moral educators and authorities of knowledge (Han, Yin, & Wang, 2016). For example, the interaction between teachers and students is often considered teachers' humanistic concern for students, rather than a process of emotional and mental energy consumption. With the aim of the maintenance of harmonious interpersonal relationships in the workplace, Chinese university teachers are often informed to neutralize their inner feelings and avoid negative emotions.

Pressure for professional growth among young teachers

With the expansion of college enrollment, it is noteworthy that young teachers (under 45 years old) become the main force of Chinese higher education. For example, young teachers accounted for 67.55% in 2019 (See Table 1.1). Their well-being may be one of the key

influencing factors of teaching quality and academic achievements. Young teachers, as a generation born after 1980, when one-child-per-couple policy (changed to two in 2016, then to three in 2021) was introduced in China, most of them are the only child of their family. They are mostly well-educated with professional knowledge and skills, and usually choose teachers as professions with ideals and ambitions.

However, young university teachers, especially those working in local universities, may have to encounter the increase of job demands (e.g., emotional demands) and the lack of job resources (e.g., perceived organizational support) in the process of professional growth. Firstly, they are the most important force in the frontline of higher education, undertaking more than 60% of the workload of teaching and scientific research in colleges and universities (Chen, 2010; Shen, 2016). Heavy work requires not only constant physical effort, but also consumes a large number of emotional and cognitive energy (Bakker et al., 2007) due to constant interpersonal relationship with students, colleagues and superiors. Secondly, young teachers may have to deal with the lack of job resources. On one hand, compared to elite universities under the central government (e.g., MOE), most provincial universities are in a marginal and vulnerable position in Chinese higher education due to insufficient resources and support from government and education administration (Yang et al., 2015). This leads to a mismatch between supply and demand of teaching resources. On the other hand, most young teachers are inexperienced to the field of education and at the lowest level in the teaching faculty. This may relate to young teachers being at the least significant position of resource allocation in the workplace (Beta & Ali, 2017; Zhang & Wang, 2013). Thirdly, individual ability and energy are always limited. In reality, some young teachers often need to cope with the gap between workload and available energy, and manage to meet the requirements of teaching posts.

Previous findings suggest that strain arises along with high work-related demands, anxiety about achieving goals, and resources consuming faster than they can be restored (Carver & Scheier, 2002; Ilies et al., 2015). As such, it may contribute to declined occupational commitment (Hakanen, Bakker, & Schaufeli, 2006; Conley & You, 2009; Rots et al., 2007) and teachers' work-related fatigue (Zhang & Wang, 2013). Some prior studies indicate that university teachers are at upper middle level of occupational commitment (M = 2.62 with a scale of 5; M = 2.84 with a scale of 4) (Liu, Liu, & Luo, 2007; Zhang & Hu, 2017). Others suggest that university teachers are generally in a state of fatigue. For example, Yang et al. (2013) found that nearly 30% of full-time university teachers were found to be with moderate fatigue, 65.8% of which with mild fatigue.

As shown by Figure 1.4, with transformation of Chinese higher education system and social environment, with the Z Generation students being main enrollment in universities, university teachers especially those under provincial colleges and universities are under pressure from the aspects of higher education system, social culture, organizational environment, teaching profession and personal characteristics. It includes constant role playing inside and outside classroom, enhanced loads for efficiency and accountability, performance appraisal, strict professional title assessment, interest distribution, increasing student numbers, diversification of delivery modes, increased stakeholder demands, work-family conflict and so on (Kinman, 2008; Berry & Cassidy, 2013). Therefore, this present study aims at exploring university teachers' occupational commitment (OC) and work-related fatigue (WRF), and the influencing factors, such as emotional demands (EDs), emotional labor (EL) and perceived organizational support (POS), which will be discussed next.

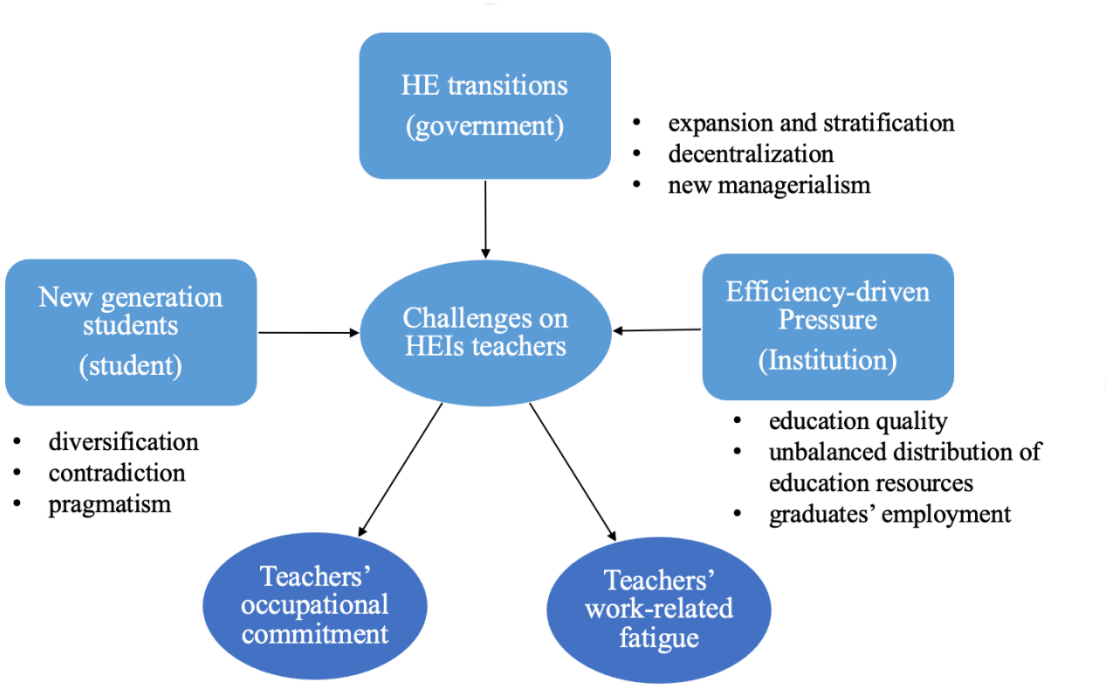

Figure 1.4 Key factors of challenges on university teachers in China

Table 1.1 Number of full-time teachers by age (Regular HEIs) in 2019

	Total		34 and under		35-44		45-54		55 and above	
	Number (person)	Proportion (%)	Number (person)	Proportion (%)	Number (person)	Proportion (%)	Number (person)	Proportion (%)	Number (person)	Proportion (%)
Total	1740145	100.00	494787	28.43	680808	39.12	390806	22.46	173744	9.98
of Which: Female	883138	50.75	296345	17.03	363076	20.86	173086	9.95	50631	5.73
Professor	229157	13.17	2074	0.12	41415	2.38	102879	5.91	82789	4.76
Associate professor	525371	30.19	24459	1.41	234854	13.50	192495	11.06	73563	4.23
Lecture	673857	38.72	216600	12.45	356179	20.47	86203	4.95	14875	0.85
Assistant	180196	10.36	141333	8.12	32215	1.85	5484	0.32	1164	0.07
No-ranking	131564	7.56	110321	6.34	16145	0.93	3745	0.22	1353	0.08

Notes: Data are from NBSC (2019).

1.2 Theoretical concepts and research gap

Job demands-resources (JD-R) model is considered as a prominent framework to explain the relationship between job characteristics and an employee's performance and well-being (e.g., occupational commitment, work-related fatigue) (Han et al., 2020). In this model, job characteristics are classified into two broad categories, namely job demands and job resources (Bakker et al., 2007). Job demands and job resources are respectively assumed to be related to an employee's engagement, health problems, some career-related and work-related outcomes (Bakker et al., 2007).

Several studies consider teachers' occupational and work-related well-being as main sources of job demands. However, very little is known about university teachers' emotional demands (EDs) (Han et al., 2019) and the relationship with teachers' emotional regulation strategies and well-being. Emotional demands refer to the emotionally required interactions at workplace (Le Blanc et al., 2001; Heuven et al., 2006), sustained emotional effort of client-related interactions (De Jonge & Dormann, 2003), and emotion-rule dissonance, which concerns the discrepancy between emotion rules and felt emotions.

In educational backgrounds, emotional demands perceived by teachers result from teachers' interactions with students, colleagues, and administrators (Liu, 2012), and these emotional demands represent the specific requirements of teaching on teachers' emotional expressions, for instance suppressing negative emotions and displaying positive emotions (Yin & Lee, 2012). The analysis of 643 university teachers has shown that mean of emotional demands is 4.16 with a scale of 6, indicating that teachers engage in high emotional demands (Han, Yin, & Wang, 2020). Hence, the current study focuses on the condition of university teachers' emotional demands, and the impact on emotional regulation strategies, teachers' attitude or involvement towards their occupation, and their well-being in the context of Chinese higher education institutions.

Emotional demands are mostly stressful and harmful (Grandey, 2000), which may cause unpleasant feelings due to the depletion of resources and personal value to meet those demands. Emotional demands are negatively connected to individuals' health outcome (Hülsheger & Schewe, 2011; Zapf, 2002; Scheibe, Stamov-Roßnagel, & Zacher, 2015), but are positively connected to emotional labor (Näring, Vlerick, & Van de Ven, 2012; Sarraf et al., 2017), emotional dissonance and its syndromes, such as burnout (Bakker, Demerouti, & Euwema,

2005; Xanthopoulou, Bakker, & Fischbach, 2013; Shepherd et al., 2018), exhaustion (Peng, Wong, & Che, 2010).

Emotional demands are found to be positively related to emotional labor (EL) (Näring, Vlerick, & Van de Ven, 2012; Sarraf et al., 2017). Emotional labor (EL) refers to "for getting paid, the staff manage their emotions and performance to meet the requirements of visible facial expressions or body language which is required by organization" (Hochschild, 1983). Hargreaves (1998, 2001) claims that emotional labor in teaching contents application value, which is reflected in love and passion. In other words, emotional labor in teaching is a spontaneous action and has an intrinsic reward function.

When confronting emotional demands at workplace, teachers will apply emotional labor, such as surface acting and deep acting, to pretend a smile to students or deploy internal thoughts and feelings to meet the interpersonal relationship demand (Brotheridge & Grandey, 2002; Näring, Vlerick, & Van de Ven, 2012). Surface acting (SA) refers to an individual hiding what they feel, or visibly faking to feel what they do not (Hochschild, 1983). Deep acting (DA) refers to the strategy by which an individual modifies internally felt emotions to meet the expected emotional expressions of the organization when there is inconsistent between individual feelings and emotions of expression required by organization (Hochschild, 1983).

Teaching, as a "helping" (Hochschild, 1983), high strain and time-consuming profession, links to teachers' occupational commitment and work-related fatigue (Klusmann et al., 2008). In recent years, the research on teachers' emotional labor has attracted increasing attention in the context of higher education (Chen, 2010; Yin et al., 2013), it still remains underexplored with emotional labor as a mediator between emotional demands and occupational commitment, emotional demands and work-related fatigue.

Occupational commitment (OC) is defined as a psychological state characterized to be an employee's attachment to a profession or vocation, separate but related to commitment to a certain organization (Meyer, Allen, & Smith, 1993). With high occupational commitment, a teacher may develop a strong psychological tie or identification toward the teaching profession, which motivates him/her to make great efforts to accomplish career-related tasks and missions (Cohen, 2000, 2007; Firestone & Pennell, 1993). Teacher's occupational commitment (TOC) has been considered to be relevant to students' academic achievements (Firestone & Rosenblum, 1988; Kushman, 1992), education quality and school efficacy (Firestone & Pennell, 1993； Cerit, 2009; Bogler & Nir, 2015), and relationships with their colleagues and superiors (Price, 2012).

Work-related fatigue (WRF) is characterized as the exhaustion of resources with sense of need for recovery after work (De Croon et al., 2004; Sonnentag & Zijlstra, 2006; Ilies et al., 2015). On the basis of conservation of resources (COR) theory (Hobfoll, 1989), it is suggested that individuals attempt to obtain, retain, protect, and foster those valuable "resources" (Hobfoll, 1989; Hobfoll & Wells, 1998). Emotional distress and fatigue will arise when an employee's reserves are in danger with loss, even lost, or where one struggles to obtain abundant resources for significant resource investment (Hobfoll, 2001).

According to job demands-resources (JD-R) model, teaching resources provide teachers with promising working conditions, among which organizational support is a significant resource to help teachers achieve their work goals and handle teaching demands and illness (Bakker & Demerouti, 2007). Perceived organizational support (POS) refers to employees developing a general perception regarding the degree to which the organization appreciates their contributions and concerns about their well-being (Eisenberger et al., 1986). Perceived organizational support is characterized as a positive reciprocity dynamic between the organization's support and its employees' contributions (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002).

Some previous research has suggested that perceived organizational support is related to teachers' stress, personal and job-related outcomes, such as job satisfaction and job performance (Yu & Frenkel, 2013; Guan et al., 2014), emotional resources retention at work (Rhoades, Eisenberger, & Arme, 2001; Zhang, Wei, & Ren, 2016). It has also been found that teachers perceived organizational support has a moderating effect on job burnout and job satisfaction (Jiang, Liu, & Sun, 2016), and between surface acting and job satisfaction (Hur et al., 2015). However, little research has explored the moderating effect of perceived organizational support on emotional labor and occupational commitment, emotional labor and work-related fatigue, especially in Chinese higher education settings. This will be discussed and examined as one of the themes for this study.

As discussed above, these related studies have led to the increased recognition of the importance of emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue and perceived organizational support in universities teachers' work. Nevertheless, for Chinese university teachers, it remains underexplored on the relationship and interaction among these variables, which indicates the urgent need of more research in this field. The present study, using a structural equation modeling (SEM) approach, aims to address this gap and takes up this challenge by investigating these variables and the association between them in the context of Chinese local university.

1.3 Research objective

Nowadays, Chinese university teachers, especially those working at local universities are under pressure from the aspects of higher education system, social culture, organizational environment, teaching profession and personal characteristics. Teachers often engage in emotional demands due to constant interaction with students, colleagues, and school superiors (Liu, 2012; Yin, Huang, & Wang, 2016; Han et al., 2020). Although there are limited studies on teacher emotion in Chinese higher education (Zhang & Zhu, 2008; Zhang et al., 2009; Han et al., 2020), few has focused on emotional state of those teachers among local universities. Furthermore, compared to elite higher education institutions, those run by local authorities have taken in most of the increased enrollment due to the rapid expansion and massification of higher education in China since 1999. Teachers in local universities have to experience more teaching duties and requirements since the student-teacher ratio of universities under local authorities has speeded up from 9.05 to 20 over the past three decades. Those teachers have to face growing job demands, particularly emotional demands, due to frequent interpersonal interactions with students. Meanwhile, when university teachers perceive the institution treats them favorably and rewards their performance in mutually beneficial ways (Shrand & Ronnie, 2019), they may feel a sense of fairness and full support to handle ongoing job demands and the impacts.

Thus, the objectives of this study are twofold. Practically, it is designed to identify the current situation of university teachers' occupational commitment and work-related fatigue by examining the influence of emotional demands, the mediating effect of emotional labor (surface acting and deep acting), the moderating effect of perceived organizational support. By so doing, we hope that we may have insight to improve Chinese university teachers' attitude towards their occupation and deal with work-related fatigue. So that, they can provide high levels of teaching quality. Theoretically, with a focus on the relationship between university teachers' emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue, and perceived organizational support, this study attempts to test the job demands-resources model with an under-researched sample, which is the Chinese university teacher, to enrich the literature.

1.4 Research problem and questions

As discussed above, young teachers working in local universities may have to deal with the increase of job demands (e.g., emotional demands) and the lack of job resources (e.g., perceived organizational support) in the daily routine tasks. However, teachers' emotion is one of the most ignored issues in the background of Chinese higher education. Chinese university teachers are often instructed to neutralize their inner feelings and avoid negative emotions, so as to maintain harmonious interpersonal relationships at campus. Nevertheless, with the expansion of Chinese higher education, growing student numbers and diversified knowledge transmission have brought heavy workload and challenge for, especially, young teachers in local universities.

On the other hand, young teachers in local universities gain limited job resources (e.g., perceived organizational support). In the current higher education context, with the heavy workload and increasing administrative burden caused by the marketization and stratification of higher education, however, teachers in Chinese local universities may gain slight help from their organizations to deal with potential negative job outcomes, such as the lack of teaching resources, unfavorable administrative support from the university and superior, rare peer support from colleagues.

Based on the job demands-resources (JD-R) model and conservation of resource theory, this study aims to explore teachers' emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue and perceived organizational support, and the association between variables in the background of Chinese university. The purpose of this study is to answer the following questions:

(1) What are the current levels of emotional demands, emotional labor, occupational commitment, work-related fatigue and perceived organizational support in Chinese local university teachers?

(2) What are the relationships between university teachers' emotional demands, teachers' occupational commitment and work-related fatigue, and the role of emotional labor (surface acting and deep acting) and perceived organizational support in the process?

1.5 Research framework and main contents

The current thesis is explored from six parts: introduction, literature review and theoretical framework, research methods, research results, discussion, conclusion and suggestions. The main content of each part is shown as follows:

Chapter 1: Introduction chapter. This chapter proposes research gaps, research objective and research questions.

Chapter 2: Literature review and theoretical framework. This chapter starts with a review of literature on the theories of emotional demands (EDs), emotional labor (EL), occupational commitment (OC), work-related fatigue (WRF) and perceived organizational support (POS), including the concepts, antecedents, consequences and the dependence among the variables. Hypotheses and research model are established as well in this chapter.

Chapter 3: Research design and methods. This chapter first addresses the research sample, measurement and reports the field data collection procedure. Then, it presents the pilot study process and the analyses the reliability and validity of the scales of emotional demands (ED), emotional labor (EL), occupational commitment (OC), work-related fatigue (WRF) and perceived organizational support (POS) with confirmatory factor analysis and exploratory factor analysis.

Chapter 4: Research results. To begin with, this chapter presents the descriptive, and associations analysis results. What follows includes the variance analysis results, the contrast analysis of structural equation model approach and hierarchical linear regression analysis.

Chapter 5: This chapter discusses the findings of key variables, the hypotheses testing and the research model, especially explaining the results in the setting of current Chinese university.

Chapter 6: Conclusion. The last chapter involves the research conclusions, practical implications mainly for university administrators and teachers, limitations of this study and suggestions for future research.

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Chapter 2: Literature Review

This chapter provides a review of the literature on emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue and perceived organizational support, and the association between variables. As such, research hypotheses and research model are proposed.

2.1 Theoretical background

The theoretical framework for this study is based on job demands–resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001). The JD-R model is a well-known framework applied to investigate the relationships between job characteristics and individuals' well-being and performance (Bakker & Demerouti, 2007, 2017). According to JD-R model, although each profession may have its own specific job conditions and characteristics associated with individuals' well-being, these factors can be modeled by two broad categories, namely job demands and job resources (Bakker et al., 2007). Job demands represent those physical, social, or organizational facets of the job that require sustained physical and/or psychological effort on the part of the employee (Bakker et al., 2007), such as workload and emotional demands (Veldhoven et al., 2002; Frone & Blais, 2019). Job resources refer to "those physical, psychological, social, or organizational aspects of the job" that may either "be functional in achieving work goals", "reduce job demands and the associated physiological and psychological costs", or "stimulate personal growth and development" (Demerouti et al., 2001; Demerouti, Taris, & Bakker, 2007).

Based on the different characteristics of job demands and job resources, the JD-R model is proposed as a dual process model including two parallel routes (Bakker, Demerouti, & Schaufeli, 2003). One is an energetic or health impairment process (Schaufeli & Taris, 2014), through which job demands consume individuals' mental and physical resources, leading to personal energy depletion (i.e., a state of fatigue) and to health problem (i.e., health impairment) (Demerouti et al., 2001; Bakker, Demerouti, & Schaufeli, 2003; Schaufeli & Taris, 2014). Hence, job demands are considered as a negative predictor of individuals' well-being and performance, but as a positive predictor of individuals' emotional exhaustion and burnout (Bakker & Demerouti, 2007; Schaufeli & Taris, 2014). The other is the process of motivation, through which job resources stimulate the intrinsic and extrinsic potentials, leading to high

work engagement and performance (Bakker, Demerouti, & Schaufeli, 2003; Bakker & Demerouti, 2007; Schaufeli & Taris, 2014). Therefore, job resources may be an intrinsic motivation to promote individuals' personal growth and career development, as well as an extrinsic motivation to achieve work goals and tasks (Demerouti et al., 2001; Schaufeli & Taris, 2014).

Several studies have investigated the application of the JD-R model among Chinese university teachers (Han et al., 2020). However, there are few examinations on emotional demands of university teaching (Han et al., 2019), and the impact on teachers' emotional regulation strategies and well-being. Thus, this study takes emotional demands of university teaching and teachers perceived organizational support as the indicators of job demands and job resources respectively. More specifically, based on a teacher sample of a Chinese local university, this study aims to explore the relationship between emotional demands, emotional labor (surface acting and deep acting), perceived organizational support and their professional well-being (i.e., occupational commitment and work-related fatigue), with special attention to the mediating role of emotional labor and the moderating role of perceived organizational support.

2.2 Emotional demands

Nowadays, emotionally demanding work is ubiquitous in workplace with human interaction as a central aspect (de Jonge & Dormann, 2003; Heuven et al., 2006; Xanthopoulou, Bakker, & Fischbach, 2013; Kim, Noh, & Muntaner, 2013). Due to the inherent nature of client-driven, work particularly in the service sector including educational field is related to increasing emotional and psychological demands (Ybema & Smulders, 2001; Vegchel et al., 2004). Such demanding facets may contribute to a series of professional dysfunction psychologically and physically, including burnout, depression, cardiovascular diseases, and other health issues (Brotheridge & Grandey, 2002; Vammen et al., 2016; Shepherd et al., 2018). Thus, stress-related absenteeism, work disablement and accompanying costs may be illustrated (Le Blanc et al., 2001).

Emotional demands, as one of the main components of emotion work (Hochschild, 1983) and one facet of job demands (De Jonge, Mulder, & Nijhuis, 1999; Vegchel et al., 2002; Bakker & Demerouti, 2007; Peng, Wong, & Che, 2010), have been well developed with regard to the definitions and mechanisms during the last decades. Hochschild (1983) suggests that emotional

effort refers to emotional and psychological endeavors, with individuals presenting applicable emotional responses to clients for organizational requirements.

Maslach et al. (1986) explored that "the emotional demands of the work can exhaust a service provider's capacity to be involved with, and responsive to, the needs of service recipients" (p. 403). Ybema and Smulders (2001) regarded emotional demands as employees' perception of high commitment and emotional resource consumption in the workplace. Furthermore, De Jonge and Dormann (2003) suggested emotional demands refer to those aspects of the job requirement classically involve those aspects of the job that require sustained emotional regulation because of interactional contact with clients. Vegchel et al. (2004) propose that emotional demands may not just be restricted to jobs ruled by a range of feeling regulations, but also may essentially relate to work where employees are normally faced with clients' undergoing pain or troubles. Heuven et al. (2006) put forward that emotional demands include both feeling rules and emotionally charged interactions with clients (Le Blanc et al., 2001). Xanthopoulou, Bakker, and Fischbach (2013) suggest that emotional demands refer to the emotionally charged interactions at work (Heuven et al., 2006), and emotion-rule dissonance, which concerns the discrepancy between emotion rules and felt emotions.

Although the definition of emotional demands is inconsistent, the consistency in mechanism indicates that emotional demands are established via the interaction between employees and customers (Ybema & smulders, 2001; Heuven et al., 2006). Thus, the current study implies to explore the concept of emotional demands by including both feeling rules and emotionally demanding interactions at work. Emotional demands can be intensive because it forces an employee to regulate his/her emotional state for the organizational purposes, and this emotion activity may prove proximal as a predictor of stress (Grandey, 2000). Emotional demands may be auspicious, especially when job resources are available. Frequency of interpersonal interactions and intensity of emotions in these interactions can be considered as the core elements of emotional demands, which reflect the efficient occupational demanding for the application of emotional labor strategies (Yin, 2015; Brotheridge, 2006).

Teaching in higher education settings can be demanding, consuming (Berry & Cassidy, 2013) and emotional experience (Hagenauer & Volet, 2014a, 2016), and university teachers have been suffering high emotional demands (Liu, 2012). Teaching at universities may involve different degrees of emotional displays with the excessive demand to exhibit or overstate some emotions (Ogbonna & Harris, 2004) and to minimize or suppress the expression of others (Ybema & Smulders, 2001). Yin and Lee (2013) states that emotional display rules in work environment of Chinese teachers are classified into four categories: highly emotional education,

hiding the negative expressions, maintaining a positive emotional state, and emotional management for accomplishing educational goals. Hence, it is widely acknowledged that university teachers' profession is associated with emotionally demanding task (Hockey, 2000; Ybema & Smulders, 2001), which may be due to teachers' constant interactions with students, parents, and colleagues (Yin, Huang, & Wang, 2016).

In the context of Chinese higher education institutions, researchers put high attention to teachers' perception of job emotions for they are related to different stakeholders including students and their parents, colleagues, and school superiors (Liu, 2012; Hassard, Teoh, & Cox, 2017), which can also be a significant source of stress (Shepherd et al., 2018). University teachers in Chinese universities are often expected to be moral educators and "sages" (Zhang, 2008). In particular, they are anticipated not only to delivery knowledge and oust confusion, but also strive to develop their personal cultivation and "educate people" through good "virtues" (Zhang, 2008). At workplace they are required to put their effort to manage students' negative moods or to deal with complex situations such as conflict or argument with students, colleagues and school managers. Conditions as such could be linked to highly emotionally charged demands (Bakker & Demerouti, 2007). Conservation of resources theory suggests that the individuals manage their job resources for demands (Hobfoll & Freedy, 2018). While constantly involving with emotional demands follows by the cost of resources, which may lead to the individuals stressed out, resulting in poor physical health (Maxwell, 2017) and emotional exhaustion (de Jonge et al., 2008; Dollard, et al., 2012; McVicar, 2003).

Along with the introduction of the concept of emotional demands, some findings have been conducted to be related to the structure and dimensions of emotional demands. Several researchers have proposed different models of multi-dimensional emotional demands in a variety of settings. For instance, Hochschild (1983) defined emotional work (i.e., emotional labor) as emotional and psychological tasks, with employees displaying appropriate emotional reactions to clients as part of organizational requirements. Le Blanc et al. (2001) explored two types of emotional demands on Dutch oncology care providers involving problems in interacting with patients and confrontation with death and dying. Vammen et al. (2016) examined emotional demands as perceived and content-related emotional demands in public context. Aiello and Tesi (2017) studied that emotional demands consist of two aspects including the perceived emotional job charge and dysfunctional interactions between professionals and end-users in Italian healthcare settings. Additionally, some scholars put forward four dimensions of emotional demands. For instance, Zapf et al. (1999) proposed emotional demands as positive and negative emotions, sensitivity to clients' emotions, and emotional

dissonance. Kim and colleagues investigated four types of emotional demands on homecare workers including unfair treatment, client's family abuse, unmet care needs, client health, and emotional suppression (Kim, Noh, & Muntaner, 2013).

Previous research has further indicated that emotional demands may oblige employees to display unfelt emotions (Zapf et al. 1999), these requirements are associated with employees' well-being (Ybema & Smulders, 2001; Scheibe, Stamov-Roßnagel, & Zacher, 2015). In contrast to positive influence on motivational aspects of well-being (Bakker et al., 2007; De Jonge et al., 2008), most findings have concentrated on the negative effects of the work-related emotionally demanding circumstances on employees' health outcome (Hülsheger & Schewe, 2011; Zapf, 2002; Scheibe, Stamov-Roßnagel, & Zacher, 2015).

Scheibe and his colleagues argued that emotional demands impact older health care staff's occupational well-being differently from the young, as suggested by their job satisfaction and need for recovery (Scheibe, Stamov-Roßnagel, & Zacher, 2015). Several researchers have explored that emotional demands are positively connected to emotional labor (Näring, Vlerick, & Van de Ven, 2012; Sarraf et al., 2017), emotional dissonance and its syndromes, such as burnout (Bakker, Demerouti, & Euwema, 2005; Xanthopoulou, Bakker, & Fischbach, 2013; Shepherd et al., 2018), exhaustion (Peng, Wong, & Che, 2010). Some of them indicate that the relationship between emotional demands and employee well-being is moderated by social support (Ybema & Smulders, 2001) as well as by job control (De Jonge et al., 2000; Peng, Wong, & Che, 2010).

2.3 Emotional labor

2.3.1 The definition of emotional labor

Emotional labor (EL) refers to "the management of feeling to create a publicly observable facial and bodily display" (Hochschild, 1983, p. 7). Selecting the flight attendants as her research objects, Hochschild (1983) presented emotional labor as "for getting paid, the staff manage their emotions and performance to meet the requirements of visible facial expressions or body language which is required by organization". In addition, Hochschild's work suggested that professions with emotional labor have three characteristics:1) face-to-face or voice-to-voice contact with the public; 2) the employees could exhibit an emotional state in front of the client or customer; 3) the employees allow the employer, through training and supervision, to exercise a degree of control over the emotional activities of employees (Hochschild, 1983).

Following Hochschild's definition of emotional labor, Ashforth and Humphrey (1993) concentrated on the employees' observable behavior and regarded emotional labor as staffs performing appropriate emotional behaviors according to organizational requirements . With the continuous study of emotional display rules, researchers found that these rules change contextually, and the expectation of employees' emotional labor also changes with the frequency, attention, diversity and emotional dissonance of the interaction between employees and customers (Morris & Feldman, 1996). Morris and Feldman (1996, p. 987) refined the conception of emotional labor as "the act of expressing organizationally desired emotions during service transactions". They theorize a four-dimension emotional labor construct including frequency of appropriate emotional display, attentiveness to required display rules, variety of emotions to be displayed, and emotional dissonance generated by having to express (Morris & Feldman, 1996).

From the perspective of inner psychological activities, Grandey (2000, p. 97) defined emotional labor as "the process of regulating both feelings and expression for the organizational goals". Furthermore, Grandey (2000) hypothesized that qualities of the emotional regulation theory were consistent with elements of the emotional labor theory. Diefendorff and Gosserand (2003) considered that emotional management as part of the work role, and emotional labor as an internal psychological activity process in which employees monitor their emotional expression and organizational requirements, and strive to narrow the gap.

While Ogbonna and Harris (2004) define emotional labor as a "coping mechanism" for university teachers who feel frustrated by the declining academic autonomy and intensified management control. Grandey and Gabriel (2015) introduce emotional labor as a dynamic integration of three elements, namely, emotional requirements, emotional regulation and emotional performance, and a moderator of individuals and organizations. Table 2.1 identifies these works, provides each work's unique perspective on the definition of emotional labor. Although the previous findings propose the above definitions of emotional labor from different perspective, the current study adopts the concept of emotional labor developed by Hochschild (1983) to investigate emotional labor among university teachers, specifically in the Chinese higher education context.

Table 2.1 Seminal works on university teachers' emotional labor

Scholar, Year	Sample (Country)	Measures	Strategies	Antecedents	Outcomes
Constanti & Gibbs, 2004	University teachers from Cyprus	semi-structured face-to-face interviews	EL	job autonomy frequency of people contacts	well-being job performance
Ogbonna & Harris, 2004	54 informants from six universities (UK)	semi-structured face-to-face interviews	EL	work intensification the frequency propensity	Job performance
Zhang & Zhu, 2008	164 full-time college English Instructors (China)	ELS (Brotheridge & Lee, 1998; Diefendorff, Croyle, & Gosserand, 2005) MBI (Maslach & Jackson, 1981) TSS (Plax et al.,1986)	SA DA ENFE	demographics	Burnout Job satisfaction
Chen, 2010	216 full-time young university teachers (China)	ELS (Diefendorff & Gosserand, 2003)	SA DA ENFE	demographics	
Mahoney et al., 2011	598 university teachers (USA)	Cross-sectional Demographic questionnaire MEE (Maslach, 1982) DEELS (Glomb & Tews, 2004)	GEE FEE SEE	GPE GNE FPE FNE SPE SNE demographics	Emotional exhaustion job satisfaction affective commitment
Berry & Cassidy, 2013	61 university lecturers (UK)	MERI	ED ES EF	job autonomy job stressors job satisfaction	well-being job performance
Han & Zhang, 2013	354 university teachers in Jiangsu province (China)	TELS (Cukur, 2009) Emotional dissonance scale (Li & Shi, 2003)	SA DA Automatic emotional regulation emotional deviance	demographics	emotional exhaustion

Scholar, Year	Sample (Country)	Measures	Strategies	Antecedents	Outcomes
Hagenauer & Volet, 2014b	15 teacher educators (six males, nine females) (AUS)	semi-structured face-to-face interviews	PED NED	Emotion display	emotion teacher well-being
Hagenauer et al., 2016	Fifteen Australian and nine German university teachers (AUS, GER)	semi-structured face-to-face individual interviews	PEE NEE	Position age experience in HE teaching experience in school teaching amount of out-of-class interactions dedication for HE teaching research duties	Teachers' emotion display Teachers' well-being TSR
Tunguz, 2016	775 full-time faculty members (USA)	ELS (Rupp & Spencer, 2006)	SA DA	Tenure gender	EL friendly EL authority

Note: ENFE = expression of naturally felt emotion; ELS = Emotional Labor Scale; MBI = Maslach Burnout Inventory; TSS = Teacher Satisfaction Scale; AUS = Australian; GER = German; MEE = Maslach Emotional exhaustion; DEELS = Discrete Emotions Emotional Labor Scale; GEE, FEE, SEE = genuine, faking, suppressing emotional expression; ED, ES, EF = Emotional display, Emotional suppression, Emotional faking; TELS = Teacher Emotional Labor Scale; GPE, FPE, SPE = Genuine, faking, and suppressing positive expression; PED = positive emotional display; NED = negative emotional display GNE, FNE, SNE=Genuine, faking, and suppressing negative expression; PEE, NEE = positive, negative emotional expression; MERI = Mann's Emotional Requirements Inventory; JRS = Job Requirements Scale.

2.3.2 Emotional labor strategies

In order to perform emotional labor effectively, some specific strategies are involved for employees to regulate their emotions and feelings at workplace. Since Hochschild (1983) firstly introduced two strategies including surface acting (SA) and deep acting (DA), three types of strategies have been developed for over the last three decades (Diefendorff, Croyle, & Gosserand, 2005; Grandey & Gabriel, 2015). Surface acting (SA) and deep acting (DA) have been frequently discussed as two classical strategies. Surface acting and deep acting have in common that employees perform emotional labor as normative emotion to meet organizational requirement when they cannot naturally deliver their feelings (Hochschild, 1983; Grandey, 2003; Wharton, 2009). Expression of Naturally Felt Emotions (ENFE) (Ashforth & Humphrey, 1993; Diefendorff, Croyle, & Gosserand, 2005) is proposed as a third form of emotional labor strategies because although naturally felt emotions at workplace may be displayed quite commonly, employees may still have to step up deliberately aligns their performance with the organization's requirements.

Hochschild (1983) defined surface acting as individuals hiding what they feel, or visibly faking to feel what they do not. Grandey (2000) suggests that surface acting refers to the strategy of employees pretending unfelt emotions or hiding their genuine emotions in order to present the proper emotions required by their work or the organization, while the internal emotional feelings have not changed. For example, nurses need to display care and kindness, waiters need to put on a smiling face and police officers need to be calm and cool in job (Thomas & Abhyankar, 2014). Surface acting is considered as a physical reaction to suppress the felt emotions (Zapf, 2002) and is described as "faking in bad faith" (Rafaeli & Sutton, 1987). Surface acting strategy has been reported to be connected to negative effects such as depersonalization, emotional exhaustion, or frustration (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002, 2003; Diefendorff & Gosserand, 2003; Grandey, 2003; Grandey et al, 2005).

Deep acting (DA) refers to the strategy by which individuals modify internally felt emotions to meet the expected emotional expressions of the organization when there is inconsistent between individual feelings and emotions of expression required by organization. Deep acting follows when individuals feel inappropriate for this situation; they then develop appropriate emotions with their training or previous experience (Kruml & Geddes, 2000). Different from surface acting, deep acting strategy is related to changes in internal emotions

toward expression principle. In this respect, deep acting strategy has been described "fake in good faith" (Rafaeli & Sutton, 1987) and reported to be related to positive effects such as sincerity or a sense of fulfillment (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002, 2003; Grandey, 2003; Grandey et al, 2005).

Expression of naturally felt emotions (ENFE) may be defined that individuals express their emotions what they feel when the internal feelings of emotions and the organizational requirements for performance of emotional are consistent (Ashforth & Humphrey, 1993). When expression of naturally felt emotions was presented at the beginning, it was considered to be the true feelings of the show, don't need to work hard, and doesn't get much attention. Ashforth and Humphrey (1993) who emphasize the importance of emotional external behavior argues that although the expression of naturally felt emotions of the effort is not required, it is still one of emotional labor strategies. Morris and Feldman (1996) thought the expression of naturally felt emotions need to pay a little effort comparing with the other strategies. Later study confirmed that the expression of naturally felt emotions was indeed one of the emotional labor strategies (Diefendorff, Croyle, & Gosserand, 2005).

2.3.3 Emotional Labor in university Teachers

Teaching, suggested as an emotional practice (Hargreaves, 2000; Schutz & Zembylas, 2009), has been described as one of the most stressful professions of the 21st Century (Kyriacou, 2001). Teachers' emotions play an indispensable role in instructional activities and students' learning and reaction (Skinner & Belmont, 1993; Kunter et al., 2008; Frenzel et al., 2009), and thus impact the achievement of educational goals. Chinese teachers are reported to express their emotions according to the display rules by using natural expression and deep acting more than surface acting (Liu, 2007; Tian, Zhou, & Chen, 2009). A growing volume of research suggests universities teachers in China involve in various forms of emotional labor strategies, mainly, surface acting, deep acting and expression of naturally felt emotions (Ye & Chen, 2015; Zhang & Zhu, 2008; Gao, 2013; Zhang, 2013).

Hargreaves (1998) implies that teachers need to understand the job-related emotional practice for the purpose of developing optimal classroom learning conditions, positive teacher-student interaction and relationships. Considered as a helping profession (Hochschild, 1983; Fiorilli et al., 2015), the teaching profession is linked to a high risk of burnout caused by long-term emotional demands (Maslach & Jackson, 1981; Schaufeli, Leiter, & Maslach, 2009) together with various stress factors such as intensifying workload and long hours, physical

fatigue, compassion fatigue, psychic exhaustion, feeling detached and ineffective, and cognitive weariness (Conrad & Kellar-Guenther, 2006; Melamed et al., 2006). Beyond that, the work as a teacher has become increasingly obliged by accountability and high-stakes assessment (Fried, Mansfield, & Dobozy, 2015) which is changing the nature of classroom transactions (Schutz, Rodgers, & Simcic, 2010), and is associated with increased teacher attrition (Behrent, 2009), and teacher stress (Valli & Beuse, 2007), pressure and anxiety (Thompson, 2014). As such, teachers must regulate and manage their own emotions, resulting in feelings of emotional fatigue, strain, and burnout (Klusmann et al., 2008).

One approach to investigate the emotional practice of teaching implies recognizing teachers "emotional labor" at workplace (Hochschild, 1983). Teachers are accepted to be engaged in "high emotional labor" job (Hochschild, 1983). They firstly must recognize the occupational purposes in order to perform appropriate work behaviors and expectations during interactions with students. Emotional labor (EL) is the deliberately suppressing or adjusting emotion and express in accordance with the organizational requirements goals (Hochschild, 1983; Morris & Feldman, 1996; Grandey, 2000). Emotional labor has been demonstrated as an important part of teaching and is related to teacher's professional (Brennan, 2006; Hargreaves,1998; Isenbarger & Zembylas, 2006; Zembylas, 2003).

Nowadays in the context of higher education, there is a strong argument that university teachers worldwide perform emotional labor and that levels are escalating (Constanti & Gibbs, 2004; Ogbonna & Harris, 2004). A variety of scholars explained the concept and theory of teachers' emotional labor in higher education from multi-perspective. For instance, Ogbonna and Harris (2004) propose that emotional labor is a "coping mechanism" since higher education teachers feel frustrated by the decreasing academic autonomy and increased management control. Meanwhile as an integral part of teachers' job within their workplace, it is crucial for in-service teachers to exaltation their ability to develop emotions for performing emotional labor which may not be easily recognized because emotional rules are often feigned as professional ethics and norms (Fried, 2011). University teachers have been strongly advised to execute emotional labor to attain the twin goals of student satisfaction and increased institutional profit demanded by university senior executives especially with the commercialization of universities (Constanti & Gibbs, 2004; Ogbonna & Harris, 2004).

According to interviews with university teachers in Cyprus, Constanti and Gibbs (2004) consider academic organizations as service providers and university lecturers involving increased emotional labor in order to succeed the dual outcomes of student satisfaction and expected institutional profit required by senior management of the university. University

teachers are confronted with the rising demands of paying students, the gradually prescriptive academic standards and reduced autonomy (Constanti & Gibbs, 2004). Constanti and Gibbs argue that university teachers are being exploited in a three-way relationship including customers (students), the demands of their job role and senior management pressures. it is likely that a higher proportion of a university lecturer's time now involves more frequent people contact, particularly in dealing with the increasing demands of students. It could therefore be argued that increased people contact is a factor in high emotional labor. Constanti and Gibbs found relationships between the experience of frustration and the requirement to suppress stress and negative feelings at workplace. Few studies have explored how university lecturers are seeking to cope with the wide-ranging changes and developments in their labor processes and the diverse nature of and frequently conflicting demands now being imposed by higher education institutions (Constanti & Gibbs, 2004).

Study performed by Ogbonna and Harris (2004) proposes that UK university lecturers relate to emotional labor as a routine of their diary work. It is found that there is common discontent and frustration within the university lecturer society, which is being disguised by increased emotional labor applied for the changing professional and organizational anticipations. According to their research, emotional labor is considered as a 'coping mechanism' because university lecturers are displeased with the decrease in autonomy and intensified management control (Ogbonna & Harris, 2004). Emotional labor mainly resulted from the heightened strength of the academic labor process, which is aggravated by the manifold and sometimes conflicting demands of several stakeholders (Ogbonna & Harris, 2004).

By investigating 164 full-time Chinese college English teachers, Zhang and Zhu (2008) examine the emotional labor of Chinese college teachers and its consequences on teacher burnout and satisfaction. In their study, Zhang and Zhu suggest Chinese college teachers engage in surface acting, deep acting and expression of naturally felt emotion with different degree, namely, in deep acting the most and surface acting the least. The three dimensions of emotional labor have different impact on teacher burnout and satisfaction. In particular, surface acting has negative, while deep acting has positive effects impact on teacher burnout and satisfaction, and authenticity is not associated with either burnout or satisfaction. Zhang and Zhu revealed that the more university teachers concealed their feelings (= surface acting), the more they were at risk for developing burn-out symptoms.

Based on the investigation with 216 young teachers in Chinese universities, Chen (2010) validates that young teachers are highly emotional laborers involving in surface acting, deep

acting and expression of naturally felt emotions. It is found that demographic variables, such as educational background, teaching experience and professional title have significantly different effects on emotional labor of young teachers. University teachers with high educational background, especially those with professorship, often perform surface acting and deep acting as the strategies of emotional expression and management (Chen, 2010). Those with low educational background are easily assimilated by organizational culture and working atmosphere to exercise more natural expression. High emotional labor among those young university teachers are related to a variety of aspects, such as, the continuous role-playing inside and outside the classroom which could consume their emotional resource, the inadaptability of role changes from student to teacher, the gap between ideal and reality, the excessive workload and the influence of organizational environment (Chen, 2010).

Conducting an online survey on 598 American university teachers, Mahoney et al. (2011) examine American teachers' emotional labor and its relationship to work outcomes, such as emotional exhaustion, job satisfaction and affective commitment. It has been indicated that different facets of emotional labor, such as genuine, faking, and suppressing emotional expression, are related to different outcomes (Glomb & Tews, 2004; Zhang & Zhu, 2008; Mahoney et al., 2011). Mahoney et al. indicate that genuine emotional expression, especially positive emotional expression, have the most significant effect on outcomes, except for suppressing negative emotional expression on emotional exhaustion. The findings suggest that university teachers who show genuine positive emotions at work are likely to feel reduced emotional exhaustion, added job satisfaction, and more affective commitment. However, those expressing genuine negative emotions at work are inclined to suffer increased emotional exhaustion, decreased job satisfaction, and less affective commitment (Mahoney et al., 2011).

Berry and Cassidy (2013) put forward the higher education emotional labor (HEEL) model as a cyclical process of possible contributory factors for emotional labor in university teachers. University lecturers are described significantly higher levels of emotional labor than other careers including mental health nurses, a blend of frontline and back-office staffs. Particularly, age and length of teaching experience are found to be significant aspects for emotional labor among university lecturers. Political, economic, social, technological, legal and environmental (PESTLE) forces are suggested to send reverberations through the higher education world, directly affecting and changing university teachers' work-related role demands (Kinman, 2008; Berry & Cassidy, 2013). University teachers are challenged by the intensifying job demands, the progressively regulatory academic standards, eroding job autonomy, uncertainty about the future and job satisfaction (Constanti & Gibbs, 2004; Berry & Cassidy, 2013).

According to semi-structured face-to-face individual interviews with the teachers from two public Australian universities, Hagenauer and Volet (2014b) examine teacher educators' views on appropriate and inappropriate emotion expression in the process of teaching and in interactions with students, as well as the roles of emotion regulation in practice. The findings reveal that these teachers consider the open expression of positive emotions as an essential part of their teaching practice, and emotion display in general, particularly control of negative emotions, is closely related to teacher educators' readings of professionalism (Hagenauer & Volet, 2014b).

Based on interview with Australian and German university teacher educators, Hagenauer et al. (2016) explore the interaction of emotion expression and the quality of the teacher - student relationship (TSR) from university teachers' viewpoint and across "cultural-educational" contexts. The paper reveals that while both Australian and German university teachers perceive the open expression of positive emotions as integral to teaching which support the previous result drawn by Hagenauer and Volet (2014a, 2014b), and negative emotions to be regulated on the basis of their knowledge of professionalism. While notable group differences are also found. The Australian teacher educators relate to elevated and more intense expression of positive emotions, however, the German group show more open anger display. Meanwhile, there are slight yet significant differences in the teacher - student relationship quality between the two groups emerging (Hagenauer et al., 2016).

Developing from the customer - service perspective, Tunguz (2016) investigated emotional labor, defined as "service with authority," in an academic context. Drawing from previous research on display rules and power, tenure and gender were hypothesized to influence the extent to which college faculty labored to provide "service with authority" when interacting with entitled students. Survey results revealed that faculty low in power (untenured faculty) exhibited higher levels of emotional labor when interacting with students, as compared with colleagues high in power (tenured faculty). Additionally, tenure had a mitigating effect on emotional labor amongst male faculty, but heightened stress amongst female faculty. Together, the data suggest that, compared to customer-service settings, emotional performance requirements in academia are both different and dynamic.

Furthermore, Hagenauer et al. (2016) suggest that teachers are subjected to emotional labor over a sustained period, which could result in negative consequences, such as declined job satisfaction or burnout symptoms (e.g., emotional exhaustion) (Zhang & Zhu, 2008; Fouquereau et al., 2019). And emotional labor can be developed from teachers' role, the nature

of work including moral factors (Chen & Kristjánsson, 2011), such as pastoral care (Oplatka, 2007; Yuu, 2010) or being role models.

As above, most existing findings have focused on various influence factors of different forms of teachers' emotional labor, including personality characteristics (Basim, Begenirbaş, & Can Yalcin, 2013), emotional intelligence (Yin et al., 2013; Guo, 2014), psychological capital (Fu, 2014; Mou, 2014), motivation (Truta, 2014), demographic variables (Brown et al., 2014; Liu, 2007; Sun, 2013; Chen, 2010). As the crucial antecedents, perceived organizational support and emotional demands have been still underexplored. The study currently explores whether emotional labor influence university teachers' emotional labor strategies in China.

2.4 Occupational commitment

2.4.1 The concept of occupational commitment

Occupational commitment (OC) is applied to describe one's commitment to a various of work-related goals, to be exact, to one's profession, one's career or one's occupation (Mayer, Allen, & Smith, 1993; Cooper-Hakim & Viswesvaran, 2005). While, in the existing papers, to some extent, occupational commitment, career commitment, and professional commitment have been used interchangeably to refer to one's obligation and devotion to the profession or occupation (Lee, Carswell, & Allen, 2000; Hackett, Lapierre, & Hausdorf, 2001). Over the past three decades, many scholars have studied occupational commitment and put forward the related concept. The findings suggest that occupational commitment is an attitude (Blau,1985; Lee et al., 2000; Vandenberghe & Ok, 2013), or motivation (London, 1983) or a multi-dimensional concept (Mayer, Allen, & Smith, 1993; Long & Li, 2002; Chan et al., 2008; Blau, 2009).

London (1983) argues that occupational commitment refers to the motivational intensity of a person's work in a selected professional role. Blau (1985) defines occupational commitment as individuals' attitude toward their profession or vocation. This definition was then improved to individuals' attitude, including affection, belief and behavioral intention, towards their occupation (Blau, Paul, & John, 1993). Blau (2001) indicated occupational commitment can help better understanding and predict other work-related variables. Meyer, Allen, and Smith (1993) suggest that occupational commitment refers to a psychological state characterized to be an employee's attachment to a profession or vocation, separate but related to commitment to a certain organization.

In line with this definition, Lee, Carswell and Allen (2000) propose that occupational commitment is a psychological link between individuals and their occupation which is on the basis of an affective reaction towards that occupation. Long and Li (2002) indicate that occupational commitment refers to the degree of reluctance to change one's profession due to one's recognition or emotional dependence on one's profession, one's investment in one's profession and the internalization of social norms. Vandenberghe and Ok (2013) view occupational commitment as an attitude which fulfills the goal of individual advancement and a reflection of one's commitment to one's personal goals.

The importance of teacher occupational commitment (TOC) has been highlighted in previous studies. Teacher occupational commitment refers to teachers' dedication and devotion to the teaching profession (Jepson & Forrest, 2006). Chan et al. (2008) explore that teacher occupational commitment is a three-component concept including (a) cognition and affective acceptance of the profession, (b) a devotion to make effort considerably for the profession, and (c) a resistant intention or desire to stay with the profession. Educators with a high occupational commitment are highly engaged in their education career development and have a low intention to quit the education industry (Giderler, Baran, & Kirmizi, 2016; Meyer, 2016). They are also motivated to pursue self-enhancement to improve their self-efficacy in their teaching (McInerney et al., 2015; Meyer, 2016).

Based on a sample of university teachers, this study focuses on the dimension of affective occupational commitment developed by Mayer, Allen and Smith (1993). This is because affective occupational commitment is the most demanded dimension among all aspects of occupational commitment (Meyer, Allen, & Smith, 1993). Like professions in service-based industry, affective occupational commitment becomes more essential in teaching profession. This is due to teaching's direct positive or negative impact on students' experience and performance. When compared to other staff at university, teachers constantly spend an amount of time guiding and interacting with students (Mahoney et al., 2011). In this case, teachers may be more successful if they feel higher levels of affective commitment.

2.4.2 The dimensions of occupational commitment

Occupational commitment has been distinguished between a unidimensional (Blau, 1985) and multi-dimensional approach (Meyer, Allen, & Smith, 1993) by a variety of researchers (Yetgin & Benligiray, 2017).

Unidimensional occupational commitment

Unidimensional theory mainly includes attitude theory and motivation theory. On the basis of prior research such as Aranya and Ferris (1984), Morrow (1983), Greenhaus (1971), Blau (1985) developed Uni-dimensional approach of occupational commitment. Blau (1985) consider occupational commitment to be only emotional dimension by dividing occupational commitment from work involvement, work center and career value. Individuals remaining in their present career are considered to have emotions about their career. While London (1983) regard occupational commitment as the intensity of motivation of pursuing career achievement based on career identity, which is often understood as career ambition.

Multi-dimensional occupational commitment

Multi-dimensional approaches of occupational commitment are mainly developed by Mayer, Allen and Smith (1993) as three-dimensional theory including affective occupational commitment (AOC), continuance occupational commitment (COC) and normative occupational commitment (NOC). On the basis of the conceptualization of occupation commitment developed by Mayer, Allen and Smith (1993), Blau (2003) expands occupational commitment as a four-dimension construct including affective, normative, accumulated costs, and limited alternatives. More specifically, according to the occupational entrenchment measure proposed by Carson, Carson, and Bedeian (1995), Blau (2003) operationalizes continuance occupational commitment as two independent dimensions, namely accumulated costs and limited alternatives.

Affective occupational commitment implies one's emotional dependence on an occupation (I want to stay) (Meyer, Allen, & Smith, 1993). Affective commitment develops when individuals pursue their occupations out of love, when they desire to continue their occupations, and when they recognize with their occupations. In view of the behavioral influences of affective occupational commitment, individuals with affectively committed to their occupation are likely to take their occupations more seriously, focus on professional publications, and take part in conferences related to their career (Meyer, Allen, & Smith, 1993).

Continuance occupational commitment indicates individuals' evaluation of the costs of leaving the current occupation, so they have to continue to work (Meyer, Allen, & Smith, 1993). It is not desirable intention if individuals are forced to continue working due to the fear of losing everything and starting over, and the fear of the failure in finding another occupation. This is because a high level of occupational continuance commitment indicates that individuals are reluctant to do their work.

Normative occupational commitment represents individuals' sense of obligation to stay with an occupation (Meyer, Allen, & Smith, 1993). Normative occupational commitment arises when individuals continues to work and devote themselves to their occupation because they believe it is the most correct and proper thing. Individuals with high levels of normative commitment continue to work due to their strong sense of duty and responsibility, creating a mandatory commitment to their occupation (Meyer, Allen, & Smith, 1993).

2.4.3 Antecedents of teacher occupational commitment

Previous research conducted on influential factors of teacher occupational commitment is related to three main kinds of antecedent, namely, personal, organizational and occupational factors (Meyer, 2016; Fung, 2019). Individual factor associated with teacher occupational commitment include teacher's attitude towards teaching (Blau,1989), teacher self-efficacy (Jepson & Forrest, 2006; Rots et al., 2007; Klassen & Chiu, 2011； Somech & Bogler, 2002), teaching experience (Hargreaves, 2004; Day et al., 2009; Klassen & Chiu, 2011), teacher competence (Akram et al., 2015), demographic variables (Snape, Lo, & Redman, 2008; Meyer, 2016; Major, Morganson, & Bolen, 2013). Contextual factors that may affect teacher occupational commitment include school climate (Meyer et al.,1993; Long & Li, 2002), organizational commitment (Cohen, 1996; Long & Li, 2002), professional support such as principal support and collegial relationship ((Meyer et al., 1993; Singh & Billingsley,1998; Singh et al., 2018). And studies on job factors in connection with teacher occupational commitment have focus upon job stress (Jepson & Forrest, 2006), job burnout (Lian, 2004), participation in decision making (Somech & Bogler, 2002), work values (Williams & Anderson,1991), job satisfaction (Ware & Kitsantas, 2007; Fresko, Kfir, & Nasser, 1997), psychological empowerment such as professional autonomy, work needs competence and impact (Somech & Bogler, 2002).

Personal antecedents

Personal antecedents of university teacher' occupational commitment consist of the individual differences which involves many kinds of factors, for instance, personality, motives and abilities (Meyer, 2016), demographic variables including age, gender, ethnicity, education and income (Lee et al., 2000; Cunningham, Sagas, & Ashley, 2001), and educators' characteristics including teaching level, teaching experience, cultural and national background (Klassen & Chiu, 2011).

By investigating employees of a private hospital and academic staff of a public sector university in Pakistan, Yousaf, Sanders, and Shipton (2013) suggest that proactive personality is positively related to affective occupational commitment. Demographic variables have been suggested the main personal antecedents of occupational commitment and find the connection between demographic variables (Snape, Lo, & Redman, 2008; Meyer, 2016; Major, Morganson, & Bolen, 2013). It has been suggested that gender difference is significantly linked to occupational commitment because male and female concern in different ways about their career development processes (Major, Morganson, & Bolen, 2013). It is generally believed that the female is more concerned about work and family conflicts, whereas the male is more concerned about job-related stress (Major, Morganson, & Bolen, 2013). Snape, Lo, and Redman (2008) point out that female show higher levels of affective occupational commitment while male incline to be with higher levels of continuance occupational commitment. Besides gender, age and occupational tenure are also closely associated with occupational commitment (Meyer, Allen, & Smith, 1993). Tang et al. (2012) argue that experienced employees with longer tenures may have higher job satisfaction because of their better positions and achievements from work result in a high level of affective occupational commitment. However, Sorensen and McKim (2014) indicate that demographic variables had no influence on occupational commitment of agriculture teachers.

Motivational variables including work ethic, self-efficacy and motivation for the occupation are considered to be likely key personal antecedents of occupational commitment (Chesnut & Burley, 2015; Meyer, 2016). Tang et al. (2012) explore that work, leisure and money ethic are the key factors related to occupational commitment of various generations. In particular, leisure ethic has a positive effect on affective occupational commitment for Baby Boomers but not for Gen-Xers, however, money ethic is linked to affective occupational commitment for Gen-Xers but not for Baby Boomers. While work ethic is proposed to have different impacts on the occupational commitment of different professionals and be more important than money or leisure ethic among the sectors of education and business (Tang et al., 2012). Educators' altruistic motivation is considered as another motivational variable. Altruistic factors are connected to educators' teaching perceptions, for example, their understanding of the social importance and value of the occupation, and their aspiration to help children and youths succeed and to improve society (Struyven, Jacobs, & Dochy, 2013; Kyriacou, 2001).

Organizational antecedents

Organizational antecedents refer to job environment factors that have impacts on occupational commitment. Prior findings on organizational antecedents have concentrated on

working conditions, including job characteristics, job stress, role ambiguity, role conflict, growth opportunities, work–family conflict or support and justice perceptions (Klassen & Chiu, 2011; Major, Morganson, & Bolen, 2013; Meyer, 2016). The special job characteristics of education enable educators to fulfil their work obligations without major family interference (Cinamon & Rich, 2005). Sorensen and McKim (2014) suggest that agriculture teachers struggle to balance multiple role conflicts because they always play different roles in their work and life. As such, agriculture teachers' ability to achieve work-life balance is closely related to occupational commitment.

As another type of organizational antecedent of occupational commitment (Meyer, 2016), organizational policies and practices are considered to create social support for university teachers and educators to manage their work demands (Stan, 2013). In the background of mentoring program, Gwyn (2011) argue that the quality of a mentoring relationship could influence the level of teachers' occupational commitment and senior mentors should take initiatives to inspire and support their students to engage in professional knowledge. Stan (2013) found that mentors were key to providing social support to junior educators. Junior educators' occupational commitment is high when they gain social support from their institutions. They can gain feedback and professional advice from their mentors.

Occupational antecedents

Occupational antecedents are occupational influences on one's profession, such as occupational identity, occupational image and sense of occupational importance (Lim, Teo, & See, 2000; Meyer, 2016). Beijaard, Meijer, and Verloop (2013) propose that teachers' professional identity includes social expectations, conceptions and image perception of teachers. Professional identity significantly influences occupational commitment of various professionals including those in education (Meyer, 2016). University teachers normally play conflict roles including identities as lecturers, researchers, supervisors, and community service providers, all of which are conductive to a unified professional identity in higher education (Colbeck, 2008).

While from the perspective of social status, personal ability and behavior pattern, occupational image is suggested to be related to shared beliefs in the value of occupational membership (Grandy & Mavin, 2012). Lim, Teo, & See (2000) propose that the positive view of an occupational image may lead to high levels of occupational commitment and good job behavior and job attitudes. Meanwhile, Shamina (2014) indicates that different dimensions of job satisfaction impact on professional commitment of teachers working for self-financing colleges of Bharathiar university. However, Meyer (2016) argued that job security might not

significantly relate to occupational commitment of some professionals, such as those from the education, science and engineering fields. As these occupations face the problem of labor shortages, the professionals from these fields have high upward mobility in their career development.

2.4.4 Occupational commitment among university teachers

Previous findings have underlined the importance of university teachers' occupational commitment. Teachers with strong occupational commitment are willing to experience a positive feeling about their occupations (Lee et al., 2000). This positive feeling influences individuals' intentions to stay in the occupation and their motivation to improve their self-efficacy at work (Fung, 2019). University teachers with a high level of occupational commitment report to be highly engaged in their education career development and have a low intention to quit the education industry (Giderler, Baran, & Kirmizi, 2016; Meyer, 2016). They are also activated to pursue self-improvement to enhance their self-efficacy in teaching (McInerney et al., 2015; Meyer, 2016). A high level of occupational commitment is related to a strong sense of obligation to retain the occupation (Andrus, Gwinner, & Prince, 2006; Yousaf Sanders, & Shipton, 2013) and feelings about an occupation as a lifelong career choice (Schmidt & Lee, 2008; Fu & Chen, 2015; Fung, 2019).

In the context of higher education, teacher occupational commitment has been considered to be relevant to personal and contextual outcome variables. Previous studies investigate personal outcomes related to teacher occupational commitment involving teachers' well-being (Luo, Liu, & Liu, 2006; Wang et al., 2017), engagement (Ke et al., 2017) and motivation (Cohen, 2000; Becker et al., 2018), teacher's academic identity (Zhang, 2016). And some contextual outcomes have been argued to be affected by teacher occupational commitment, such as occupational self-efficacy (McInerney et al., 2015; Meyer, 2016), job performance (Lee, Carswell, & Allen, 2000), job satisfaction, turnover intention to occupation (Lee, Carswell, & Allen, 2000; Fu & Chen, 2015; Fung, 2019), job burnout (Zhang et al., 2009), organizational commitment (Xiao & Wilkins, 2015), organizational citizenship behavior and so on.

With highly occupational commitment, a teacher may develop a strong psychological tie or identification toward the teaching profession, which motivates him/her to make great efforts to accomplish career-related tasks and missions (Cohen, 2000; Firestone & Pennell, 1993; Firestone & Rosenblum, 1988). Teacher occupational commitment has been considered to be

relevant to students' academic achievements (Firestone & Rosenblum, 1988; Kushman, 1992), education quality and school efficacy (Firestone & Pennell, 1993； Cerit, 2009; Bogler & Nir, 2015), and relationships with their colleagues and superiors (Price, 2012).

Based on a sample of 439 university teachers, Zhang et al. (2009) examined teachers' occupational commitment and its relationship with job burnout. Among them, affective occupational commitment and normative occupational commitment have a significant negative association with all factors of burnout, continuance occupational commitment has a significant positive association with emotional exhaustion, physical and mental fatigue, interpersonal sensitivity and the total score of burnout. The result shows that teachers' occupational commitment has no significant differences in gender, length of service, education background and institutions and departments. Meanwhile, teacher occupational commitment is negatively related to overall job burnout and its dimensions.

Through a survey of 278 young teachers in three local application-oriented universities in China, Wang (2011) proposes that the career commitment and its dimensions of these young teachers report higher than the middle level (M = 3.55 with the scale of 5). There is significant difference in occupational commitment between different gender, and the career commitment of female teachers was significantly higher than that of male teachers.

By investigating 233 teachers from higher vocational colleges in China, Zhang and Hu (2017) examine teachers' occupational commitment and the influence of teaching efficacy on occupational commitment. The findings suggest the teachers are in the upper middle level of occupational commitment (M = 2.84 with the scale of 4), and there are significant differences in teaching age, marital status and work orientation. In the meantime, teaching efficacy is significantly and positively related to occupational commitment.

Furthermore, different dimensions of teacher occupational commitment have been found to have different influence on teachers' affective well-being (Luo, Liu, & Liu, 2006; Wang et al., 2017). With higher affective occupational commitment, university teachers feel more strong affective well-being, while normative and continuance occupational commitment are not significantly relevant to teachers' affective well-being (Luo, Liu, & Liu, 2006; Wang et al., 2017). Ke et al. (2017) suggest that university teachers' occupational commitment and employee engagement are significantly positively related.

University teachers with a high degree of occupational commitment and high career expectation may have a significant investment in occupations (Aryee & Tan, 1992), and may be also inspired to engage in self-enhancement to improve their self-efficacy in teaching

(McInerney et al., 2015; Meyer, 2016). Therefore, they will be willing to pay the effort needed to achieve their career goals. Becker et al. (2018) suggest that teachers' commitment to the profession is positively related to intrinsic motivation to engage in research and, through this effect, resulted in more challenging research goals, increased commitment to those goals, more hours spent on research, and greater research productivity.

University teachers' occupational commitment has been found to turnover intention (Yousaf, Sanders, & Shipton, 2013; Fu & Chen, 2015; Fung, 2019) and negative motivated behaviors (Lee, 2000; Zhang, 2009). Teachers with strong occupational commitment are willing to experience a positive feeling about their occupations (Lee et al., 2000). This positive feeling influences individuals' intentions to stay in the occupation and their motivation to improve their self-efficacy at work (Fung, 2019). University teachers with a high level of occupational commitment are indicated to be highly engaged in their education career development and have a low intention to quit the education industry (Giderler, Baran, & Kirmizi, 2016; Meyer, 2016). A high level of occupational commitment is related to a strong sense of obligation to retain the occupation (Andrus, Gwinner, & Prince, 2006; Yousaf, Sanders, & Shipton, 2013) and feelings about an occupation as a lifelong career choice (Schmidt & Lee, 2008; Fu & Chen, 2015; Fung, 2019).

In addition to turnover intention, a low level of occupational commitment may result in different negative motivated behaviors, such as work avoidance, protest, defiance and quitting (Meyer, 2016). In contrast, a high level of occupational commitment is positively connected with various positive outcomes, such as low absenteeism and high work engagement (Freund, 2005; Klassen et al., 2013). While Lee et al. (2000) imply that university teacher's occupational commitment is positively related to job performance and had an indirect effect on organizational turnover intention through occupational turnover intention. Zhang et al. (2009) propose that there is a significant association between university teachers' occupational commitment and job burnout. Among them, affective occupational commitment and normative occupational commitment have a significant negative association with all factors of burnout, while, continuance occupational commitment has a significant positive association with emotional exhaustion, physical and mental fatigue, interpersonal sensitivity and the total score of burnout.

2.5 Work-related fatigue

2.5.1 Fatigue and work-related fatigue

Given the increased intensity of work environments, fatigue is a common, almost universal, feature of modern life (Dawson et al., 2011). If an individual is unable to recover adequately, they may experience fatigue (Querstret & Cropley, 2012). According to the previous findings, the term fatigue is used in many different areas and currently there is no single definition (Dawson et al., 2011). According to Ream and Richardson (1996), fatigue is defined "a subjective, unpleasant physical and cognitive state, with feelings of tiredness and exhaustion, all contributing to an unrelenting overall condition that impacts the ability to function safely and efficiently". While Ricci et al. (2007) describe fatigue as "a feeling of weariness, tiredness, or lack of energy". Ilies et al. (2015) suggest fatigue is the natural proximal outcome of high job distress such that energy resources are depleted faster or more thoroughly than they can be renewed.

There is no generally accepted standard definition or description of work-related fatigue (WRF) (Ream & Richardson,1996; Winwood et al., 2005; Frone & Tidwell, 2015). Sonnentag and Zijlstra (2006) define work-related fatigue "the state that results from being active in order to deal with the work demands". Frone and Tidwell (2015) propose work-related fatigue generally is a subjective experience representing "extreme tiredness and reduced functional capacity that is experienced during and at the end of the workday" (p. 274). On the basis of conservation of resources (COR) theory (Hobfoll, 1989), it is suggested that individuals attempt to obtain, retain, protect, and foster those valuable "resources" (Hobfoll, 1989, 1998). Emotional distress and fatigue will arise when an employee's reserves are in danger with loss, even lost, or where one struggles to obtain abundant resources for significant resource investment (Hobfoll, 2001).

The prior studies define work-related fatigue from different perspective. However, the current study adopts the definition of work-related fatigue developed by Frone and Tidwell (2015) to concentrates on university teachers' mental fatigue based on a local university in China. University teachers are more likely to show symptoms of mental fatigue due to greater work-related pressure (Yang et al., 2013). Mental fatigue is a common phenomenon in daily life of university teachers (Wang et al., 2017), which involves various changes in emotion, information processing, behavior and psycho-physiological status (Van der Linden et al., 2003; Van der Linden & Eling 2006). University teaching is emotionally charged demands, which

may deplete both emotional and cognitive energy during the interpersonal relationship with students and colleagues (Ilies et al., 2015). These emotional and psychological endeavors may lead to increased mental or cognitive (e.g., memory information, performing calculations) fatigue (Guglielmi, Panari, & Simbula, 2012; Ilies et al., 2015).

2.5.2 The classification of work-related fatigue

Acute and chronic work-related fatigue

According to previous studies, work-related fatigue has been distinguished between acute and chronic fatigue (Mohren et al., 2007; Dawson et al.,2011; Garrick et al., 2014). Dawson et al. (2011) suggest acute fatigue is temporary and a signal that individuals need recovery (e.g., the fatigue an individual experience at the end of their working day). Work-related acute fatigue refers to the feelings of fatigue experienced by individuals exposed to job demands during work shifts and can be associated with states of physical exhaustion and temporary depletion in cognitive function, mood, and motivation (Querstret & Cropley, 2012; Winwood, Lushington, & Winefield, 2006; Garrick et al., 2014). Acute fatigue is characterized by reversibility, task specificity and functional availability of compensation mechanisms (Beurskens et al. 2000). By contrast, work-related chronic fatigue implies maladaptive fatigue due to consistent exposure to stress with inadequate recovery, which is persistent and may not resolve by simple rest (Winwood, Bakker, & Winefield, 2007). Chronic fatigue is irreversible, non-task specific, and the compensation mechanisms suitable for reducing acute fatigue are no longer effective (Beurskens et al. 2000).

Physical, mental and emotional fatigue

On the basis of the specific energetic resources involved, some previous studies suggest a construct of three types of work-related fatigue including physical, mental or cognitive, emotional fatigue (Melamed et al., 2006; Ilies et al., 2015; Frone & Tidwell, 2015). Physical work fatigue (PWF) refers to extreme bodily tiredness and reduced capacity to perform physical activity experienced during and at the end of the workday (Ilies et al., 2015; Frone & Tidwell, 2015). Mental work fatigue (MWF) refers to extreme mental tiredness and reduced capacity to perform cognitive activity experienced during and at the end of the workday (Ilies et al., 2015; Frone & Tidwell, 2015). Emotional work fatigue (EWF) refers to extreme emotional tiredness and reduced capacity to perform emotional activity experienced during and at the end of the workday (Ilies et al., 2015; Frone & Tidwell, 2015).

2.5.3 JD-R model and work-related fatigue

According to job demands-resources model and conservation of resources theory, work-related fatigue is related to three main kinds of antecedent, namely, job demands, job resources and personal resources (Frone & Blais, 2019).

Job Demands

Based on JD-R model, there is an energetic or health impairment process (Schaufeli & Taris, 2014), through which job demands consume individuals' mental and physical resources, resulting in energy depletion and fatigue during the workday (Demerouti et al., 2001; Guglielmi, Panari, & Simbula, 2012). And in line with conservation of resources theory, constant exposure to work overload may be the main source of energy shortage leading to work-related fatigue. All job demands involve the investment of energetic resources, including physical, mental, or emotional resources (Frone & Tidwell, 2015). The long-term impact of being more active and endeavor at workplace can drain individuals of energy, eventually leading to mental breakdown, psychological and physical fatigue symptoms (Guglielmi, Panari, & Simbula, 2012).

Some previous studies have explored the relationship between job demands and individuals' work-related fatigue (Ilies et al., 2015; Frone & Blais, 2019). For instance, by investigating military personnel in American combat settings, Frone and Blais (2019) indicate that job demands including role ambiguity, abusive supervision, were positively associated with overall work fatigue. Ilies et al. (2015) investigate the relationship between job demands and general work-related fatigue. When teachers report having higher workloads, interpersonal and emotional demands, they are shown to experience greater levels of physical, cognitive and emotional fatigue compared to those who report lower levels of job demands (Ilies et al., 2015). Similarly, Chinese university teachers have been reported to involve chronic fatigue syndrome (CFS) and overall work fatigue, which may result from teaching burden and pressure (Wu et al., 2005; Liu et al., 2011), scientific research task (Yang et al., 2013), publish and acquire external research funding (Liu, 2015; Hu, 2015).

Job Resources

JD-R model suggest there is a motivational process, through which job resources play the intrinsic potentials to upgrade ones' personal growth and learning, and extrinsic potentials to achieve work goals instrumentally (Demerouti et al., 2001). Job resources may involve the whole organizational level (e.g., compensation, career opportunities, job security), interpersonal and social relationships (e.g., support from supervisors and colleagues, team

atmosphere), role positioning (e.g., role definition, participation in decision-making), and task level (e.g., task identity, job autonomy, performance feedback) (Bakker & Demerouti, 2006). Conservation of resources theory implies that a negative association may exist between job resources and work-related unpleasant outcomes because job resources may protect or restore various energies.

Prior studies have found the positive relationship between job resources and individuals' work-related fatigue (Bakker & Demerouti, 2006; Frone & Blais, 2019; Bakker et al., 2005). Frone and Blais (2019) indicate organizational justice (i.e., fair treatment at work) and perceived organizational support lead to reductions in overall work fatigue. Perceived organizational support is found to have a significant negative impact on overall job burnout and emotional exhaustion (Kurtessis et al., 2017). Research evidence also shows that job autonomy is associated with work-related fatigue (Skaalvik & Skaalvik, 2014; Frone & Tidwell, 2015). In addition, with an investigation among employees at a Dutch university, Bakker et al. (2005) support that job demands (e.g., work overload, physical demands, emotional demands) do not necessarily lead to a high level of burnout and fatigue if individuals have job autonomy, social support, performance feedback, or a high-quality relationship with their superior.

Personal Resources

In addition to job resources, conservation of resources theory indicates that a negative association may exist between personal resources and work-related fatigue because personal resources may update or protect various energies (Garrick et al., 2017; Frone & Blais, 2019). Personal resources represent the self-psychological characteristics related to ones' belief in controlling their environment (Bakker & Demerouti, 2017). Personal resources may involve physical activity, sleep, individuals' self-efficacy, optimism.

Prior studies have indicated that physical activity has a negative impact on overall work fatigue (Hillman, Erickson, & Kramer, 2008; Frone & Blais, 2019). Physical activity may enhance the reserves of physical, mental, and emotional energy. Compared with individuals who do not participate in physical activity, those who do regularly may meet their physical, mental, and emotional demands with lesser levels of related fatigue (Frone & Blais, 2019). Consistent with conservation of resources theory, sleep is a necessary personal resource that may decrease and protect individuals from suffering fatigue at work. The previous findings have supported a negative relationship between sleep quality and general work-related fatigue (Nagel & Sonnentag, 2013; Frone & Blais, 2019). Furthermore, Bakker and Demerouti (2017) indicate that individuals with high levels of optimism and self-efficacy may experience reduced strain or fatigue resulted from job demands.

2.5.4 Work-related fatigue among university teachers

It has widely been accepted that fatigue is a common complaint among nearly all kinds of occupations (Bültmann et al., 2001; Frone & Tidwell, 2015). As shown in Table 2.2, some previous researchers explored university teachers' work-related fatigue and its influencing factors. However, teachers' work-related fatigue has been understudied especially in the context of Chinese higher education. University teachers' work normally involve in three major parts including teaching, scientific research, management and service. Intense work including high workload and long-work hours (Blasche, Zilic, & Frischenschlager, 2015), relatively more time spent on work-related activities outside of formal working hours (Garrick et al.; 2017), a typical professional characteristics of university teachers (Liu, 2015; Shen, 2016), tax personal resources and thus are related to rises in fatigue. On the basis of conservation of resources theory, fatigue during the workday is probably attribute to chronic exposure to work overload, which require the investment of one or more sources of energetic resources, such as physical, mental, or emotional resources (Frone & Blais, 2019).

Table 2.2 Antecedents of work-related fatigue among university teachers

Classification	Description	Author, Year
Job demands	work overload	Yang et al., 2013 Blasche, Zilic, & Frischenschlager, 2015 Hu, 2015
	long-work hours	Blasche, Zilic, & Frischenschlager 2015
	professional characteristics	Liu, 2015; Shen, 2016
	non-work time activities	Garrick et al., 2017
	role conflict and role ambiguity	Frone & Tidwell, 2015 Chen, 2015 Frone & Blais, 2019
	interpersonal interactions	Van Droogenbroeck, Spruyt, & Vanroelen, 2014 Liu, 2015
Job resources	teachers' autonomy	Skaalvik & Skaalvik, 2014, 2018 Van Droogenbroeck, Spruyt, & Vanroelen, 2014 Hu, 2015
Personal resources	physical activity	Yang et al., 2013 Rosales-Ricardo et al., 2017
	sleep	Yang et al., 2013
	psychological capital	Adil & Kamal, 2019

Comparing to the individuals adapting to shift schedules (Winwood et al., 2007; Lin & Chen, 2011), most university teachers work on a flexible working schedule and enjoy summer

and winter holidays every year. However, more often there is no clear boundary between work and life (Liu, 2015). University teachers were investigated to work 52.3 hours a week including 11 hours late at night every week, and still perform work-related activities by 32.9 hours a week even during holidays (Liu, 2015), which may result in the stress reactions to persist beyond formal work hours, consequently, prevent recovery and increase fatigue (Yong & Yue, 2007; Winwood et al., 2007). There is evidence that university teachers are at risk for experiencing work-related fatigue (Wu et al., 2005; Yang et al., 2013; Garrick et al.; 2017) due to both escalating workload and a great pressure to quality of teaching, publish and acquire external research funding (Liu, 2015; Hu, 2015).

Wu and colleagues (2005) conducted a survey to investigate the distribution of chronic fatigue syndrome among full-time university teachers and its related influencing factors. Of the sample of 744 full-time teachers from 5 institutes in Jiangxi province of China, approximately 68.4% were suffering different levels of fatigue, 18.4% were suffering a level 2 of fatigue (individuals can carry out normal social activities and work, however, they often need rest due to general fatigue) (Wu et al., 2005). Multivariate analysis indicated that chronic fatigue syndrome in university teachers was relevant to the burden of teaching, sleeping time, pressure of work, family atmosphere, being interested in teaching or not and the frequency of entertainment (Wu et al., 2005).

Based on the investigation of teachers' fatigue in 3 colleges and universities in Hainan Province of China, Liu and colleagues (2011) found that university teachers were related to different range of physical and mental fatigue. The results of this survey indicated that physical and mental fatigue of college teachers was mainly connected to high workload, long weekly work hour, physical health, emotional exhaustion, work achievement and, but not significantly to teachers' gender, professional title and educational background (Liu et al., 2011).

Another study on 485 full-time university teachers in Northern Jiangsu province, nearly 30% of which were found to be with moderate fatigue, 65.8% of which with mild fatigue, while only 4.3% of which with no fatigue (Yang et al., 2013). Among the investigated teachers, the proportion of no physical fatigue is higher than that of no mental fatigue. The number and proportion of mental fatigue are higher than that of physical fatigue in the group with mild fatigue. And there is no significant difference between physical and mental fatigue in the group with moderate and above fatigue (Yang et al., 2013). Yang et al. (2013) suggest that university teachers' fatigue mostly attributes to the pressure of professional titles, teaching, scientific research，individuals' lifestyle and psychological resources.

Using a sample of 437 university faculty, Liu (2015) examined teachers' working hours and time allocation variables as determinants of teachers' general fatigue. The results reveal that commuting has the most positive effect on fatigue. University teachers do not work with fixed office hours, while the survey shows that they spend an average of 1.95 hours a day on lectures, meetings or academic activities at campus, and the longer the commuting, the higher the degree of fatigue. University teachers' fatigue is also positively related to the time spent in handling administrative business and meeting, work-related undertakings during legal holidays and late at night, while negatively related to the time spent in communicating with students and participating in teacher training (Liu, 2015).

Furthermore, Frone and Tidwell (2015) suggest role conflict and role ambiguity are positively related to mental and emotional work fatigue but will be unrelated to physical work fatigue. Nowadays, university teachers take on at least the triple roles as university educators, researchers and intellectuals (Chen, 2015). However, it is difficult to effectively reconcile each other due to the great differences between different roles. Their roles are facing a series of contradictions and problems, such as teaching and research, academic and administrative, criticism and discipline (Chen, 2015). Role conflict and role ambiguity arise when it is not clear how to attain work goals. Therefore, employees need to expend energetic resources to determine what needs to be done, in addition to the actual completion of tasks, so that there is some performance payoff from the invested energy (Frone & Blais, 2019).

Apart from university teachers' role and associated workload, some prior study suggest that other job demands, such as teachers' interpersonal interactions with students, colleagues, supervisors and parents (Van Droogenbroeck, Spruyt, & Vanroelen, 2014), abusive supervision (Frone & Blais, 2019), are associated with teachers' overall fatigue in different ways (Frone & Tidwell, 2015). While Liu (2015) propose that the degree of university teachers' fatigue could be inversely related to their communication with students. Teachers may achieve psychological satisfaction by properly increasing the time of guidance and communication with students, which could alleviate the fatigue at some point caused by time expenditure (Liu, 2015).

More autonomy may result in less teaching-related and non-teaching-related workload, as such teachers have more opportunities to adjust the way they perform their tasks (Van Droogenbroeck, Spruyt, & Vanroelen, 2014; Hu, 2015). Teachers' autonomy would positively predict engagement and job satisfaction and negatively predict emotional exhaustion (Skaalvik & Skaalvik, 2014, 2018). While Frone and Tidwell (2015) suggest that job autonomy is negatively related to physical and mental work fatigue, but was unrelated to emotional work fatigue.

It is noteworthy that as other potential job resources, such as both organizational justice and perceived organizational support, are found to be significantly and negatively related to emotional work fatigue but not significantly to physical and mental work fatigue in non-deployed military settings (Frone & Blais, 2019), and both to be negatively related to job burnout among university teachers (Shi, Yang, & Yu, 2013). However, there has been understudied on the relationship among these types of job resources and teachers' work-related fatigue in settings of higher education institutions.

Previous studies also find long term lack of exercise and sleep absence can lead to overall work exhaustion and fatigue (Yang et al., 2013; Rosales-Ricardo et al., 2017). Most university teachers engage in sedentary lifestyles, a characteristic of the job itself (Rosales-Ricardo et al., 2017). While, based on the survey conducted by Yang and his colleagues, only 24.6% of participant teachers were found to insist on physical exercise, 41.7% occasionally and 33.7% of them almost not to participate in physical exercise (Yang et al., 2013). And 45.2% of which had been suffering from sleep disorder (Yang et al., 2013).

2.6 Perceived organizational support

2.6.1 Definition

Eisenberger et al. (1986) originally proposed that perceived organizational support (POS) is employees developing a general perception regarding the degree to which the organization appreciates their contributions and concerns about their well-being. According to the norm of reciprocity (Gouldner,1960) and the social exchange theory (Blau,1964), perceived organizational support is considered as a positive reciprocity dynamic between the organization's attitude and behavior towards its employees and the employees' inference of organizational motives causing that treatment (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). Perceived organizational support is also valued as assurance that aid will be available from the organization when it is needed to carry out one's job effectively and to deal with stressful situations" (Rhoades & Eisenberger, 2002). Consistent with perceived organizational support, some individuals might base their sense of perceived organizational support upon such factors as the organization members' willingness to provide them with special assistance or special equipment in order to complete a project. Others might develop a strong sense of perceived organizational support based upon the organization members' willingness to provide them with additional opportunities for training in an area that was of particular interest to them.

Furthermore, employees are frequently sensitive to relevant environmental and organizational constraints that might limit the ability to provide them with desired rewards (Eisenberger et al., 2016).

2.6.2 Outcomes of POS

Outcome of perceived organizational support can be categorized into positive orientation toward the organization and work, subjective well-being, and behavioral outcomes (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017). Among them, orientation toward the organization and work includes economic and social exchange with the organization, organizational commitment, job involvement, organizational identification, performance-reward expectancy and trust. Subjective well-being consists of positive psychological well-being and negative psychological well-being. Behavioral-related outcomes include in-role performance, organizational citizenship behavior, counterproductive work behavior, withdrawal (Kurtessis et al., 2017).

orientation toward the organization and work

On the basis of organizational support theory, perceived organizational support improves individuals' positive orientation toward the organization via social exchange by causing raised felt obligation, trust, and expectation that endeavor for the organization will be compensated. Furthermore, employees assess the organization's favorable tendency toward them with affective commitment. As well as social exchange, organization's fulfillment of socioemotional needs (Armeli et al., 1998) should result in greater recognition and affective commitment to the organization. This beneficial orientation toward work and the organization should also produce a more friendly work experience and increase individuals' attention to the job itself.

Trust. Trust makes a distinction between economic relationships and long-term social exchange relationships (Shore et al., 2006). Individuals with high perceived organizational support should be more confident that the organization will not make use of their weaknesses (Eisenberger et al., 1986; Shore & Shore, 1995). Moreover, in most organizations, top management is closely connected to the organization, which suggests that there should be little difference between management-related trust and trust in the whole organization (Eisenberger & Stinglhamber, 2011). Based on greater recognition of high-level organizational members, trust in management should be more strongly related to perceived organizational support than trust in supervisors or coworkers (Kurtessis et al., 2017).

Organizational commitment. Based on the reciprocity norm, as an indicator of organizational commitment, perceived organizational support produces affective commitment through social exchange and organizational identification (Eisenberger & Stinglhamber, 2011), a felt obligation within the employee to respect the organization and reciprocate with commitment and devotion (Eisenberger et al., 2001). The obligation to trade caring for caring (Foa & Foa, 1980) should increase employees' affective commitment to the personification of organization by meeting socio-emotional needs such as affiliation and emotional support (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017). Thus, stronger relationship will be built when employees accept the reciprocity norm operating at workplace (Eisenberger et al., 2001). Perceived organizational support has been found to be positively connected to affective, felt obligation and normative commitment (Wayne et al., 2009; Kurtessis et al., 2017). However, other findings suggest positive perceived organizational support significantly improves affective and continuance commitment to the organization, specifically amongst those who consider positive about the transfer process (Casper et al., 2002; Wang, Indridason, & Saunders, 2010).

Job-related affect. Perceived organizational support has been proposed to impact employees' job specific cognitive and emotional appraisal, with job satisfaction and positive mood included (Byrne & Hochwarter, 2008; Erdogan & Enders, 2007; Ristig, 2009). Job satisfaction implies employees' general positive feelings toward their job (Langton & Robbins, 2007). Perceived organizational support should influence overall job satisfaction via the fulfillment of socioemotional needs, increased performance-reward expectancies, and signals of aid availability when needed. Positive mood varies conceptually from job satisfaction as it implies a general emotional status without a specific goal (George & Jennifer, 1989). Perceived organizational support may impact employee's feelings of competence and worth which can increase positive mood (Eisenberger et al., 2001). Perceived organizational support has been presented to positively influence job satisfaction (Riggle, Edmondson, & Hansen, 2009; Rhoades & Eisenberger, 2002) and positive mood (Ahmed et al., 2015).

Job involvement. Job involvement implies individuals' identification with job-related tasks (Cropanzano et al., 1997, 2017; O'Driscoll & Randall, 1999). Job involvement consists of two overlapping aspects including psychological recognition with the job, and the extent to which work plays a central part in the personal life and identity (Riketta & Van Dick, 2012). With high perceived organizational support, individuals may feel their work environment more pleasant, their work being more appreciated, and be more willing to their jobs. Thus, perceived organizational support is found to be positively linked with job involvement (Kurtessis et al.,

2017). Yet, consistent with organizational support theory, perceived organizational support pays more attention on the organization than the job itself. Accordingly, perceived organizational support may be less related to job involvement than to affective organizational commitment due to the intrinsic facets of the job strongly affecting job involvement (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017).

Organizational identification. Organizational identification (OID) refers to the degree to which individuals define themselves with regard to their organizational membership (Ashforth & Mael, 1989). Mael and Ashforth (1992) discussed that members who identify highly with the organization regard its gains and losses as their own. Perceived organizational support is indispensable not just from an instrumental prospect, but also due to support signals to employees that they are valued asset of the organization (Zagenczyk et al., 2011). Therefore, it suggests that encouraged employees integrate organizational membership into their self-identity. Perceived organizational support may contribute to organizational identification by satisfying employees' socioemotional needs for respect, approval, belonging, and emotional support (Armeli et al., 1998), thus presenting security, meaning, and purpose to employees' lives (Kurtessis et al., 2017).

Subjective Well-Being

Subjective well-being refers to employees' moods, emotions, and evaluation of satisfaction (Diener, Scollon, & Lucas, 2009). Perceived organizational support should meet socioemotional needs, enhance the expectation of assistance when required, and improve reward anticipations and self-efficacy, in that to develop job satisfaction, organization-based self-esteem, stress, the felt balance between work and family life.

Prior research examines perceived organizational support has a strong positive effect on job satisfaction organizationally-based self-esteem, a moderate positive effect on work–family balance, and a weak positive effect on job self-efficacy (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017). Individuals with high perceived organizational support seem to be more content with their jobs and have a more balanced work-life relationship. However, perceived organizational support seems to provide only limited feedback regarding general competence. Perhaps self-efficacy is more strongly determined by feedback from the task itself and from recipients of the task's outcomes (Eisenberger & Stinglhamber, 2011).

Meanwhile, perceived organizational support plays a significant role in satisfying socioemotional needs, enhancing the anticipation of assistance when needed, and improving self-efficacy, which should reduce stress, burnout and its elements, such as emotional exhaustion and work–family conflict (Rhoades & Eisenberger, 2002). According to

conservation of resources theory (Hobfoll, 1989) and job demands–resources model of burnout (Demerouti et al., 2001), job distress and burnout are caused mainly by limited resources to deal with the demands of work. Perceived organizational support should act as a significant resource for lessening stress and job burnout (Maslach, 1982) as well as work–family conflict, which takes place when job-related demands and behavioral requirements are unsuited to family life (Greenhaus & Beutell, 1985). Perceived organizational support has been found to have a negative effect on job stress, burnout, emotional exhaustion, and work–family conflict (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017).

Behavioral Outcomes

Perceived organizational support assists to meet socioemotional needs, for instance, needs for esteem, recognition and affiliation, to increase identification with the organization causing enhanced affective organizational commitment (Rhoades & Eisenberger, 2002). Meanwhile, according to reciprocity norm, employees who perceive the support of organization feel obligated to reward the organization. These factors help to enhance effort in ordinary job activities, which may improve in-role job performance, extra role performance and reduce withdrawal behaviors. On the contrary, low perceived organizational support may cause the negative norm of reciprocity (Eisenberger et al., 2004), resulting in behaviors expected to harm the organization and its representatives. Behavioral outcomes of perceived organizational support involve in-role performance known as task performance, extra-role performance referred as organizational citizenship behaviors (OCB), counterproductive work behaviors (CWB) (Borman, White, & Dorsey, 1995; Bergeron, 2007) and withdrawal behaviors such as absenteeism and turnover (Kurtessis et al., 2015).

In-role performance, organizational citizenship behaviors, and counterproductive work behaviors. In-role performance, also considered as task performance, refers to actions that are directly or indirectly associated with the mission of organization and are the actions usually found in an individual's job description. These actions tend to be job specific. However, extra-role performance is considered as organizational citizenship behavior (Borman, White, & Dorsey, 1995; Bergeron, 2007). Organizational citizenship behavior is defined as "performance that supports the social and psychological environment in which task performance takes place" (Organ, 1997). On the other hand, counterproductive work behaviors are characterized as intentional individual behaviors contrary to the legitimate interests of an organization (Gruys & Sackett, 2003; Dalal, 2005; Whelpley & McDaniel, 2016). Prior research has found perceived organizational support is positively related to in-role performance and organizational

citizenship behavior, but negatively to counterproductive work behaviors (Eisenberger & Stinglhamber, 2011; Kurtessis et al., 2017).

Withdrawal Behavior. Withdrawal behavior is defined as employees' declining of active participation in the organization (Rhoades & Eisenberger, 2002). Employees with high perceived organizational support are more affectively committed to the organization, feel an obligation to support its goals and objectives, but are less likely to withdraw from the organization (Eder & Eisenberger, 2008). Perceived organizational support has been found to be irrelevant with tardiness (Kurtessis et al., 2017), positively related to desire to remain (Rhoades & Eisenberger, 2002; Kurtessis et al., 2017), and negatively related to absenteeism, turnover intention and employee turnover (Allen, Shore, & Griffeth, 2003; Eder & Eisenberger, 2008; Kurtessis et al., 2017).

2.6.3 POS among university teachers

In the current higher education context, with the increasing administrative burden and the tension caused by high expectations, academics may perceive whether the institution treats them favorably or rewards their performance in mutually beneficial ways (Shrand & Ronnie, 2019). Academics consider that fairness and full support will produce a sense of justice in the communication with universities (Beta & Ali, 2017). Thus, it seems important to investigate university teachers perceived organizational support and related impact because perceived organizational support may be related to individuals' stress, personal and job-related outcomes, such as job satisfaction and job performance (Yu & Frenkel, 2013; Guan et al., 2014), emotional resources retention at work (Rhoades, Eisenberger, & Armeli, 2001; Zhang, Wei, & Ren, 2016).

Focus on Chinese university teachers, perceived organizational support has been found to be significantly and positively related to their job satisfaction (Zheng & Guo, 2010; Zhao, 2014; Jiang, Liu, & Sun, 2016). This suggests university teachers show higher positive feelings toward their job when they perceive higher degree of support from organization. However, different results have been found between relationship between perceived organizational support and job performance. Zheng and Guo (2010) proposed that perceived organizational support has a positive impact on relational performance, but no significant impact on task performance. While Guan et al. (2014) indicated that perceived organizational support is positively associated with university teachers' job performance via three mediators including related to job satisfaction, positive affectivity, and affective commitment. Xu (2015) explored that perceived organizational support has a positive impact on university teachers' job

performance and job engagement, and job engagement partially mediates the relationship between perceived organizational support and job performance. The degree of which university teachers perceive the support from organization may affect their job engagement and then their job performance.

Perceived organizational support plays a major role in meeting socioemotional needs, increasing the expectation of assistance when needed, which may lead to the reduction of stress, burnout and related factors, such as emotional exhaustion and work family conflict (Rhoades & Eisenberger, 2002). In the context of Chinese colleges and universities, perceived organizational support has been found to have a significant and negative association with job burnout (Shi, Yang, & Yu 2013; Qi, 2016). Yao (2015) discussed the negative association between perceived organizational support and turnover intention among young university teachers. Hence, university teachers with high level of perceived organizational support are less likely to show job burnout and intention to turnover.

Besides above, Shi, Yang, and Yu (2013) examined that perceived organizational support may mediates the effects of job resources and job requirements on job burnout. When university teachers obtain more job resources, feel high organizational support, they are likely to expose low job burnout. Jiang, Liu, and Sun (2016) found evidence that perceived organizational support has a significant moderating effect on the relationship between job burnout and job satisfaction. Under a certain level of job burnout, university teachers with higher sense of organizational support tend to show higher job satisfaction. And Chen (2019) investigated that perceived organizational support can buffer the relationship between job insecurity and job burnout. This may be because it can effectively reduce job-related pressure, the sense of imbalance and negative emotions or negative results when teachers feel the support from the organization (Chen, 2019).

2.7 Research hypotheses and research model

2.7.1 Emotional demands and occupational commitment

Teaching profession is based on human interaction (Yin, 2015), which could be considered highly emotionally charged demands (Bakker & Demerouti, 2007; Ybema & Smulders, 2001; Nesje, 2017). According to job demands-resources (JD-R) model, emotional demands are considered to be job demands that require continuous emotional efforts during the interaction with customers (Stelmokienė et al., 2019). To meet the requirements of emotional demands at

workplace, individuals need to expend emotional energy, which may exhaust individuals' resource reservoir. As psychological aspect of work (Rupert, Miller, & Dorocial, 2015), emotional demands may lead to less work engagement (Xanthopoulou, Bakker, & Fischbach, 2013), more job burnout (Stelmokienė et al., 2019), less positive attitude outcomes, such as occupational commitment (Yusoff & Tengku-Ariffin, 2020).

Teachers' occupational commitment refers to the degree of recognition, emotional attachment to and involvement with the teaching profession (Zhang et al., 2009). Occupational commitment is considered as an important aspect of state or attitude engagement (Macey & Schneider, 2008), as well as being a predictor of job-related motivation (Schaufeli & Bakker, 2004; Fung, 2019). Meyer (2016) suggest that occupational variables are possible key antecedents of occupational commitment. Individuals are likely to have lower occupational commitment and higher willingness to quit from the occupation when they often confront negative work experiences and interpersonal interactions (Grandey & Cropanzano, 1999; Taris & Schreurs, 2009). As a psychological factor of work (Rupert, Miller, & Dorocial, 2015), emotional demands may lead to an emotional energy depletion process related to individuals' well-being (Taris & Schreurs, 2009) and low level of positive engagement with teaching profession (Ugwu & Onyishi, 2018). Accordingly, the study presents the following hypothesis:

Hypothesis 1a: Emotional demands are negatively related to occupational commitment.

2.7.2 Emotional demands and work-related fatigue

Work-related fatigue refers to a subjective feeling that individuals experience "extreme tiredness and reduced functional capacity" during and at the end of the workday (Frone & Tidwell, 2015). As a kind of physiological and psychological state, fatigue is considered as a protective response to oneself and subjectively tired of work (Yang et al., 2015). Previous studies suggest that university teachers are related to different range of work-related fatigue due to university teachers' professional characteristics (Liu et al., 2011; Yang et al., 2013).

As discussed above, teaching profession may require different levels of emotional display due to the emotional expression rules of organizations (Ogbonna & Harris, 2004). In order to meet the requirements of the organization, university teachers have to conceal their internal emotional feelings and display their emotions externally according to the interests and goals of the organization (Gao, 2013). In the process of daily teaching and interaction with students, teachers have to strive to cope emotional camouflage caused by the inconsistency between ones' true feeling and the emotional deliver required by the organization.

Based on conservation of resources theory (Hobfoll, 1989), chronic exposure to work overload may be the most important source of energetic resource deletion leading to fatigue during the workday (Frone & Blais, 2019). High job demands may drain individuals' energy and lead to mental fatigue for individuals seek to cope with the resulting exhaustion (Schaufeli & Bakker, 2004). Emotional distress and fatigue will arise when individuals' reserves are in danger with loss, even lost, or where ones strive to obtain abundant resources for major resource investment (Hobfoll, 2001). Furthermore, due to intensified job demands, compensatory efforts must be mobilized to cope with the increased demand and maintain performance levels (Hakanen, Bakker, & Schaufeli, 2006; Hobfoll et al., 2018). The frequent mobilization of compensatory efforts may deplete teachers' energy and lead to a state of work-related fatigue, which may have a negative impact on teachers' health (Guglielmi, Panari, & Simbula, 2012). Accordingly, the study presents the following hypothesis:

Hypothesis 1b: Emotional demands are positively related to work-related fatigue.

2.7.3 Emotional demands, emotional labor (SA & DA) and occupational commitment

2.7.3.1 Emotional demands and emotional labor (SA & DA)

Emotional demands are considered to be innately stressful (Hochschild, 1983), and empirical research have explored that emotional labor is related to stress and exhaustion (Brotheridge & Lee, 1998; Hochschild, 1983; Morris & Feldman, 1996). Meanwhile, surface acting and deep acting are coping strategies to manage the emotional demands of a job, which in turn may cause those coping behavior (Peng, Wong, & Che, 2010). Accordingly, when individuals have to control job specific emotional demands, they are more liable to apply actions concerning one strategy or the other. Thus, emotional demands can be considered to be essential antecedents of emotional labor (Brotheridge & Grandey, 2002; Peng, Wong, & Che, 2010; Maxwell & Riley, 2017). Emotional demands are suggested related to emotional labor, particularly to deep acting by a convenience sample of young staffs in various professions (Brotheridge & Grandey, 2002). Some studies also explore the mixed effects regarding deep acting (Maxwell & Riley, 2017). For instance, personal accomplishment has shown positive (Brotheridge & Grandey, 2002), negative (Näring et al., 2006) and no significant relationships (Lee et al., 2010) with deep acting.

In a convenience sample survey of young workers in different occupations, emotional demands were found to be related to emotional labor, particularly to deep acting (Brotheridge & Grandey, 2002). By means of a survey among 418 insurance salespersons in Western China,

Peng, Wong, and Che (2010) examined emotional demands are not related to deep acting ($r = -0.01$, n.s.), but are significantly related to surface acting ($r = 0.14$, $p < 0.01$). Maxwell and Riley (2017) put forward that emotional demands predicted the raised use of all aspects of emotional labor by investigating 1320 full-time school principals. A study performed by Näring, Vlerick, and Van de Ven (2012) argued that emotional demands are associated with surface acting and deep acting, but not with suppression. Sarraf et al. (2017) found that high school teachers' perception of emotional demands had a direct impact on their emotional labor strategies ($GA = -0.28$, $t = -3.02$, $P < 0.01$).

In the education context, as suggested, several studies explored Eds are related to emotional labor (Näring, Vlerick, & Van de Ven, 2012; Sarraf et al., 2017; Maxwell & Riley, 2017). However, there has been under explored on the relationship between emotional demands and emotional labor regarding teachers in Chinese higher education institutions. Being high emotional laborers (Ye & Chen, 2015; Gao, 2013; Zhang, 2013), Chinese university teachers specially those under provincial-run HEIs involve in high emotional demands due to interpersonal interactions, highly emotional commitments, and professional emotion management (Yin & Lee, 2012) at workplace. Teaching at universities can be demanding (Berry & Cassidy， 2013) and consuming which may be linked to different degrees of emotional displays with the excessive demand to exhibit or overstate some emotions (Ogbonna & Harris, 2004) and to minimize or suppress the expression of others (Ybema & Smulders, 2002). Thus, the present study hypothesizes:

Hypothesis 1c: Emotional demands are positively related to surface acting.

Hypothesis 1d: Emotional demands are positively related to deep acting.

2.7.3.2 Emotional labor (SA & DA) and occupational commitment

Prior studies indicate that emotional labor of teachers involves application value, which is reflected in love and passion (Hargreaves, 1998, 2001). In other words, emotional labor in teaching is a spontaneous action and has an intrinsic reward function. Therefore, emotional labor may have an impact on teachers' professional dedication, satisfaction (Hargreaves, 1998, 2001; Zhang & Zhu, 2008), which may relate to low employee commitment (Deery & Jago, 2009). Further, limited findings explored the relationship between different forms of emotional labor and occupational commitment (Ma, Chen, & Tang, 2010; Kim, 2012; Giderler, Baran, & Kirmizi, 2016).

Along with conservation of resources theory, university teachers who perform surface acting will have their resources severely depleted due to the amount of time they constantly

spend interacting with students (Mahoney et al., 2011). Because of insufficient resource replenishment, employees will try to reduce resource losses by withdrawing themselves from job-related activities (Mishra, 2014). Some teachers regard surface acting as a failure to adhere to the ideal "teacher-self" standard (Brown et al., 2014), while, also as a part of daily practice to keep their job easier (Brown et al., 2014; Mishra, 2014). Giderler, Baran, and Kirmizi (2016) argue that surface acting performed by scholars in Turkey negatively impacts on their affective occupational commitment. As such, the present study presents the following hypothesis:

Hypothesis 2a: Surface acting is negatively related to occupational commitment.

On the other hand, university teachers may prefer deep acting as an emotional labor strategy because their training and attention may be more link to the cognitive factor of the job (Mahoney et al., 2011). Deep acting performed by teachers may bring feelings to meet expressions and organizational expectations, which may contribute to beneficial interactions among teachers, students and colleagues (Mahoney et al., 2011). Some teachers refer to performance of deep acting at work as attaching emotional internalization, that teachers, as educators, should integrate in their professional roles (Brown et al., 2014). In line with above views, deep acting has been found to positively related to job satisfaction (Zhang & Zhu, 2008; Yang & Yi, 2019), professional identity (Brown et al., 2014). However, deep acting still requires a great of energy expenditure to deeply modify one's feelings during the regulation process (Mikolajczak, Menil, & Luminet, 2007). This may block teachers from succeeding job goals when they are faced with high energy depletion, and feel lack of energy preservation and restoration for new effort (Veldhoven et al., 2002). Hence, this study presents the following hypothesis:

Hypothesis 3a: Deep acting is negatively related to occupational commitment.

2.7.3.3 The mediating effect of Emotional labor (SA & DA) between emotional demands and occupational commitment

As argued above, emotional demands may be related to surface acting and deep acting in higher education context (Näring, Vlerick, & Van de Ven, 2012; Maxwell & Riley, 2017), and then affect teachers' occupational commitment (Ma, Chen, & Tang, 2010; Kim, 2012). Individuals using surface acting do not display the true and authentical emotions at work, which may be a barrier to develop trust relationship with colleagues and students, resulting in decreased job satisfaction and job engagement (Mo & Shi, 2017). On the other hand, individuals who apply deep acting can adjust their internal feelings to be consistent with their emotional expression (Sarraf et al., 2017). However, by employing deep acting, teachers still have to consume

energetic resources to amend their inner feelings (Mikolajczak, Menil, & Luminet, 2007). Once teachers encounter energy depletion and perceive the lack of energy conservation and restoration for new effort, they may feel less likely to achieve major job-related goals (Woerkom, Bakker, & Nishii, 2016) and build a strong attachment to their occupation. Thus, this study proposes that emotional labor is a mediator between emotional demands and occupational commitment.

Given the hypothesis 1c, 1d, 2a, 3a and the logic illustrated above, this study proposes the following hypotheses:

Hypothesis 4a: Surface acting mediates the relationship between emotional demands and occupational commitment.

Hypothesis 5a: Deep acting mediates the relationship between emotional demands and occupational commitment.

2.7.4 Emotional demands, emotional labor (SA & DA) and work-related fatigue

2.7.4.1 Emotional labor (SA & DA) and work-related fatigue

Work-related fatigue (WRF) is the natural results of high job distress, which may lead to emotional resources depleting rapidly and thoroughly in unexpected ways (Ilies et al., 2015). As noted, a university teacher manages a range of work-related roles and tasks that would consume one's physical, cognitive, and emotional resources, and connect one's profession with emotional labor (Hochschild, 1983; Fineman & Sturdy, 1999; Mann, 1999; Rutter & Fielding, 1988). Physically, a teacher engages in not so much the imparting of knowledge and skills as research, administration, management and student counselling (Ogbonna & Harris, 2004) and other job-related issues. Furthermore, the teaching profession is cognitively demanding and exhausting, as teachers are expected to lecture well, to be with profound knowledge, to keep in with their superiors, colleagues and students. Thus, teaching, as a "helping" (Hochschild, 1983) and time-consuming profession, links to teachers' attachments of emotional fatigue, stress, and burnout (Klusmann et al., 2008).

Some previous studies have shown that employees playing surface acting may make considerable effort to fake emotional expressions, which will increase the energy required to carry out other tasks (Xanthopoulou et al., 2018). Investing excessive energy probably makes employees overburdened and exhausted (Bakker, Demerouti, & Sanz-Vergel, 2014). Consistent with this argument, a cross-sectional study reported a positive association between surface acting and overall work fatigue (Liu et al., 2018). Additionally, when employees play surface

acting, their self-authenticities may be damaged due to internal and external conflicts of emotion (Grandey et al., 2012; Santos, Mustafa, & Gwi, 2015), which could be positively related to all three types of work fatigue. Therefore, this study hypothesizes:

Hypothesis 2b: Surface acting is positively related to work-related fatigue.

Some past studies argue that deep acting has a positive effect on teachers' occupational well-being (Liu et al., 2013; Yang & Yin, 2019), which may reduce emotional exhaustion (Brotheridge & Lee, 2002). However, Maxwell and Riley (2016) suggest deep acting has no significant effects on burnout, job satisfaction or wellbeing. Some studies find a negative association between deep acting and emotional dissonance (Wu et al., 2011; Yang & Tian, 2019). When individuals use deep acting as emotional regulation strategy, it still will expend energetic resources to deeply amend their feelings during the regulation process (Mikolajczak, Menil, & Luminet, 2007). This will be a hindrance for teachers to achieve major job goals when they experience high levels of energy consumption and feel the lack of energy conservation required for recovery and new effort (Woerkom, Bakker, & Nishii, 2016). Thus, this study hypothesizes:

Hypothesis 3b: Deep acting is positively related to work-related fatigue.

2.7.4.2 The mediating effect of Emotional labor (SA & DA) between emotional demands and work-related fatigue

As discussed above, emotional demands may predict surface acting and deep acting in the background of higher education (Näring, Vlerick, & Van de Ven, 2012; Maxwell & Riley, 2017), and then affect teachers' work-related fatigue (Liu et al., 2018; Kim, 2012). When facing emotional demands at workplace, if individuals play surface acting, their self-authenticities may be impaired due to the internal and external struggle in emotion, which may result in psychological distress, fatigue and job dissatisfaction (Grandey et al., 2012; Santos, Mustafa, & Gwi, 2015). When meeting emotional demands, if individuals take deep acting, they will try to change their inner feelings for organizational expectations. Deep acting plays a mediating role the relationship between emotional demands and individuals' well-being (Liu et al., 2018).

Generally, in the face of high emotional demands at workplace, teachers may need to perform emotional labor to deal with job-related situation or demands, and emotional labor consumes emotional resources, which leads to work-related fatigue in the case of not getting effective and sufficient resource compensation. Thus, this study proposes that emotional labor is a mediator between emotional demands and work-related fatigue. Given the hypothesis 1c, 1d, 2b, 3b and the logic illustrated above, this study proposes the following hypotheses:

Hypothesis 4b: Surface acting mediates the relationship between emotional demands and work-related fatigue.

Hypothesis 5b: Deep acting mediates the relationship between emotional demands and work-related fatigue.

2.7.5 The moderating effect of perceived organizational support

According to JD-R model, job resources refer to external resources including social resources, organizational resources and task-related resources (Bakker & Demerouti, 2007). Perceived organizational support is widely described as individuals' perception about the extent to which their organization appreciates their contributions and cares about their well-being (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). Prior studies suggest perceived organizational support can provide favorable working conditions for university teachers (Chang, McKeachie, & Lin, 2010; Han et al., 2020).

Based on social exchange theory, perceived organizational support creates a sense of responsibility that employees are conscious of the welfare of their organization (Eisenberger et al., 2001). And from conservation of resources theory, individuals make an effort to keep, protect and increase their resources that enable them to cope with job demands (Hobfoll, 2001; Woerkom, Bakker, & Nishii, 2016). In the context of higher education, when university teachers are highly inspired to teach and feel the support of their organization, they may be more contented with their work, which may lead to a higher level of performance (Panaccio & Vandenberghe, 2009) and a lower level of work fatigue (Frone & Blais, 2019).

2.7.5.1 The moderating effect of POS between Emotional labor (SA & DA) and occupational commitment

As argued above, emotional labor strategy may affect teachers' occupational commitment, but the degree of which may be intervened by perceived organizational support (Jiang, Liu, & Sun, 2016). Those individuals with a high level of organizational support may be more likely to feel the value of their work, and will pay more attention to the resources provided by the organization, so that they may be willing to improve their problem-solving ability, and may have a stronger motivation to work hard (Yu, 2009; Zhang et al., 2016). On the contrary, employees with low-level perceived organizational support feel less grateful to repay their organizations (Eisenberger et al., 2001) and are likely to reduce job engagement and emotional resources at work (Rhoades et al., 2001; Zhang, Wei, & Ren, 2016). Some relevant empirical studies have verified this argument. For example, Jiang, Liu, and Sun (2016) indicate that

university teachers' perception of organizational support significantly moderates the relationship between job burnout and job satisfaction. Hur et al. (2015) explore that perceived organizational support has a significant moderating effect on the relationship between surface acting and job satisfaction, as well as the relationship between deep acting and job performance.

As the support and supplement of job resources, perceived organizational support may buffer the negative relationship between emotional labor (surface acting and deep acting) and occupational commitment. Thus, both surface acting and deep acting have a stronger negative impact on occupational commitment of university teachers with lower levels of perceived organizational support. Therefore, this study proposes the following hypotheses:

Hypothesis 6a: Perceived organizational support will moderate the negative relationship between surface acting and occupational commitment of university teachers, such that surface acting has a stronger negative impact on occupational commitment of university teachers with lower levels of perceived organizational support.

Hypothesis 7a: Perceived organizational support will moderate the negative relationship between deep acting and occupational commitment of university teachers, such that deep acting has a stronger negative impact on occupational commitment of university teachers with lower levels of perceived organizational support.

2.7.5.2 The moderating effect of POS between emotional labor (SA & DA) and work-related fatigue

Based on the JD-R model of burnout (Demerouti et al., 2001) and conservation of resources theory (Hobfoll, 1989), job distress and burnout largely cause by a lack of resources to meet the demands of work. Perceived organizational support may contribute to reduce stress and job burnout (Maslach, 1982), which may make individuals confident in their ability to handle the needs of their roles (Duke et al., 2009). As predicted above, surface acting and deep acting may affect teachers work-related fatigue in different way, but the degree of which may be buffered by perceived organizational support. Although little study has tested perceived organizational support as a moderator between emotional labor (surface acting and deep acting) and work-related fatigue, Frone and Blais (2019) found a significant negative connection between perceived organizational support and overall work-related fatigue. And Kurtessis et al. (2017) explore that perceived organizational support leads to significant reductions in general work exhaustion. Moreover, He, Zuo, and Chang (2020) investigated the moderating effect of perceived organizational support between surface acting and emotional dissonance.

According to the reasoning above, perceived organizational support, as the support and supplement of job resources, may enhance the positive relationship between emotional labor (surface acting and deep acting) and work-related fatigue. Thus, both surface acting and deep acting have a stronger positive impact on work-related fatigue of university teachers with lower levels of perceived organizational support. Therefore, this study hypothesizes:

Hypothesis 6b: Perceived organizational support will moderate positive relationship between surface acting and work-related fatigue of university teachers, such that surface acting has a stronger positive impact on work-related fatigue of university teachers with lower levels of perceived organizational support.

Hypothesis 7b: Perceived organizational support will moderate positive relationship between deep acting and work-related fatigue of university teachers, such that deep acting has a stronger positive impact on work-related fatigue of university teachers with lower levels of perceived organizational support.

2.7.6 Research model

On the basis of above analysis, this study proposes a hypothesized research model as followed in Figure 2.1:

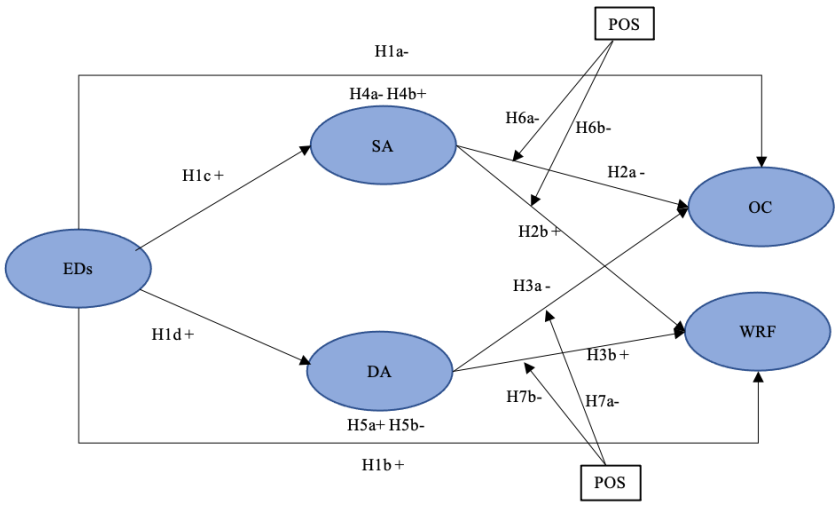

Figure 2.1 Research model

Note: Eds = emotional demands; SA = surface action; DA = deep action; WRF = work-related fatigue; OC = occupational commitment; POS = perceived organizational support

Chapter 3: Research Methods

3.1 Research participants

In this study, the sample is full-time faculty of a local university in Chengdu, Sichuan, China. This university is a multi-disciplinary comprehensive one attached to Sichuan People's Government. At present, this university has approximately 1200 full-time faculty working at 22 departments. The university has now over 24,000 students in 53 undergraduate programs and 38 graduate programs. The data collected in this research contain 580 responses, which were obtained online. Using convenience sampling method, this study distributed the questionnaire to the participants from several departments and offices via Internet (by email, WeChat, and other Internet-based communications) from July to September 2020. After data screening, 471 valid responses were selected for further analysis in this research.

3.2 Measures

The questionnaire consists of six sections including emotional demands, emotional labor, occupational commitment, work-related fatigue, perceived organizational support and demographic variables. All details of measure applied in this survey are provided in Appendix.

3.2.1 Emotional demands

The Frankfurt Emotion Work Scales-E (FEWS) (Zapf et al., 1999) was used to measure emotional demands. Participants responded on a 6-point Likert scale from (1) "never" to (6) "always".

The scale of the questionnaire consists of three items reflecting the emotional regulation requirement and actual inner feelings at workplace (e.g., *"How often is it necessary in your job to put yourself into your students' place?"*). The mean score represents the overall situation of emotional demands. The higher the score, the more emotional demands the participants exposed. In the current study, the reliability of the factor of emotional demands was supported by Cronbach's alpha coefficients, which were .77.

3.2.2 Emotional labor

Emotional labor (surface acting and deep acting) was measured by using the emotional labor scale established by Grandey (2003), originally developed by Brotheridge and Lee (2003). Participants responded on a 6-point Likert scale from (1) "never" to (6) "always".

Surface acting was assessed by five items (e.g., *"Put on an act in order to deal with students in an appropriate way"*), and deep acting by three items (e.g., "*Try to actually experience the emotions that I must show"*). The mean score indicates the overall situation of emotional labor. The higher the score, the more emotional labor the participants suffered. In the current study, the reliability of the two factors of emotional labor was supported by Cronbach's alpha coefficients, with surface acting .89 and deep acting .85 respectively.

3.2.3 Occupational commitment

Occupational commitment was measured by six items scale developed by Meyer et al. (1993) to test university teachers' affective commitment to their occupation. Each item was scored on a 6-point Likert scale (1) "strongly disagree" to (6) "strongly agree".

Due to low factor loading compared with other items, the item OC1 was deleted from the scale of occupational commitment. Totally, five items were used in this study (e.g., "*I do not regret having entered education profession"*). The mean score indicates the overall situation of occupational commitment. The higher the score, the higher level of occupational commitment the participants were reported. In the current study, the reliability of the occupational commitment was supported by high Cronbach's alpha coefficients which was .86.

3.2.4 Work-related fatigue

Work-related fatigue was measured by six items from the Work Fatigue Inventory (WFI) (Frone & Tidwell, 2015). Each item was scored on a 6-point Likert scale (1) "never" to (6) "always".

Due to low factor loading compared with other items, the items including WRF4 and WRF 6 were deleted from the scale of work-related fatigue. Then, four items were used in this study (e.g., *"During the PAST 12 MONTHS, how often did you feel mentally exhausted at the end of the workday"*). The mean score indicates represents the overall situation of work-related fatigue. The higher the score, the higher level of work-related fatigue the participants were reported. In the current study, the reliability of work-related fatigue was supported by high Cronbach's alpha coefficients, which was .84.

3.2.5 Perceived organizational support

Perceived organizational support was measured by the short version scale of Eisenberger et al. (1986). Each item was scored on a 6-point Likert scale (1) "strongly disagree" to (6) "strongly agree".

Due to low factor loading compared with other items, the items including POS1, POS2 and POS5 were deleted from the scale of perceived organizational commitment. Totally, five items were used in this study (e.g., "*The organization would value any complaint from me"*). The mean score indicates the overall situation of perceived organizational support. The higher the score, the stronger perceived organizational support the participants estimate how well their organization views their contributions and well-being (Qi, 2016; Ervin, 2018). In the current study, the reliability of the perceived organizational support was supported by high Cronbach's alpha coefficients which was .83.

3.2.6 Demographic characteristics

According to literature review, demographic variables in this study included gender, age, marital status, education background, professional title, organization tenure, work orientation, and working hours per week, which are described as follows.

Gender includes male and female. As for age, the subjects are divided into three groups (Group1: 30 years or less; Group2: 31 to 45 years). The marital status includes married, single and others (e.g., divorced). The teachers' educational background ranges from undergraduate, master, doctoral. The professional title includes four levels: professor, associate professor, lecturer, teaching assistant. The tenure includes four levels: < 3 years, 3-5 years, 6-10 years, > 10 years. Work orientation includes research-oriented teachers, teaching-oriented and integrated teachers. As for working hours per week, the subjects are divided into three groups (Group 1: < 40 hours; Group2: 40-50 hours; Group3: > 50 hours).

3.3 Pilot test

The questionnaire recited several English scales or sub-scales. The respondents were Chinese and not native English speakers, they might not have been able to entirely comprehend the meaning of each statement. To ensure the respondents could understand each item in the questionnaire, the English questionnaire was translated into Chinese. Subsequently, eight university teachers in Chengdu examined the translation version to ensure that it was linguistic

and cultural equivalent to the English version. Meanwhile, prior to the main survey, a pilot test was conducted in accordance with reliable scale development guidelines.

A preliminary questionnaire was compiled before the pilot test to ensure the content validity and conciseness of the scale above. Fifteen full university teachers (three professors, five associate professors, five lectures and two teaching Assistant) were invited to discuss the clarity and conciseness of each dimension, and to provide feedback for revision. Then, according to the comments of respondents, some items were revised to improve wording and reduce ambiguity. This process led to a pilot test questionnaire with 49-item scale.

The pilot test questionnaire consisted of five main scales: emotional demands scale, emotional labor scale, perceived organizational support scale, occupational commitment scale and work-related fatigue scale. The purpose of the pilot test is to verify the validity of the content structure of the whole instrument, to ensure that the respondents understand the wording and sentences in the questionnaire, and to delete the items that are statistically unreliable.

Between July 1, 2020 and July 8, 2020, we distributed 166 questionnaires to teachers from a local university in Chengdu, Sichuan, China, 166 of which were actually returned. The return rate was 100%. Questionnaire screening was used to delete any questionnaire where the answers were obviously not serious and contradictory. Of the 166 returned questionnaires, 142 were recorded to SPSS for further analysis. In the pilot test, this study conducted a descriptive analysis of demographic information of participants, exploratory factor analysis and reliability analysis to refine the structure of the instruments.

First, we performed a descriptive analysis. The results showed that the proportion of male was 50.60%, and the married accounted for 88.55%. The average age of the participants were 34.63 years old. The majority of the respondents hold master's degrees (70.48%), followed by doctor's degree (24.70%). As for the professional title, 57.83% of the participants were lectures, followed by associate professors with 30.72%. About the professional tenure, 66.87% of the participants had been working for the university for 6 to 10 years, followed by 30.12% for 3 to 5 years. Regarding work orientation, 55.42% of the teachers were teaching-oriented, and 31.33% were integrated. The majority of respondents worked 40-50 hours per week (63.86%), followed by less than 40 hours (25.30%).

Second, exploratory factor analysis was computed to identify the potential dimensions of the variables. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used to support the factorability of the matrix (Joukamaa et al., 2001). The results showed that both the KMO value and significance of Bartlett's test of sphericity were acceptable for all the scales of the questionnaire. Then, we tested the communalities and

the factor loading of each item. The factors of emotional demands, emotional labor and occupational commitment were consistent with constructs and items of the original scale, and the loading value were acceptable. However, the loading value of item WRF5 (i.e., 0.49) and item POS6 (i.e., 0.58) were low. The principal components of the analysis of POS extracted two factors with eigenvalue value higher than 1, and items "POS 3, 4 and 8" were included in factor two, which was inconsistent with previous one-dimension theory (Eisenberger et al., 1986; Rhoades and Eisenberger, 2002). As such, the items of "WRF5, POS 3, 4, 8" were revised to make it easier for participants to understand in main survey. Next, the reliability test was performed. According to the reliability test results, Cronbach's alpha reliability coefficient of all the instruments were higher than .70, indicating an acceptable reliability (Churchill, 1979).

On the basis of the pilot test and its modification, this study built a formal questionnaire and conducted the main survey.

3.4 Statistical analysis

The SPSS26.0 and AMOS26.0 statistical software were used to analyze data including descriptive analysis, correlation analysis, confirmatory factor analysis, exploratory factor analysis, variance analysis, as well as structural equation model. Reliability analysis was conducted to verify the stability and consistency of the scale with internal consistency coefficient (Cronbach's alpha). Independent sample t-test and ANOVA were used to analyze the demographic characteristics of the key variables. Pearson correlation analysis was used to test the correlation between the key variables. Through maximum likelihood estimation, confirmatory factor analysis was run to determine whether the factor structure model fit the data collected, and whether the items could be used as a measurement of potential variables.

Structural equation models (SEM) were used to test the hypothesis and research model. For good model fit, the ratio of Chi square and degrees of freedom (CMIN/DF) should be less than three with acceptable significant p-value (Bentler, 1990; Hu & Bentler, 1999); the Comparative Fit Index (CFI) above .90 (Hu & Bentler, 1999); Root Mean Square Error of Approximation (RMSEA) value below .07 (Hu & Bentler, 1999); the Tucker-Lewis Index (TLI) value above 0.90 (Hu & Bentler, 1999; McDonald & Ho, 2002), and Standardized Root Mean Square Residual (SRMR) below .08 (Hoyle, 1995; Hu & Bentler, 1999). Whenever fit index rejects the model, we opted for exploratory factor analysis (EFA). Exploratory factor analysis is acceptable when KMO value is higher than .6, MSA is above .50, the significance of Bartlett's test of

sphericity below .05, and all communalities higher than .50 (Kaiser & Rice, 1974; Tabachnick & Fidell, 2007; Williams, Brown, & Onsman, 2010).

After the structural equation models analysis, this study conducted hierarchical linear regression analysis to test the moderating effect of perceived organizational support on the relationship between emotional labor (SA & DA) and occupational commitment, emotional labor (SA & DA) and work-related fatigue.

3.5 Confirmatory factor analysis

Based on the pilot test, the questionnaire was modified and ready for the main survey data collection. The main survey data collected and received 580 responses via Internet (by email, WeChat, and other Internet-based communications). After the invalid questionnaires deleted, there were 471 valid responses for further analysis in this research.

By using IBM SPSS AMOS 26.0, we run confirmatory factor analysis to verify the factor structures of the scales in this study. All items have been arranged according to the variables used in this thesis. The threshold levels used in this study were proposed by Hu and Bentler (1999) and supplemented by Hair et al. (2010). For good model fit, the ratio of Chi square and degrees of freedom (CMIN/DF) should be less than five with p-value above .05, the Comparative Fit Index (CFI) above .90; Root Mean Score Error of Approximation (RMSEA) blow .08 and Standardized Root Mean Square Residual (SRMR) below .08.

The confirmatory factor analysis result with the original factor structure of emotional labor (CMIN/df= 1.60, p=.05, CFI= .99, RMSEA = .04, SRMR = .03) showed acceptable fit indices. However, the CFA result of other variables, such as emotional demands (CMIN/df= 2.84, p = .00, CFI = .99, RMSEA = .09, SRMR = .02), occupational commitment (CMIN/df = 2.70, p = .00, CFI = .97, RMSEA = .12, SRMR = .04), work-related fatigue (CMIN/df = 5.29, p = .01, CFI = .99, RMSEA = .10, SRMR = .02) and perceived organizational commitment (CMIN/df = 3.23, *p* = .00, CFI = .97, RMSEA = .07, SRMR = .03) showed questionable fit indices. Hence, exploratory factor analysis of all variables was operated next in this study. Before we run exploratory factor analysis, due to low factor loading compared with other items, we removed OC1 from the scale of occupational commitment, WRF4, 6 from the scale of work-related fatigue and POS1, 2, 5 from the scale of perceived organizational commitment.

To analyze the possibility of common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012), this study tested all indicator items for all variables as a single factor model. The results suggested that this single factor model has undesirable fit (CMIN/df = 15.54, p =

.000; CFI = .40; RMSEA = .18; SRMR = .17). The result suggested that the data were not significant biased by an underlying common method factor.

3.6 Exploratory factor analysis and reliability analysis

Exploratory factor analysis was conducted because the confirmatory factor analysis results with the original factor structure of most key variables reported questionable fit indices. Then, reliability test was performed for instrument validation through SPSS26.0. Before factor analysis and reliability test results were provided, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used to support the factorability of the matrix (Joukamaa et al., 2001). The KMO value should be higher than .60 (Kaiser, 1970; Kaiser & Rice, 1974; Hair et al., 2006), and the significance of Bartlett's test of sphericity in factor analysis should be less than 0.05 (Kaiser & Rice, 1974; Williams, Brown, & Onsman, 2010). When both the KMO value and significance of Bartlett's test of sphericity are acceptable, the communalities and the factor loading of each item can be tested.

3.6.1 Emotional demands

The three items of the emotional demands scale were examined by exploratory factor analysis, the KMO value was .70, higher than the recommended value of .60 (Kaiser,1970) and Bartlett's (1954) test of Sphericity presented good construct validity (Chi-square: 365.75, df:3, Sig.: .000). This indicated that the statements were fit for factor analysis.

The principal components of the analysis extracted one factor with eigenvalue value higher than 1. The cumulative squared load after rotation was 68.52%, suggesting that the "very good" percentage of the extracted principal components (Tabachnick & Fidell, 2007). After the rotation, the factor loadings of 3 items exceeded the required value of 0.60, as shown in Table 3.1 below. The factor includes "Emotional demands 1, 2, 3". The factor is consistent with constructs and items of the original scale, and the loading value are acceptable.

After conducting exploratory factor analysis, the reliability test was performed to examine the internal consistency coefficient (Cornbach's α) of the scale. According to the reliability test results for the emotional demands instrument, Cronbach's alpha reliability coefficient of the of emotional demands was 0.77 (See Table 3.2), which were higher than .70, indicating an acceptable reliability.

Table 3.1 Summary of the rotated factor matrix of all scales

Scale	Items	Factor					
		1	2	3	4	5	6
Emotional demands	ED1. How often in your job do you have to observe (pay attention to understand) students' emotions?	0.76					
	ED2. How often in your job do you have to understand how students feel at certain moments (which is important for my job)?	0.83					
	ED3.How often is it necessary in your job to put yourself into your students' place?	0.74					
Emotional labor	SA1. Put on an act in order to deal with students in an appropriate way		0.79				
	SA2. Fake a good mood		0.83				
	SA3. Put on a "show" or "performance"		0.82				
	SA4. Just pretend to have the emotions I need to display for my job		0.74				
	SA5. Put on a "mask" in order to display the emotions I need for the job		0.85				
	DA1. Try to actually experience the emotions that I must show			0.82			
	DA2. Make an effort to actually feel the emotions that I need to display towards others			0.86			
	DA3. Work hard to feel the emotions that I need to show to others			0.87			
Occupational commitment	OC 2. I do not regret having entered hospitality and tourism education profession.				0.77		
	OC 3. I am proud to be in the education profession.				0.85		
	OC 4. I like being a teacher.				0.80		
	OC 5. I do identify with the teaching profession.				0.84		
	OC 6. I am enthusiastic about teaching.				0.78		
Work-related fatigue	WRF1. I feel mentally exhausted.					0.80	
	WRF 2. I have difficulty thinking and concentrating.					0.81	
	WRF 3. I feel mentally worn out.					0.78	
	WRF 5. I feel mentally drained.					0.88	
Perceived organizational support	POS 3. The organization would value any complaint from me.						0.75
	POS 4. The organization really cares about my well-being.						0.77
	POS 6. The organization cares about my general satisfaction at work.						0.78
	POS 7. The organization shows concern for me.						0.80
	POS 8. The organization takes pride in my accomplishments at work.						0.77

Table 3.2 Reliability analysis (N = 471)

items	Cronbach's α (n = 471)	Correlation between scale and each item	Internal consistency coefficient after deletion of the item
Emotional demands	0.77		
ED1		0.69	0.81
ED2		0.74	0.81
ED3		0.75	0.82
Emotional labor	0.88		
SA	0.89		
SA1		0.71	0.86
SA2		0.69	0.86
SA3		0.70	0.86
SA4		0.65	0.87
SA5		0.72	0.86
DA	0.84		
DA1		0.59	0.87
DA2		0.54	0.88
DA3		0.55	0.87
Occupational commitment	0.86		
OC2		0.64	0.85
OC3		0.74	0.82
OC4		0.67	0.84
OC5		0.73	0.83
OC6		0.66	0.85
Work-related fatigue	0.84		
WRF1		0.64	0.81
WRF 2		0.66	0.81
WRF 3		0.61	0.82
WRF 5		0.79	0.75
Perceived organizational support	0.83		
POS3		0.60	0.81
POS4		0.62	0.80
POS6		0.64	0.80
POS7		0.67	0.79
POS8		0.63	0.80

3.6.2 Emotional labor

The eight items of the emotional labor scale were examined by exploratory factor analysis, the KMO value was .88, higher than the recommended value of .60 (Kaiser, 1970) and Bartlett's (1954) test of Sphericity presented good construct validity (Chi-square: 2005.42, df:28, Sig.: .000). This indicated that the statements were fit for factor analysis.

Two factors were extracted by principal components analysis with eigenvalue value higher than 1. The variance interpretation rates of these two factors after rotation were 42.57% and 29.90% respectively, and the cumulative squared load after rotation was 72.47%, suggesting that the "very good" percentage of the extracted principal components (Tabachnick & Fidell, 2007). After the rotation, the factor loadings of 8 items of the two factors exceeded the required value of 0.60. Factor one includes "surface acting 1, 2, 3, 4, 5", while factor two includes "deep acting 1, 2, 3". The two factors are consistent with constructs and items of the original scale, and the loading value are acceptable.

After conducting exploratory factor analysis, the reliability test was performed. According to the reliability test results for the emotional labor instrument, Cronbach's alpha reliability coefficient of surface acting and deep acting were 0.89 and 0.84 respectively (See Table 3.2), indicating the items have a "ideal (.80 or more)" internal consistency.

3.6.3 Occupational commitment

After confirmatory factor analysis, the item OC1 was removed due to low factor loading compared with other items. Then, the five items of the occupational commitment scale were examined by exploratory factor analysis, the KMO value was .76, higher than the recommended value of .60 (Kaiser, 1970, 1974) and Bartlett's (1954) test of Sphericity presented good construct validity (Chi-square: 212.720, df:15, Sig.: .000). This indicated that the statements were fit for factor analysis.

The principal components of the analysis extracted one factor with eigenvalue value higher than 1. The cumulative squared load after rotation was 63.91%, suggesting that the "very good" percentage of the extracted principal components (Tabachnick & Fidell, 2007). After the rotation, the factor loadings of 5 items exceeded the required value of 0.60, as shown in Table 3.1 above. The factor includes "occupational commitment 2, 3, 4, 5, 6". The factor is consistent with constructs and items of the original scale, and the loading value are acceptable.

After conducting exploratory factor analysis, the reliability test was performed. According to the reliability test results for the occupational commitment instrument, Cronbach's alpha reliability coefficient of the factor of occupational commitment was .76 (See Table 3.2), which was higher than .70, indicating an acceptable reliability.

3.6.4 Work-related fatigue

After confirmatory factor analysis, the items MF4 and MF6 were removed from the scale of work-related fatigue due to low factor loading compared with other items. Then, the four items of the work-related fatigue scale were examined by exploratory factor analysis, the KMO value was .78, higher than the recommended value of .60 (Kaiser, 1970) and Bartlett's (1954) test of Sphericity presented good construct validity (Chi-square:794.33, df: 6, Sig.: .000). This indicated that the statements were fit for factor analysis.

The principal components of the analysis extracted one factor with eigenvalue value higher than 1. The cumulative squared load after rotation was 68.04%, suggesting that the "very good" percentage of the extracted principal components (Tabachnick & Fidell, 2007). After the rotation, the factor loadings of 4 items exceeded the required value of 0.60, as shown in Table 3.1 above. The factor includes "work-related fatigue 1, 2, 3, 5". The factor is consistent with constructs and items of the original scale, and the loading value are acceptable.

After conducting exploratory factor analysis, the reliability test was performed. According to the reliability test results for the work-related fatigue instrument, Cronbach's alpha reliability coefficient of the work-related fatigue was .84 (See Table 3.2), indicating the items had a "ideal (.80 or more)" internal consistency.

3.6.5 Perceived organizational support

After confirmatory factor analysis, the items POS1, POS 2 and POS 5 were removed from the scale of perceived organizational commitment due to low factor loading compared with other items. Then, the five items of the perceived organizational commitment scale were examined by exploratory factor analysis, the KMO value was .91, higher than the recommended value of .60 (Kaiser, 1970) and Bartlett's (1954) test of Sphericity presented good construct validity (Chi-square:1899.03, df: 10, Sig.: .000). This indicated that the statements were fit for factor analysis.

The principal components of the analysis extracted one factor with eigenvalue value higher than 1. The cumulative squared load after rotation was 79.24%, suggesting that the "very good" percentage of the extracted principal components (Tabachnick & Fidell, 2007). After the rotation, the factor loadings of 4 items exceeded the required value of 0.60, as shown in Table 3.1 above. The factor includes "perceived organizational support 3, 4, 6, 7, 8". The factor is consistent with constructs and items of the original scale, and the loading value are acceptable.

After conducting exploratory factor analysis, the reliability test was performed. According to the reliability test results for the perceived organizational support instrument, Cronbach's alpha reliability coefficient of the work-related fatigue was .83 (See Table 3.2), indicating the items have a "ideal (.80 or more)" internal consistency.

After confirmatory factor analysis, exploratory factor analysis and reliability analysis of the main survey, this study conducted the structural equation model to test the hypothesized model. And hierarchical linear regression analysis was used to examine the moderating role of perceived organizational support in the hypothesized model.

3.7 Common Methods Bias

This study used Harman's single-factor test to investigate whether there is a common method bias in the research data (Harman, 1976). All variables were loaded into an exploratory factor analysis and the unrotated factor solution was examined to determine the number of factors needed to explain the variance of the variables (Podsakoff et al., 2003). The results (See Table 3.3) show that six factors with initial eigenvalues greater than 1 are extracted, among which the variation of the maximum eigenvalue factor account for 31.56%, less than 40% (Hair et al., 1998). Therefore, we suggest there is no significant common method bias in the measurement. The measurement data obtained can be used for data analysis.

Table 3.3 Explanation of total variance

Factors	Initial Eigenvalues			Extracted Factor Loadings		
	Total	% of Variance (Initial)	% of Cum. Variance (Initial)	Total	% of Variance (Initial)	% of Cum. Variance (Initial)
1	7.89	31.56	31.56	7.89	31.56	31.56
2	3.83	15.31	46.86	3.83	15.31	46.86
3	2.15	8.62	55.48	2.15	8.62	55.48
4	1.69	6.74	62.22	1.69	6.74	62.22
5	1.41	5.63	67.85	1.41	5.63	67.85
6	1.03	4.11	71.96	1.03	4.11	71.96
7	0.67	2.69	74.65			
8	0.56	2.25	76.90			
9	0.54	2.18	79.08			
10	0.52	2.07	81.15			
11	0.46	1.82	82.97			
12	0.42	1.69	84.66			
13	0.40	1.60	86.27			
14	0.38	1.52	87.79			
15	0.36	1.42	89.21			
16	0.35	1.40	90.61			
17	0.34	1.35	91.96			
18	0.31	1.25	93.21			
19	0.29	1.16	94.36			
20	0.28	1.12	95.48			
21	0.26	1.02	96.50			
22	0.24	0.97	97.47			
23	0.23	0.93	98.40			
24	0.22	0.88	99.28			
25	0.18	0.72	100.00			

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Chapter 4: Results

4.1 Descriptive of participants

In this study, the participants were university teachers at a local university in Chengdu, Sichuan, China. As illustrated in Table 4.1, demographic information of the participants included information about gender, age, marital status, education background, professional title, tenure and work orientation and working hours per week (WHPW). The majority of the participants were female (59.7%) and married (83.03%). The average age of the participants were 36.33 years old. The age distributions were predominated by staffs who are between 31 to 45 years old (66.9%). The majority of the respondents hold master's degrees (59.2%), followed by doctor's degree (22.5%).

As for the professional title, 54.6% of the participants were lectures, followed by associate professors with 28.7%. About the professional tenure, 52.9% of the participants had been working for the university for 6 to 10 years, followed by 37.6% for 3 to 5 years. Regarding work orientation, 60.1% of the teachers were teaching-oriented, and 29.7% were integrated. The majority of respondents worked 40-50 hours per week (59.7%), followed by less than 40 hours (33.3%).

4.2 Mean and correlation analysis of key variables

In this study, we adopted SPSS 26 statistical software to perform Pearson correlation coefficient analysis. This study follows the guidelines from Cohen (1988) on the value of the correlation coefficient: small (r = .10 to .29), medium (r = .30 to .49), large (r = .50 to 1.00). Table 4.2 reports the mean value and correlation analysis of the key variables.

Bivariate analysis shows that emotional demands was positively related to surface acting (r = .46, $p < .01$), deep acting (r = .42, $p < .01$) and work-related fatigue (r = .38, $p < .01$), but negatively related to occupational commitment (r = -.50, $p < .01$). Surface acting was negatively related to occupational commitment (r = -.33, $p < .01$), but positively with work-related fatigue (r = .47, $p < .01$). Deep acting was negatively related to occupational commitment (r = -.41, $p < .01$), but positively with work-related fatigue (r = .41, $p < .01$). Occupational commitment was negatively related to work-related fatigue (r = -.44, $p < .01$). Perceived organization support was positively related to occupational commitment (r = .12, $p < .01$) and negatively to work-

related fatigue (r = -.24, $p < .01$). These findings provide preliminary supports for the proposed theoretical model.

Table 4.1 Descriptive analysis (N= 471)

Measure	Frequency	Percentage %
Gender		
Male	190	40.3
Female	281	59.7
Age		
<31	156	33.1
31- 45	315	66.9
Marital Status		
Single	76	16.1
Married	391	83.0
Others	4	0.8
Education		
Undergraduate	86	18.3
Master	279	59.2
Doctoral	106	22.5
Professional title		
Professor	39	8.3
Associate Professor	135	28.7
Lecture	257	54.6
Teaching Assistant	40	8.5
Tenure		
< 3 years	43	9.1
3-5 years	177	37.6
6-10 years	249	52.9
> 10 years	2	0.4
Work-orientation		
research-oriented	48	10.2
teaching-oriented	283	60.1
integrated	140	29.7
Working hours per week		
< 40 hours	157	33.3
40-50 hours	281	59.7
> 50 hours	33	7

Table 4.2 Means, standard deviation, correlations and scale reliabilities

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Gender	-	0.49	1													
2	Age	-	0.47	0.05	1												
3	Marriage	-	0.38	0.00	.36**	1											
4	Education	2.04	0.64	-0.06	.146**	.10*	1										
5	title	2.63	0.75	0.04	-0.27	-.17**	-.26**	1									
6	Tenure	2.45	0.66	0.02	.40**	.33**	-.10*	-.23**	1								
7	WO	2.20	0.60	-.09*	0.01	0.01	.11*	0.04	0.02	1							
8	WHPW	1.74	0.58	-0.05	0.09	-0.01	0.07	-0.06	.090*	-0.02	1						
9	ED	4.14	0.76	-.09*	0.00	0.06	0.02	0.06	-0.03	0.00	-.12*	***(.77)***					
10	SA	3.99	0.98	-0.09	0.01	-0.01	.11*	0.03	-0.05	-0.02	-0.06	.46**	***(.89)***				
11	DA	4.27	0.83	-0.03	0.03	0.03	0.06	-0.01	-0.01	-0.05	-0.03	.42**	.48**	***(.85)***			
12	OC	2.60	0.79	0.06	-0.06	-0.04	-0.08	0.08	-0.02	0.01	0.08	-.50**	-.33**	-.41**	***(.86)***		
13	WRF	4.13	0.84	-0.05	.12**	0.06	0.08	-0.04	0.06	-0.03	-.09*	.38**	.47**	.41**	-.44**	***(.84)***	
14	POS	2.89	0.95	0.02	-0.07	0.02	-0.02	0.07	0.02	-0.04	0.07	-.24**	-0.02	-.13**	.12**	-.24**	***(.83)***

Note: N= 471, Italicized values on the diagonal are Cronbach's α reliability coefficients.
WO= work orientation; WHPW= working hours per week; ED= emotional demands; SA= surface acting; DA= deep acting; OC= occupational commitment; WRF= work-related fatigue; POS= perceived organizational support.
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.3 Variance analysis

For the variance analysis, this study used independent sample t-test to analyze regarding ages, and used one-way ANOVA regarding education background, professional titles, tenure, work orientation, working hours per week.

4.3.1 Analysis of Independent sample T-Test on age

An independent sample t-test was performed to examine the difference on the levels of emotional demands, surface acting, deep acting, occupational commitment, work-related fatigue, perceived organizational support, concerning different age groups. Results are illustrated in Table 4.3.

Based on Table 4.3, there was no significant difference in emotional demand, surface acting, deep acting, perceived organizational support among different age groups. However, there existed significant difference in work-related fatigue ($p < .01$). According to the comparison of the mean, work-related fatigue reported by teachers younger than 31 (mean = 3.99, SD = .88) is lower than that by those aged from 31 to 45 (mean = 4.20, SD = .81).

Table 4.3 Independent sample t-test results of key variables by age

Variables	Age	N	Mean (SD)	T
ED	<31	156	4.14(0.80)	0.01
	31-45	315	4.14(0.75)	
SA	<31	156	3.97(0.98)	-0.30
	31-45	315	4.00(0.98)	
DA	<31	156	4.24(0.79)	-0.56
	31-45	315	4.28(0.85)	
OC	<31	156	2.67(0.83)	1.35
	31-45	315	2.57(0.76)	
WRF	<31	156	3.99(0.88)	-2.66**
	31-45	315	4.20(0.81)	
POS	<31	156	2.98(0.91)	1.44
	31-45	315	2.85(0.97)	

Note: ED = emotional demands; SA = surface acting; DA = deep acting; OC = occupational commitment; WRF = work-related fatigue; POS = perceived organizational support; SD = standard deviation.

**. T-test is significant at the 0.01 level (2-tailed).

4.3.2 Variance analysis on education

Table 4.4 is the results of variance analysis of the key variables on education background by performing ANOVA analysis. It can be seen that there was no significant difference on emotional demands, surface acting, occupational commitment, perceived organizational support and work-related fatigue among three different levels of education background. However, a significant difference on deep acting ($p < .05$). Least significant difference (LSD) testing has been conducted for Post–hoc comparison.

The mean difference indicated that deep acting of the respondents with doctoral degree (mean= 4.37, SD = 0.78, $p < .05$) is significantly higher than that of those with bachelors' degree (mean= 4.24, SD = 0.84) and masters' degree (mean= 4.24, SD = 0.84). However, there was no significance difference existed on deep acting between those with bachelors' degree and masters' degree.

4.3.3 Variance analysis on professional title

As shown by Table 4.4, it can be seen that there was no significant difference on emotional demands, surface acting, deep acting, work-related fatigue and perceived organizational support among four different groups of professional title. However, a significant difference on occupational commitment ($p = < .05$) was reported. LSD testing has been conducted for Post–hoc comparison. The mean difference indicated that the level of occupational commitment of teaching assistant (mean = 2.87, SD = 0.86, $p = < .05$) was significantly higher than that of professors (mean = 2.41, SD = 0.71), lectures (mean = 2.58, SD = 0.76). The level of occupational commitment of professors (mean = 2.41, SD = 0.71, $p = < .05$) was significantly lower than that of associate professors (mean = 2.63, SD = 0.82). However, there was no significance difference existed on occupational commitment between professors and lecturers, and between lecturers and teaching assistants.

4.3.4 Variance analysis on working hours per week

As shown by Table 4.4, it can be seen that there was no significant difference on surface acting, occupational commitment, work-related fatigue and perceived organizational support among the respondents working different hours per week. However, a significant difference on emotional demands ($p < .05$) was reported. LSD testing has been conducted for Post–hoc comparison. The mean difference indicated that the respondents working more than 50 hours

per week were reported the highest level of emotional demands (mean = 4.24, SD = 0.80, $p < .05$). While there was no significant difference between those working less than 40 hours per week (mean = 3.89, SD = 0.73) and more than 40-50 hours per week (mean = 4.11, SD = 0.74).

However, there was no significant difference on emotional demands, surface acting, deep acting, occupational commitment, work-related fatigue and perceived organizational support among the respondents' tenure and work orientation. The corresponding tables were not shown for brevity.

Table 4.4 Variance analysis on education, title and WHPW

Variables	Groups	EDs		SA		DA		OC		WRF		POS	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Education	Undergraduate (N=86)	4.14	0.74	3.82	0.98	4.24	0.84	2.68	0.76	4.01	0.92	2.88	0.98
	Master (N=279)	4.12	0.79	3.98	1.00	4.24	0.84	2.63	0.80	4.14	0.85	2.92	0.96
	Doctoral (N=106)	4.19	0.70	4.15	0.91	4.37	0.78	2.48	0.77	4.21	0.75	2.82	0.93
	F	0.28		2.68		1.08*		1.78		1.39		0.38	
	LSD					3 > 1, 2							
Title	Professor (N=39)	4.00	0.85	3.98	1.02	4.44	0.74	2.41	0.71	4.19	0.76	2.73	1.02
	Associate Professor (N=135)	4.10	0.75	3.90	0.94	4.21	0.83	2.63	0.82	4.14	0.83	2.90	0.92
	Lecture (N=257)	4.19	0.75	4.05	1.00	4.26	0.84	2.58	0.76	4.14	0.85	2.86	0.96
	Teaching Assistant (N=40)	4.11	0.77	3.91	0.93	4.33	0.84	2.87	0.86	4.01	0.86	3.21	0.92
	F	0.95		0.79		0.86		2.46*		0.37		1.96	
	LSD							4 > 1, 2; 3 < 2					
Working hours per week	< 40 hours (N=157)	3.89	0.80	4.10	0.92	4.30	0.79	2.53	0.79	4.22	0.83	2.80	1.02
	40-50 hours (N=281)	4.11	0.74	3.93	1.02	4.26	0.84	2.62	0.75	4.11	0.82	2.92	0.91
	> 50 hours (N=33)	4.24	0.73	4.02	0.87	4.19	0.98	2.77	1.01	3.91	0.97	3.02	1.01
	F	3.42*		1.61		0.24		1.49		2.20		1.15	
	LSD	3 > 1, 2											

Note: EDs = emotional demands; SA = surface acting; DA = deep acting; OC = occupational commitment; POS = perceived organizational support; WRF = work-related fatigue; SD = standard deviation; WHPW = working hours per week.
* $p < 0.05$

4.4 Structural equation model analysis

In order to examine the direct effect and mediating effect in the theoretical model (Figure 2.1), different models were measured by structural equation model (SEM) using AMOS 26.0. The direct effect and mediating effect in the theoretical model were composed of five latent variables, including emotional demands, surface acting, deep acting, occupational commitment and work-related fatigue.

According to previous proposal from Kunze, De Jong, and Bruch (2016) and Mao et al. (2019), this study followed a stepwise method to compare different models and exam the sequential indirect model (see Table 4.5). First, as shown Figure 4.1, this study examined a three-path mediation model (Model I) with five factors including emotional demands, surface acting, deep acting, occupational commitment and work-related fatigue. As shown Table 4.5, the result reports a good and acceptable model fit (i.e., CMIN/DF = 2.95 < 3, CFI = 0.93 > 0.92, TLI = 0.92 > 0.70, RMSEA = 0.06 < 0.07, SRMR = 0.04 < 0.08). According to Table 4.6, the path coefficients of EDs → SA, EDs → DA, EDs → OC, EDs → WRF, SA → WRF, DA → OC and DA → WRF are statistically significant ($p < 0.05$); the path coefficient of SA → OC is not statistically significant ($p > 0.05$).

Table 4.5 Summary of fits of structural equation model

Model	CMIN/df	P	CFI	TLI	RMSEA	SRMR
Standard parameter	< 3	< .00	> .92	> .70	< .07	< .08
Model I: three-path mediation model	2.95	.00	.93	.92	.06	.04
Alternative modle 1: direct effect only	4.41	.00	.93	.91	.09	.09
Alternative modle 2: SA as mediator only	3.15	.00	.94	.93	.07	.08
Alternative modle 3: DA as mediator only	3.50	.00	.94	.92	.07	.07
Alternative modle 4: indirect effect only	3.14	.00	.93	.92	.07	.09
Alternative modle 5: without the path ED-OC	3.13	.00	.93	.92	.07	.09
Alternative modle 6: without the path ED-WRF	2.99	.00	.93	.92	.07	.09

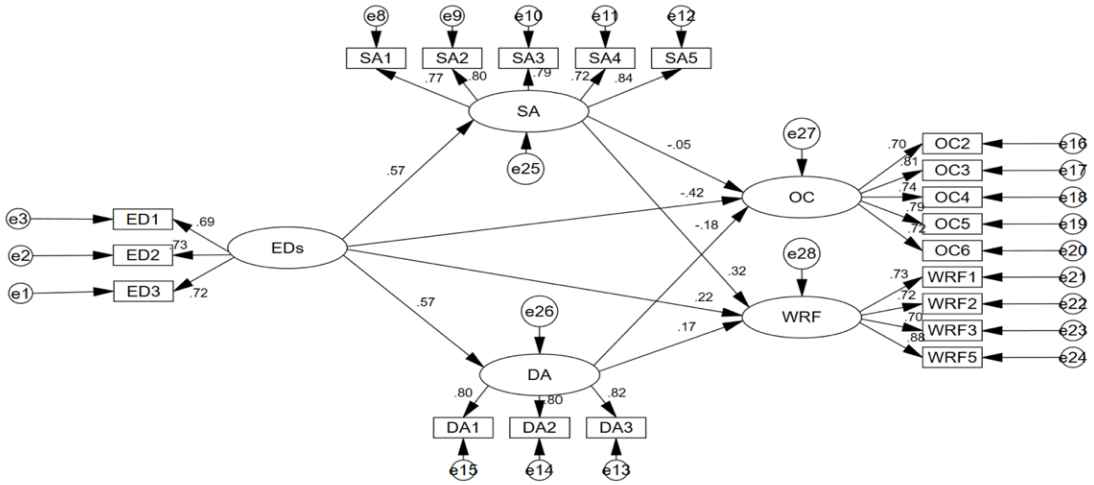

Figure 4.1 Path diagram of SEM (model I)

Table 4.6 SEM path coefficients (three-path mediation model)

SEM path			Standardized path coefficient	Non-standardized path coefficient	SE	C.R.	P
SA	<---	EDs	0.57	0.75	0.08	9.39	***
DA	<---	EDs	0.57	0.64	0.07	9.33	***
OC	<---	SA	-0.05	-0.03	0.04	-0.77	0.44
WRF	<---	SA	0.32	0.25	0.05	5.14	***
OC	<---	DA	-0.18	-0.15	0.05	-2.92	0.00
WRF	<---	DA	0.17	0.16	0.06	2.76	0.01
OC	<---	EDs	-0.42	-0.40	0.08	-4.96	***
WRF	<---	EDs	0.22	0.23	0.08	2.79	0.01

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Additionally, this study conducted some alternative model tests to investigate other possible relationships (Mao et al., 2019). First, as shown in Figure 4.2, this study examined a model with direct effect only (Alternative Model 1), and the result showed an unsatisfactory fit (i.e., CMIN/DF = 4.41 > 3, CFI = .93 > .92, TLI = .91 > .70, RMSEA = .09 > .70, SRMR = .089 > .08) (See Table 4.5). Then, we examined a model with surface acting as mediator only (Alternative Model 2) (See Figure 4.3), and the result showed unsatisfactory fit indices (i.e., CMIN/DF = 3.15 > 3, CFI = .94 > .92, TLI = .93 > .70, RMSEA = .07 < .70, SRMR = .08 > .08). Similarly, a model with deep acting as mediator only (Alternative Model 3) (See Figure 4.4) was tested, reporting unsatisfactory fit indices (i.e., CMIN/DF = 3.50 > 3, CFI = .94 > .92, TLI = .92 > .70, RMSEA = .07 > .70, SRMR = .07 < .08).

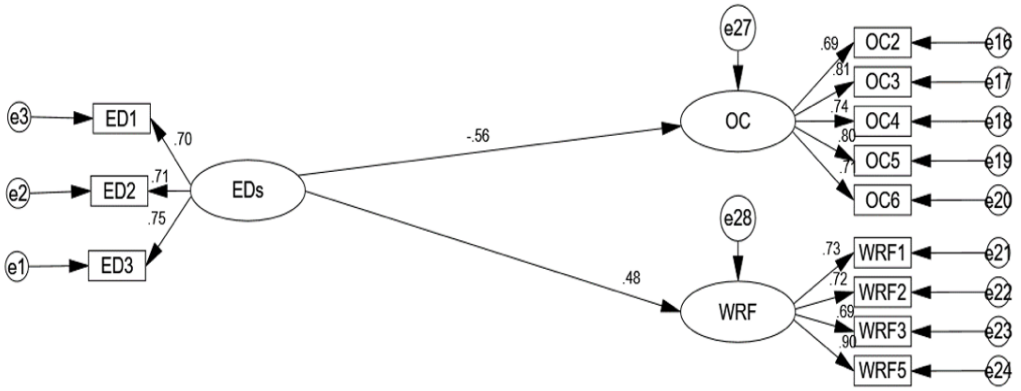

Figure 4.2 Path diagram of SEM (alternative modle 1)

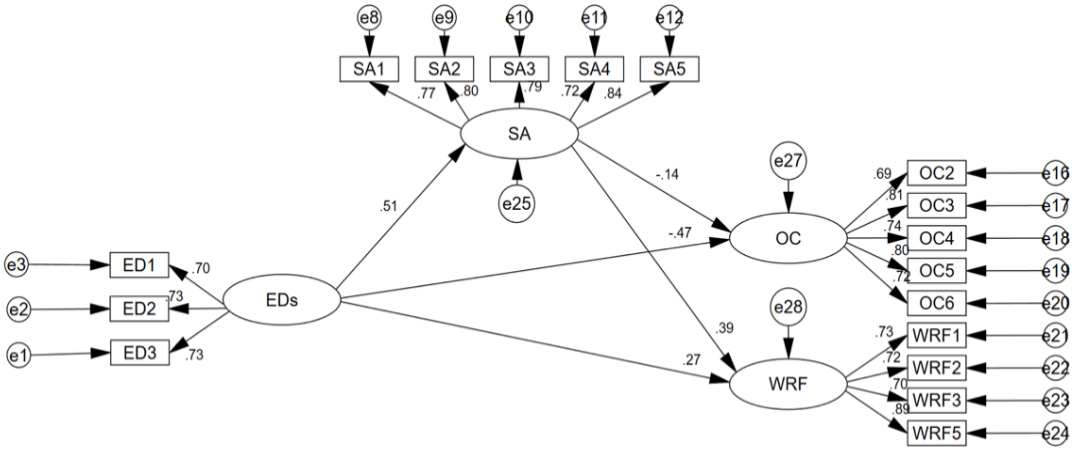

Figure 4.3 Path diagram of SEM (alternative modle 2)

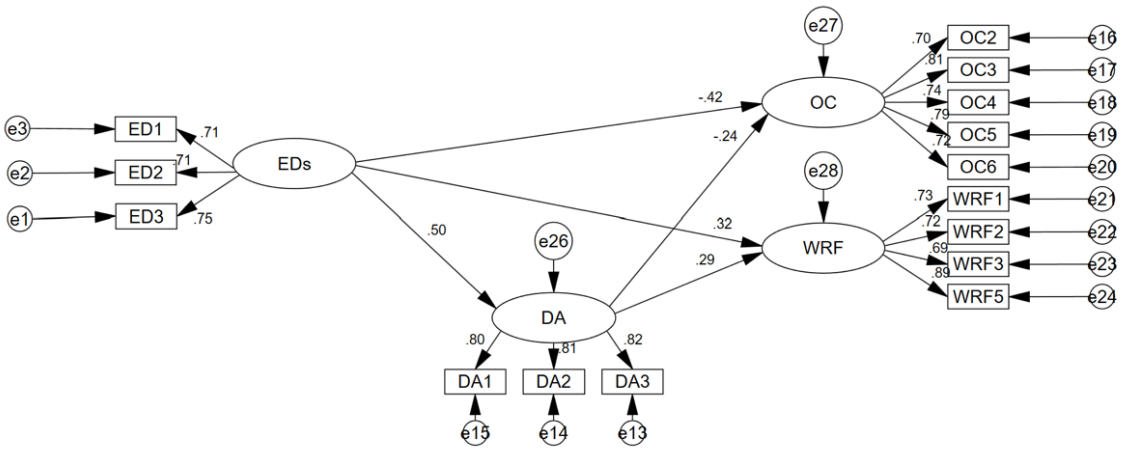

Figure 4.4 Path diagram of SEM (alternative modle 3)

Furthermore, this study intended to prove the proposed indirect effect. First, we tested a model with indirect effect only (Alternative Model 4) (See Figure 4.5), and it showed an unsatisfactory model fit (i.e., CMIN/DF = 3.14 > 3, CFI = .93 > .92, TLI = .92 > .70, RMSEA = .07 > .70, SRMR = .09 > .08). Next, we tested a model without the path emotional demands to occupational commitment (Alternative Model 5) (See Figure 4.6), and it showed an unsatisfactory model fit (i.e., CMIN/DF = 3.13 > 3, CFI = .93 > .92, TLI = .92 > .70, RMSEA = .07 > .70, SRMR = .09 > .08). Similarly, a model without the path emotional demands to work-related fatigue (Alternative Model 6) (See Figure 4.7) was tested, reporting an unsatisfactory model fit (i.e., CMIN/DF = 3.13 > 3, CFI = .93 > .92, TLI = .92 > .70, RMSEA = .07 > .70, SRMR = .09 > .08). Then the results supported the sequential effect suggested in the theoretical model (Figure 2.1).

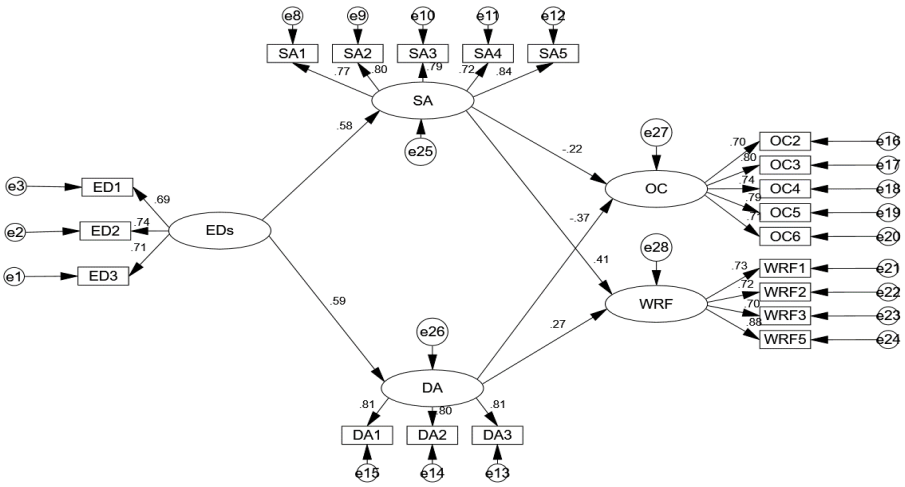

Figure 4.5 Path diagram of SEM (alternative modle 4)

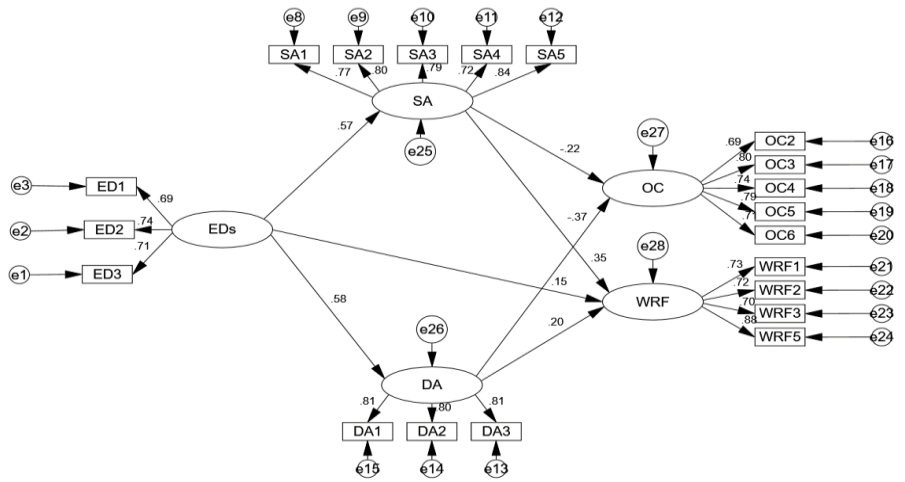

Figure 4.6 Path diagram of SEM (alternative modle 5)

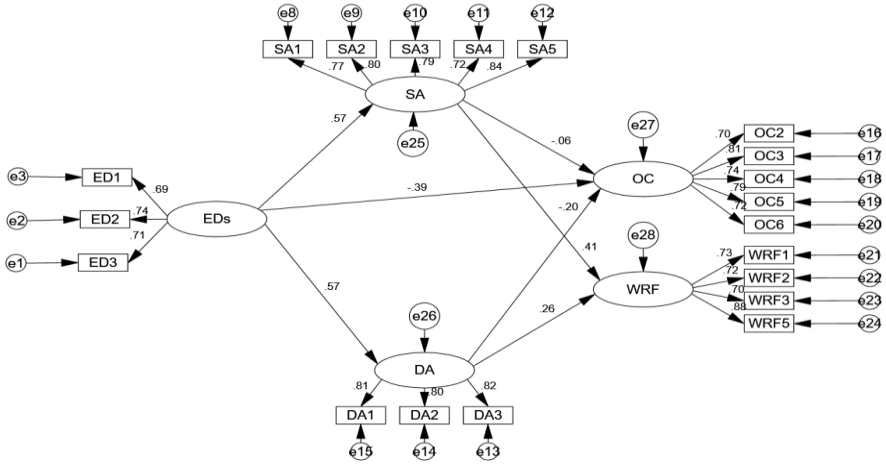

Figure 4.7 Path diagram of SEM (alternative modle 6)

According to the above comparison of different model indices (see Table 4.5), only the three-path mediation model (model I) yielded good and acceptable fit indices (i.e., CMIN/DF = 2.95 < 3, CFI = .93 > .92, TLI = .92 > 0.70, RMSEA = .06 < 0.07, SRMR = .04 < .08). Hence, this study chose model I as the final model for the hypothesis testing and further discussion. As shown Table 4.6 above, findings of model I illustrated the relationship between emotional demands, deep acting and surface acting, occupational commitment, and work-related fatigue. Based on Figure 4.1 and Table 4.6, the key results are highlighted below.

The results show emotional demands has a significant negative direct effect on occupational commitment (β = -.38, p < .01), a significant positive direct effect on work-related fatigue (β = .16, p < .05), supporting hypothesis 1a and Hypothesis 1b. There is a significant positive direct effect between emotional demands and surface acting (β = .55, p < .001), emotional demands and deep acting (β = .51, p < .001), which supports hypothesis 1c and Hypothesis 1d. The path from surface acting to work-related fatigue shows a significant positive coefficient (β = .34, p < .001), which supports hypothesis 2b. There is a significant negative direct effect between deep acting and occupational commitment (β = -.23, p < .001), but a positive direct effect between deep acting and work-related fatigue (β = .21, p < .001), which suggests hypothesis 3a and 3b are supported.

In order to examine the indirect effects, this study conducted the bootstrapping procedure (n = 2000 repetitions) proposed by Preacher and Hayes (2004). As shown in Table 4.7, the results indicate that surface acting has a significant mediating effect on the relationship between emotional demands and work-related fatigue (indirect effect = .18, 95 per cent confidence interval = [.10, .28]), supporting hypothesis 3b. And deep acting has a significant mediating effect on the relationship between emotional demands and occupational commitment (indirect

effect = -.10, 95 per cent confidence interval = [-.21, -.01]), emotional demands and work-related fatigue (indirect effect = .10, 95 per cent confidence interval = [.01, .18]), which supports hypothesis 5a and 5b.

Table 4.7 Results of mediating effects

SEM path	Effect value	SE	Percentile 95% CI		P
			Lower	Upper	
OC <--- SA<--- ED	-0.03	0.05	-0.13	0.08	0.62
WRF<--- SA<--- ED	0.18	0.04	0.10	0.28	0.00
OC<--- DA<--- ED	-0.10	0.05	-0.21	-0.01	0.03
WRF<--- DA<--- ED	0.10	0.04	0.01	0.18	0.04

4.5 Hierarchical linear modeling test

After performing structural equation model to analyze the relationship between emotional demands, surface acting and deep acting, occupational commitment and work-related fatigue, this study used hierarchical linear regression analysis to test the moderating effect of perceived organizational support on occupational commitment and work-related fatigue. Considering the possible intercorrelation among key variables, this study conducted multicollinearity analyses with multiple regression. The results reported that all tolerance coefficients were 0.60 or above and all variance inflation factor values were below 10, indicating that multicollinearity does not significantly influence the predictive power of individual factors (Menard, 2000).

The independent variables were mean centered before entering regression analysis and interaction terms were computed using mean-centered variables (Aiken & West, 1991). This study hypothesized that perceived organizational support would moderate the effect of university teachers' surface acting on their occupational commitment and on their work-related fatigue (hypothesis 6a, 6b). As reported in Table 4.8, the interaction term between surface acting and perceived organizational support had no significant effect on occupational commitment but had a significant effect on work-related fatigue ($\beta = -.11$, $p = <0.05$). Therefore, hypothesis 6a was not supported and hypothesis 6b was supported.

Meanwhile, this study hypothesized that deep acting would be more positively related to occupational commitment and more negatively with work-related fatigue among university teachers with high perceived organizational support (hypothesis 7a, 7b). As shown in Table 4.9, the interaction term between deep acting and perceived organizational support had no significant effect on occupational commitment but had a significant effect on work-related

fatigue (β = -.12, *p* = <0.05). Therefore, hypothesis 7a was not supported and hypothesis 7b was supported.

According to recommendation from Aiken and West (1991), this study plotted the interactive effects and carried out simple slope tests (see Figure 4.8) to further examine hypothesis 6b and 7b.The results indicated that the association between surface acting and work-related fatigue, deep acting and work-related fatigue was significant and negative at one standard deviation above the mean of perceived organizational support (β = -.53, t = -11.54, *p* = < .001; β = -.53, t = -9.26, *p* < .001), and significant and positive one standard deviation below the mean (β = .26, t = 5.06, p < 0.001; β = .25, t = 3.75, *p* < .05). Therefore, hypothesis 6b and 7b were supported.

Table 4.8 Moderating effect of POS on the relationship between SA and OC, SA and WRF

	Occupational commitment			Work-related fatigue		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Controls						
Gender	0.05	0.05	0.06	-0.02	-0.02	-0.03
Age	-0.06	-0.03	-0.03	0.10*	0.10*	0.09*
Education	-0.01	-0.01	0.00	0.02	0.02	0.00
Professional title	0.06	0.05	0.06	-0.01	-0.01	-0.02
Tenure	0.03	0.03	0.03	0.05	0.05	0.05
Work orientation	0.02	0.01	0.01	-0.02	-0.02	-0.02
Working hours per week	0.09*	0.09*	0.09*	-0.08*	-0.07*	-0.08*
Independent variables						
SA	-0.34**	-0.31**	-0.34**	0.47**	0.48**	0.48**
POS		0.11*	0.12*		-0.24**	-0.25**
Interaction						
SA * POS			0.08			-0.11*
R^2	0.14	0.20	0.20	0.26	0.26	0.28
Adjusted R^2	0.13	0.18	0.19	0.24	0.24	0.26
F value	9.59	12.64	11.74	19.76	17.53	17.85

Note: N= 471; Gender was coded as 1, male and 2, female; Age was coded 1, 30 years or less and 2, 31 to 45 years; educational background was coded as 1, undergraduate, 2, master and 3, doctoral. Professional title was coded as 1, professor; 2, associate professor; 3, lecturer and 4, teaching assistant. The tenure was coded as 1, < 3 years; 2, 3-5 years; 3, 6-10 years; 4, > 10 years; Work orientation was coded 1, research-oriented, 2, teaching-oriented and 3, integrated teachers; working hours per week was coded as 1, < 40 hours; 2, 40-50 hours and 3, > 50 hours.

** $p < 0.01$; * $p < 0.05$

Table 4.9 Moderating effect of POS on the relationship between DA and OC, DA and WRF

	Occupational commitment			Work-related fatigue		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Controls						
Gender	0.06	0.07	0.08	-0.05	-0.05	-0.07
Age	-0.06	-0.03	-0.03	0.10*	0.10*	0.10*
Education	-0.03	-0.03	-0.02	0.05	0.05	0.04
Professional title	0.04	0.04	0.04	0.02	0.02	0.01
Tenure	0.04	0.04	0.04	0.04	0.04	0.04
Work orientation	0.01	0.01	0.00	-0.02	-0.02	-0.01
Working hours per week	0.10*	0.10*	0.10*	-0.10*	-0.10*	-0.10*
Independent variables						
DA	-0.38**	-0.35**	-0.38**	0.40**	0.39**	0.45**
POS		0.11*	0.13*		-0.23**	-0.25**
Interaction						
DA * POS			0.07			-0.12*
R^2	0.18	0.23	0.23	0.25	0.25	0.26
Adjusted R^2	0.16	0.22	0.22	0.23	0.24	0.24
F value	12.24	15.32	14.04	18.77	17.11	16.09

Note: N = 471; Gender was coded as 1, male and 2, female; Age was coded 1, 30 years or less and 2, 31 to 45 years; educational background was coded as 1, undergraduate, 2, master and 3, doctoral. Professional title was coded as 1, professor; 2, associate professor; 3, lecturer and 4, teaching assistant. The tenure was coded as 1, < 3 years; 2, 3-5 years; 3, 6-10 years; 4, > 10 years; Work orientation was coded 1, research-oriented, 2, teaching-oriented and 3, integrated teachers; working hours per week was coded as 1, < 40 hours; 2, 40-50 hours and 3, > 50 hours.

** $p < 0.01$; * $p < 0.05$

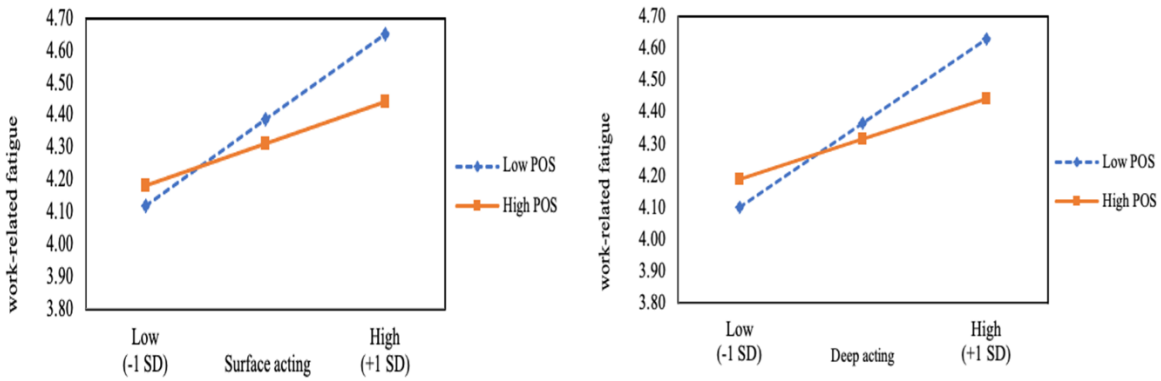

Figure 4.8 SA and POS, DA and POS interaction effects on WRF

Based on structural equation model path coefficients (model I) (Table 4.6, Table 4.7) and the moderating effect of perceived organizational support (Table 4.8, Table 4.9), this study summarizes the latent variables and their relations as followed in Figure 4.9.

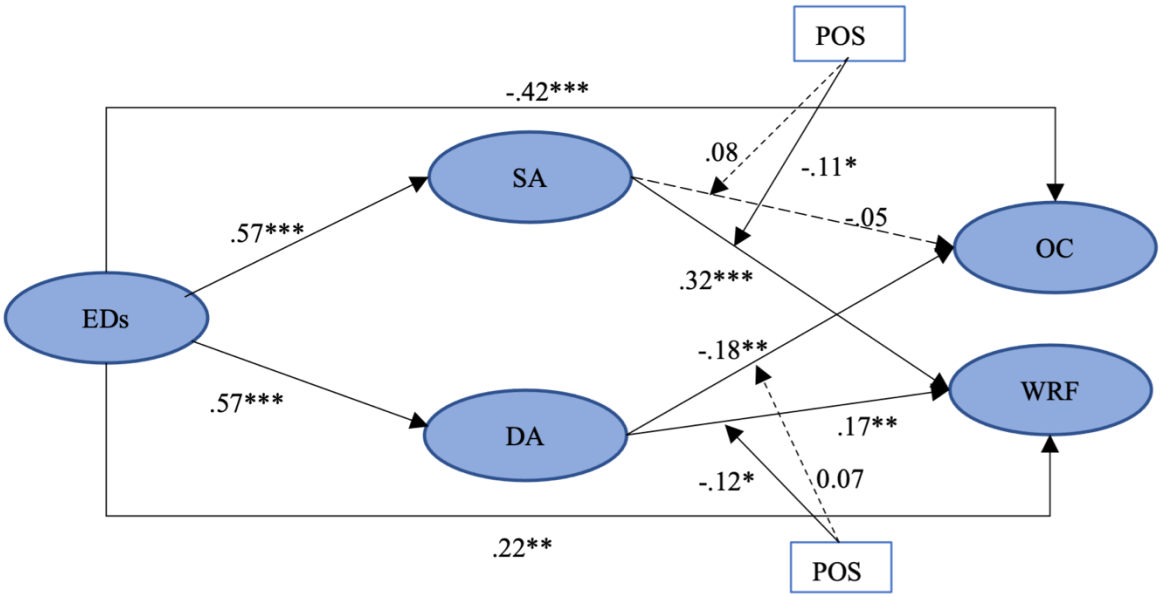

Figure 4.9 Path analysis results of the hypothesized model

Note: EDs = emotional demands; SA = surface acting; DA = deep acting; OC = occupational commitment; WRF = work-related fatigue; POS = perceived organizational support.
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

4.6 Summary of hypotheses testing

According to the results reported in Figure 4.9, validation results of research hypotheses can be concluded, as shown in Table 4.10.

Table 4.10 Summary of validation results of research hypotheses

No.	Research hypothesis	Result
H1a	Emotional demands are negatively related to occupational commitment.	supported
H1b	Emotional demands are positively related to work-related fatigue	supported
H1c	Emotional demands are positively related to surface acting	supported
H1d	Emotional demands are positively related to deep acting	supported
H2a	Surface acting is negatively related to occupational commitment	not supported
H2b	Surface acting is positively related to work-related fatigue	supported
H3a	Deep acting is negatively related to occupational commitment	supported
H3b	Deep acting is positively related to work-related fatigue	supported
H4a	Surface acting mediates the relationship between emotional demands and occupational commitment	not supported
H4b	Surface acting mediates the relationship between emotional demands and work-related fatigue	supported
H5a	Deep acting mediates the relationship between emotional demands and occupational commitment	supported
H5b	Deep acting mediates the relationship between emotional demands and work-related fatigue	supported
H6a	Perceived organizational support moderates the negative relationship between surface acting and occupational commitment of university teachers, such that surface acting has a stronger negative impact on occupational commitment of university teachers with lower levels of perceived organizational support	not supported
H6b	Perceived organizational support moderates the positive relationship between surface acting and work-related fatigue of university teachers, such that surface acting has a stronger positive impact on work-related fatigue of university teachers with lower levels of perceived organizational support.	Supported
H7a	Perceived organizational support moderates the negative relationship between deep acting and occupational commitment of university teachers, such that deep acting has a stronger negative impact on occupational commitment of university teachers with lower levels of perceived organizational support	not supported
H7b	Perceived organizational support moderates positive relationship between deep acting and work-related fatigue of university teachers, such that deep acting has a stronger positive impact on work-related fatigue of university teachers with lower levels of perceived organizational support	supported

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Chapter 5: Discussion

Taking full-time teachers from a local university in Chengdu, China as the sample, this study examined the levels of emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue and perceived organizational support, as well as the hypothesized relationships among them via structural equation modeling. University teachers may have to suffer increasing emotional demands in the teaching process (de Jonge, Mulder, & Nijhuis, 1999; Vegchel et al., 2004), including the emotionally charged interactions at work (Heuven et al., 2006) and emotion-rule dissonance. These findings may help us to understand, especially the current social situation of young university teachers. This chapter discusses the results of key variables, the hypotheses testing and the research model.

5.1 General

5.1.1 Emotional demands

This study reveals that university teachers endure a high level of emotional demands (mean = 4.54, SD = 0.67). It has been suggested that the degree of emotional demands differs from different groups (Ybema & Smulders, 2001; Maxwell & Riley, 2017). However, this result is above the previous research, such as, American service workers (mean = 2.95 with a scale of 5) reported by Allen et al. (2014) and Australian full-time school principals (mean = 3.45 with a scale of 5) from Maxwell and Riley (2017). This shows that the status of teachers' emotional demands is different in different backgrounds.

On the one hand, high emotional demands may be caused by the nature of teaching profession (Chang & Davis, 2009). Teaching profession is based on human interaction (Yin, 2015; Ybema & Smulders, 2001), and emotion is the core of teaching and learning (Day & Leitch, 2001; Hargreaves, 1998). Emotional resources are widely required for teachers to manage interpersonal interactions with different stakeholders including students and their parents, colleagues, and school superiors (Liu, 2012). Furthermore, in Chinese context, high emotional demands reported by university teachers may result from high expectations. They are not only expected to undertake academic responsibilities and to delivery knowledge and oust confusion, but also to become moral educators and "sages" (Zhang, 2008). Additionally, young teachers are the most important force in the frontline of higher education, undertaking

more than 60% of the workload of teaching and scientific research in universities and colleges (Shen, 2016). However, many of them may step into education field with limited teaching experience (Zhang, 2018) and teaching resources. For example, they have to deal with constant emotional energy depletion at work with finite support from their colleagues and superiors.

The findings of this study indicate demographic variables have no significant difference on emotional demands, which is consistent with the result that emotional demands suffered by teachers are usually the same for all teachers in a school (Klusmann et al. 2008). This may be because emotional demands are universal and inevitable for university teachers who are in constant interaction with students and other stakeholders. It may be also related to sample selection for this study took university teachers from a Chinese university as a sample, where they shared similar working environments.

However, a significant difference on emotional demands ($p < .05$) was reported regarding working hours per week. In this sample, university teachers working more than 50 hours per week were found the highest level of emotional demands. While there was no significant difference between those working less than 40 hours per week and 40-50 hours per week. Long working hours means teachers have to put much effort on complex situations at workplace, such as conflict or argument with students, colleagues and school superiors. Meanwhile, long working hours may require sustained physical and emotional effort during the workday, which may evoke an energy depletion process (Bakker, Demerouti, & Schaufeli, 2003). Long working hours may contribute to increasing productivity, however, may lead to a mismatch between workload and available time (Kristensen et al., 2005). These situations may contribute to highly emotionally charged demands (Bakker & Demerouti, 2007).

5.1.2 Emotional labor (surface acting & deep acting)

The mean of emotional labor in this sample is 4.09, which suggests that the participants are highly emotional laborers. The result is similar to some previous research, such as, the young university teachers (mean = 4.08 with a scale of 5) from Chen (2010). Between the two emotional labor strategies, the university teachers were found to be more favorable to deep acting (M = 4.27, SD = .83) than to surface acting (M = 3.99, SD =.98), which is consistent with previous research (Chen, 2010; Yin et al., 2013). Teachers' emotions are structured and regulated by a series of rules closely connected to the professional and moral norm, including hiding negative emotions and keeping positive emotions (Yin & Lee, 2012). Deep acting is a theoretically positive process (Hochschild, 1983), by which teachers try to control internal

thoughts and feelings through cognitive skills to achieve the desired emotional performance (Brotheridge & Grandey, 2002; Näring & van Droffelaar, 2007; Yin & Lee, 2012).

In terms of demographic characteristics on emotional labor, education background shows a significant effect on surface acting (r = .11, $p < .05$). This study also found that there is significant difference on deep acting regarding respondents' educational background ($p < .05$). Deep acting of the respondents with doctoral degree (mean = 4.37, SD = 0.78, $p < .05$) is significantly higher than that of those with bachelors' (mean = 4.24, SD = 0.84) and masters' degree (mean = 4.24, SD = 0.84). However, there was no significant difference existed on deep acting between those with bachelors' degree and masters' degree. This may be explained as follows. Compared with teachers with bachelor's degree and master's degree, teachers with doctor's degree may have higher cognitive and scientific research ability. Higher cognitive ability enables them to control their emotions more freely, which may be easier for them to use deep acting to deal with internal thoughts and feelings. In addition, teachers with doctoral degrees may have more opportunities for organizational support and promotion in career. In the face of problems and difficulties at work, they may be more confident and willing to take positive actions to handle and overcome.

5.1.3 Occupational commitment

The mean of teachers' occupational commitment is 2.60, which indicates that teachers in this sample is at slightly low level of occupational commitment. Compared with the related research in China, the result of this study is lower than that of from Zhang and Hu (2017) (M = 2.84 with a scale of 4) and that of from Liu et al. (2007) (M = 2.62 with a scale of 5). This shows that the status of teachers' occupational commitment is different in different university and groups. On the other hand, this is probably because teachers in local universities are not affectively committed to teaching or consider their occupations more important. University teachers may think that they do not be treated fairly by the organization and have a low status at school (Zhang & Wang, 2013), which may decline their commitment to teaching.

The findings of this study indicate demographic variables have no significant difference on occupational commitment. However, a significant difference was reported between professional title and occupational commitment ($p < .05$). The level of occupational commitment of teaching assistant (mean = 2.87, SD = 0.86, $p = < .05$) was significantly higher than that of professors (mean = 2.41, SD = 0.71), lectures (mean = 2.58, SD = 0.76). The level of occupational commitment of associate professors (mean = 2.63, SD = 0.82, $p < .05$) was

significantly higher than that of professors (mean = 2.41, SD = 0.71). However, there was no significance difference existed on occupational commitment between professors and lecturers, and between associate professors and lecturers. This may be explained as follows. The teaching assistants are mostly young, highly educated, can fully develop their skills and knowledge in the field of higher education. They are willing to invest time and energy in their work and devote themselves to the cause of education. It usually takes new teachers at least several years to become professors. After becoming a professor, one's working state and mentality may enter a turning point (Wang, 2016). In the traditional Chinese culture, it is well known that "a good scholar will make an official". Most scholars may consider it is the ideal way to be an official or at least management when they become professors. If they are still in the same position and stick to the similar teaching content every year, some professors may reduce professional identity and commitment in teaching (Wang, 2016).

5.1.4 Work-related fatigue

The mean of teachers' work-related fatigue is 4.13, which indicates that university teachers in this sample are generally in a state of fatigue. The result is similar to the research on university teachers from Yang et al. (2013) and Liu et al. (2011). This may be because university teachers typically involve in a variety of job-related tasks, such as teaching burden and pressure (Wu et al., 2005; Liu et al., 2011), scientific research task (Yang et al., 2013), publish and acquire external research funding (Liu, 2015; Hu, 2015). And teaching is regard as a "helping profession" (Hochschild, 1983), where individuals must moderate and control their own emotion expressions, causing feelings of fatigue, strain, and burnout (Klusmann et al., 2008; Liu et al., 2011). In addition to high job demands, fatigue may also be the result of a lack of job resources (e.g., perceived organizational support) (Akerstedt et al. 2004) and personal resources (e.g., physical activity, sleep) (Frone & Tidwell, 2015).

As regards difference of demographic variables on work-related fatigue, the respondents aged below 31 years old ($p < .01$) shows significantly higher levels of work-related fatigue than those aged from 31 to 45, which is similar to Wang's (2011) research. This may be mainly because teachers under the age of 31 are enthusiastic about the teaching profession and are likely to be devoted to their work, which may result in job burnout and fatigue due to workloads. In addition, there may be little difference in the professional role and workload distribution among different teacher groups. They undertake similar teaching and research tasks and are

also faced with massive occupational pressure and various problems which may affect their well-being (Liu et al., 2011).

5.1.5 Perceived organizational support

In this study, the mean of perceived organizational support is 2.89, indicating that university teachers in this sample are at slightly low levels of perceived organizational support. The respondents mostly believe that their work organization values their contribution and cares about their well-being. The result is lower than that of research on Chinese university faculty from Guan et al. (2014) (M = 4.08 with a scale of 7) and Qi (2016) (M = 3.42 with a scale of 5). The result suggests teachers from different university may feel different degree of perceived organizational support due to different working environment, management methods and other factors. And with the increasing administrative burden and the tension caused by high expectations, university teachers, especially those at local institutions may perceive low organizational support due to the lack of fairness and full support (Beta & Ali, 2017; Zhang & Wang, 2013).

As regards difference of demographic variables on perceived organizational support, a significant difference was reported between professional title and POS ($p < .01$). Among the four different professional title groups, teaching assistants were reported the lowest level of perceived organizational support (mean = 4.67, SD = 0.75). However, there was no significance difference on perceived organizational support between professors, associate professors and lecturers. The group of teaching assistants feel less supported by the university may be because most of them are new, inexperienced to the field of education, and are at the lowest level in the teaching faculty.

5.2 Hypothesis testing

5.2.1 Emotional demands and occupational commitment

From the correlation among variables (Table 4.2) and SEM path coefficients (Table 4.9), there is a significant negative association between emotional demands and occupational commitment ($\beta = -.42$, $p < .001$). The results indicate that the high levels of emotional demands required by university teachers result in lower levels of teachers' occupational commitment. Results from previous studies indicate that occupational variables are possible key antecedents of occupational commitment (Meyer, 2016). Individuals suffering from negative work

experiences and interpersonal interactions may have low career commitment and higher turnover intention (Grandey & Cropanzano, 1999; Taris & Schreurs, 2009).

Teaching profession is people-centered and involves a number of interpersonal interaction (Yin, 2015), which can charge highly emotional demand (Bakker & Demerouti, 2007; Nesje, 2017). According to job demands-resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001), to meet the requirements of emotional demands at workplace, individuals need to expend emotional energy, which may exhaust their resource reservoir (Stelmokienė et al., 2019). University teachers facing highly emotionally charged demands at work may suffer an emotional energy depletion process related to individuals' well-being (Taris & Schreurs, 2009) and low levels of positive engagement with teaching profession (Ugwu & Onyishi, 2018). Hence, hypothesis 1a (i.e., Emotional demands is negatively related to occupational commitment) is supported.

5.2.2 Emotional demands and work-related fatigue

According to the correlation among variables (Table 4.2) and SEM path coefficients (Table 4.9), there is a significant positive association between emotional demands and work-related fatigue ($\beta = .22$, $p < .01$), indicating that the high level of emotional demands required by university teachers lead to high level of work-related fatigue they feel. At workplace, teachers may have to show different levels of emotion for emotional expression regulation of organization (Ogbonna & Harris, 2004). University teachers have to suppress their internal emotional feelings and display their emotions externally required by the interests and goals of the organization (Gao, 2013). According to conservation of resources theory (Hobfoll, 1989), chronic exposure to emotional demands may drain teachers' energy and result in work-related fatigue for they have to strive for handling the subsequent exhaustion. Hence, hypothesis 1b (i.e., Emotional demands is positively related to work-related fatigue) is supported.

5.2.3 Mediating effect of emotional labor between emotional demands and occupational commitment

According to SEM results (Table 4.9), emotional demands positively predict both surface acting ($\beta = .57$, $p < .001$) and deep acting ($\beta = .57$, $p < .001$). It indicates that the more emotional situations required, the more university teachers perform emotional labor. This may be because with the increased demand for emotion at work, teachers must engage emotional labor accordingly. When facing emotional demands at workplace, teachers will apply surface acting

such as pretending a smile or putting a mask to students to meet the interpersonal relationship demand. Meanwhile, university teachers also apply deep acting when encountering emotional demands, which suggests they may deploy internal thoughts and feelings, so as to truly feel a desired emotion (Brotheridge & Grandey 2002; Näring, Vlerick, & Van de Ven, 2012). Thus, hypothesis 1c and 1d (i.e., Emotional demands is positively related to surface acting; emotional demands are positively related to deep acting) are supported.

From the SEM parameters (Table 4.9, Table 4.7), the direct effect of surface acting on occupational commitment and the mediating effect of surface acting on the relationship between emotional demands and occupational commitment have not been found. However, the correlation analysis (Table 4.2) shows a significant negative correlation between surface acting and occupational commitment ($r = -.33$, $p < .01$), indicating that teachers who use surface acting strategies report weaker occupational commitment. Based on COR theory, university teachers who apply surface acting may have their resources severely depleted due to constantly interpersonal interaction with students (Mahoney et al., 2011). Teachers with insufficient resource replenishment may try to reduce resource losses by quitting work-related activities (Mishra, 2014). Thus, hypothesis 2a (i.e., Surface acting is negatively related to occupational commitment) and hypothesis 4a (i.e., Surface acting partially mediates the relationship between emotional demands and occupational commitment) is not supported.

The results also show that deep acting has a direct negative effect on occupational commitment ($\beta = -3.94$, $p < .001$) and a mediating effect on the relationship between emotional demands and occupational commitment. Emotional demands not only predict occupational commitment directly, but also indirectly and negatively predict occupational commitment via deep acting as a mediator (indirect effect = -.12, $p < .01$). The findings indicate that teachers who more often use deep acting strategies show weaker occupational commitment. This is not consistent with some previous studies, such as Liu et al. (2013) and Yang and Yin (2019), who suggest deep acting has a positive effect on teachers' occupational well-being.

Nevertheless, using deep acting, teachers still need to expend energetic resources to deeply modify one's feelings during the adjustment process (Mikolajczak, Menil, & Luminet, 2007). It can hinder teachers from achieving major job goals when they confront energy depletion and feel the lack of energy conservation and restoration for new effort (Van Veldhoven & Broersen, 2003). Thus, hypothesis 3a and 5a (i.e., Deep acting is negatively related to occupational commitment; Deep acting partially mediates the relationship between emotional demands and occupational commitment) are supported. This may be because university teachers do not

necessarily stay in universities out of love for teaching due to the high energy depletion and lack of resources in teaching profession.

5.2.4 Mediating effect of emotional labor between emotional demands and work-related fatigue

From the correlation among variables (Table 4.2) and SEM results (Table 4.5), Surface acting has a direct positive structural effect on work-related fatigue and a mediating effect on the relationship between emotional demands and work-related fatigue. It suggests that emotional demands not only predict work-related fatigue directly ($\beta = .15$, $p < .05$), but also indirectly and positively predict work-related fatigue via surface acting as a mediator (indirect effect = .19, $p < .001$), indicating that when facing high levels of emotional demands, teachers apply more surface acting, they feel stronger work-related fatigue.

According to emotional regulation theory, individuals displaying surface acting may make extensive effort to forge emotional expressions, which will raise the energy involved to perform the major tasks and goals (Xanthopoulou et al., 2018). Too much effort expended at work may lead to individuals overburdened and exhausted (Bakker, Demerouti, & Sanz-Vergel, 2014). When suffering high emotional demands, individuals apply surface acting, their self-authenticities may be impaired due to internal and external emotional conflicts (Grandey et al., 2012; Santos et al., 2015), which may lead to overall work fatigue (Liu et al., 2018).

The results also confirm that deep acting has a direct positive effect on work-related fatigue and a mediating effect on the relationship between emotional demands and work-related fatigue. Emotional demands not only directly contribute to work-related fatigue ($\beta = .21$, $p < .001$), but also indirectly and positively predict work-related fatigue via deep acting as a mediator (indirect effect = .11, $p < .001$), indicating that when confronting high levels of emotional demands, teachers apply more deep acting, they feel stronger work-related fatigue. These results are different to the previous findings from Liu et al. (2018), who suggest deep acting plays a positive role mediating the relationship between emotional demands and individuals' well-being.

Firstly, this maybe because deep acting is considered to play an important and taxing role in teaching (Näring, Vlerick, & Van de Ven, 2012). When teachers adopt more deep acting, they may use more cognitive skills, such as reappraisal and self-persuasion, to moderate the psychological antecedents of emotion (Hochschild, 1983; Ashforth & Humphrey, 1993), so as to ensure that their emotional display meets the organizational requirements. By doing so,

teachers may give priority to the goals of students, but may affect work-related benefits due to the modified availability of personal goals and resources. As such, deep acting may be positively related to emotional exhaustion (Näring & van Droffelaar, 2007) and burnout (Mikolajczak, Menil, & Luminet, 2007). Deep acting still requires teachers' energy depletion to modify their feelings during the regulation process (Mikolajczak, Menil, & Luminet, 2007), which can be a predictor to teachers' work-related fatigue due to the lack of conservation and supplement of energetic resources.

Thus, hypothesis 2b, 3b, 4b and 5b (i.e., Surface acting is positively related to work-related fatigue; Deep acting is positively related to work-related fatigue; Surface acting mediates the relationship between emotional demands and work-related fatigue; deep acting mediates the relationship between emotional demands and work-related fatigue) are supported.

5.2.5 Moderating effect of perceived organizational support

5.2.5.1 The moderating effect of POS between emotional labor (SA & DA) and occupational commitment

From the hierarchical linear regression analysis (Table 4.8, Table 4.9), the interaction term between emotional labor (surface acting and deep acting) and perceived organizational support has no significant effect on occupational commitment, indicating that different levels of organizational support perceived by university teachers does not strengthen or weaken the relationship between surface acting and occupational commitment, deep acting and occupational commitment. In this study, university teachers engage in different levels of surface acting (M = 3.99, SD =.98), deep acting (M = 4.27, SD = .83). In the optimal structural equation model (Table 4.5), the direct effect of surface acting on occupational commitment also has not been found, but deep acting has a direct negative effect on occupational commitment (β = -3.94, $p < .001$).

This result is different to the previous findings from Xu (2015) and Jiang, Liu, and Sun (2016), which suggest the level of organizational support perceived by university teachers has a positive effect on teachers' job and professional well-being. However, it is similar to the findings from Zheng and Guo (2010), proposing that teachers' perceived organizational support has a positive impact on relational performance, but no significant impact on task performance. This is possibly due to the particularity of the teaching profession. University teachers are engaged in a complex creative work, their occupational commitment largely depends on their affection for teaching and researching. Organizational support may produce overall job

satisfaction to teachers. However, perceived organizational support does not necessarily contribute to teachers' occupational commitment if it is not helpful to improve teachers' devotion to their profession.

When university teachers perform surface acting and deep acting as the strategies of emotional expression and management, they show little difference on the degree of emotional attachment to teaching profession, regardless of their perception of organizational support. This may be because perceived organizational support focus more on the organization than the job itself. Thus, perceived organizational support may be less associated with occupational commitment than with affective organizational commitment due to the intrinsic aspects of the job strongly affecting obligation and devotion to the occupation (Eisenberger & Stinglhamber, 2011).

Thus, hypothesis 6a, 7a (i.e., Perceived organizational support will moderate the effect of university teachers' surface acting on their occupational commitment; Perceived organizational support will moderate the effect of university teachers' deep acting on their occupational commitment) are not supported.

5.2.5.2 The moderating effect of POS between Emotional labor (SA & DA) and work-related fatigue

From hierarchical linear regression analysis (Table 4.8, Table 4.9) and simple slope tests (Figure 4.2), the interaction term between emotional labor (surface acting and deep acting) and perceived organizational support has a significant effect on work-related fatigue (β = -.11, p = <0.05; β = -.12, p = <0.05), indicating that the association between surface acting and work-related fatigue, deep acting and work-related fatigue was significant and negative at one standard deviation above the mean of perceived organizational support (β = -.53, t = -11.54, p = < .001; β = -.53, t = -9.26, p < .001), and significant and positive one standard deviation below the mean (β = .26, t = 5.06, p < 0.001; β = .25, t = 3.75, p < .05).

This result is similar to the previous findings from Chen (2019), indicating that perceived organizational support can buffer the relationship between teachers' job insecurity and job burnout. The results indicate that when university teachers perform surface acting and deep acting as the strategies of emotional expression and management, those with higher levels of perceived organizational support will show weaker work-related fatigue than those with lower levels of perceived organizational support. This may be because perceived organizational support, as a job resources, can offer provide helpful working conditions for university teachers (Chang, McKeachie, & Lin, 2010; Han et al., 2020). When university teachers are motivated

and perceive the support of their organization, they may be more satisfied with their work and more confident in their ability to handle their work exhaustion and fatigue.

Thus, hypothesis 6b, 7b (i.e., Perceived organizational support will moderate the effect of university teachers' surface acting on their work-related fatigue; Perceived organizational support will moderate the effect of university teachers' deep acting on their work-related fatigue) are supported.

5.3 The hypothesized research model

Generally, the hypothesized research model is examined by the structural equation model and the hierarchical linear regression analysis, indicating that emotional demands is directly related to occupational commitment and work-related fatigue, indirectly related to occupational commitment via deep acting, and indirectly related to work-related fatigue via surface acting and deep acting. Of the two dimensions of emotional labor strategies, only deep acting has a significant and direct effect on occupational commitment, and partially mediates the relationship between emotional demands and occupational commitment. However, both surface acting and deep acting have significant and direct effects on work-related fatigue, and partially mediates the relationship between emotional demands and work-related fatigue. The direct effect of surface acting on occupational commitment and the mediating effect of surface acting on the relationship between emotional demands and occupational commitment have not been found.

The moderating effect of perceived organizational commitment on the relationship between the two emotional regulation strategies (surface acting and deep acting) and work-related fatigue has been confirmed. But there is an absence moderating effect of perceived organizational support on the relationship between emotional labor (surface acting and deep acting) and occupational commitment. In this study, it can be influenced by the following paths: emotional demands → occupational commitment, emotional demands → work-related fatigue, emotional demands → surface acting → work-related fatigue, emotional demands → deep acting → occupational commitment, emotional demands → deep acting → work-related fatigue. And perceived organizational support as a moderator between emotional labor (surface acting and deep acting) and work-related fatigue has been found.

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Chapter 6: Conclusion

6.1 Conclusion

The main purpose of this study is to examine teachers' emotional demands, emotional labor (surface acting and deep acting), occupational commitment, work-related fatigue and perceived organizational support, and the association between variables in the background of a Chinese local university. This study aims to investigate two research questions regarding the discussed variables.

What are the current levels of emotional demands, emotional labor, occupational commitment, work-related fatigue and perceived organizational support in Chinese local university teachers?

In the current study, we found that the participants experience a high level of emotional demands (mean = 4.54), emotional labor (mean = 4.09) and work-related fatigue (mean = 4.13), however, a slight low level of occupational commitment (mean = 2.06) and perceived organizational support (mean = 2.89). The results support the previous research that university teachers, as highly emotional laborers (Chen, 2010; Yin et al., 2013), have been suffering high emotional demands (Liu, 2012) and work-related fatigue (Yang et al., 2013; Liu et al., 2011). This may be because teachers must constantly moderate and control their own emotion expressions in the workplace, leading to feelings of fatigue, strain, and burnout (Klusmann et al., 2008; Liu et al., 2011).

What are the relationships between university teachers' emotional demands, teachers' occupational commitment and work-related fatigue and the role of emotional labor (surface acting and deep acting) and perceived organizational support in the process?

This finding supports the hypotheses: 1) emotional demands is negatively associated with occupational commitment ($\beta = -.42$, $p < .001$) and positively associated with work-related fatigue ($\beta = .22$, $p < .01$); 2) emotional demands is positively associated with emotional labor (surface acting and deep acting) ($\beta = .57$, $p < .001$; $\beta = .57$, $p < .001$); 3) surface acting is positively associated with work-related fatigue ($\beta = .34$, $p < .001$); 4) surface acting plays a mediating role in the process of emotional demands and work-related fatigue (indirect effect = .19, $p < .001$); 5) deep acting is negatively associated with occupational commitment ($\beta = -.23$, $p < .001$) and positively associated with work-related fatigue ($\beta = .21$, $p < .001$); 6) deep acting plays a mediating role between emotional demands and occupational commitment

(indirect effect = -.12, $p < .01$), between emotional demands and work-related fatigue (indirect effect = .11, $p < .001$); 7) perceived organizational support plays a moderating role between surface acting and work-related fatigue ($\beta = -.11$, $p = <0.05$), between deep acting and work-related fatigue ($\beta = -.12$, $p = <0.05$). With regard to hypothesis that surface acting is negatively related to occupational commitment, it is not supported. With regard to hypotheses that surface acting mediates the relationship between emotional demands and occupational commitment, perceived organizational support moderates the negative relationship between surface acting and occupational commitment of university teachers, perceived organizational support will moderate the negative relationship between deep acting and occupational commitment of university teachers, it is not supported.

The contribution of this study is summarized as follows. This study first provides support for the applicability of the job demands-resources model in the transitional setting of Chinese higher education. The JD-R model holds that both job demands and job resources have significant effects on employees' work performance and well-being. The results indicate that both emotional demands and perceived organizational support are associated with university teacher's work-related outcome and well-being. The former had its effect on occupational commitment and work-related fatigue in a direct and indirect way, while the latter acted as a moderating role between emotional regulation strategies and teachers' work outcome.

Second, this study narrows the knowledge gap about the process between emotional demands, occupational commitment and work-related fatigue with empirical support from a teacher sample in a Chinese university setting. This study suggests that emotional demands had a negative effect on occupational commitment and positive effect on work-related fatigue. This is consistent with previous findings, in which emotional demands have been examined to be related to unpleasant work outcomes, such as emotional exhaustion, job dissatisfaction and ill-being (Richardson, Alexander, & Castleberry, 2008; Yin, Huang, & Chen, 2019).

Furthermore, this study introduces the role of emotional labor in the process of emotional demands and its consequences on university teachers' professional and work-related outcomes, thus enriching the literature on emotional demands and emotional labor. Both surface acting and deep acting are strategies for teachers to cope with emotional conditions at workplace. This study provided evidence for deep acting, rather than surface acting, as a mediator between emotional demands and occupational commitment.

And evidence in this study reported that both surface acting and deep acting acted as mediators between emotional demands and work-related fatigue. This is probably because the use of surface acting often shows a lack of internal regulation ability, which requires extra effort

from teachers (Bakker & Demerouti, 2017). Deep acting is considered to have a positive effect on teachers' occupational well-being (Liu et al., 2013; Yang & Yin, 2019). However, when teachers apply more deep acting, they still consume emotional and cognitive resources and skills to meet organizational requirements and work goal. If teachers feel lack of resources, this may lead to increased teachers' ill-being (i.e., work-related fatigue) (Näring & van Droffelaar, 2007).

This study also found perceived organizational support had a moderating effect on surface acting and work-related fatigue, deep acting and work-related fatigue. This is perhaps because university teachers with high levels of perceived organizational support could make good use of their job resources, so that they could be more confident in their endeavors to meet job demands, thus reducing work-related fatigue. This emphasizes the significant role of perceived organizational support, as a job resource, in buffering the desirable impact of teachers' emotional regulation strategies on ill-being (i.e., work-related fatigue).

The practical value of this study is to provide reference for universities and teachers to better understand emotional demands caused by teachers' professional characteristics, and to deal with the potential impact on occupational commitment and work-related fatigue, as discussed in the next section.

6.2 Practical implications

The findings of this study support the application of JD-R model in the context of Chinese higher education, and reveal the factors related to university teachers' occupational attitude (e.g., occupational commitment) and well-being (e.g., work-related fatigue) in practice. The result indicates the negative effect of emotional demands on occupational commitment and the positive effect on teachers' work-related fatigue, which may lead to different negative motivated behaviors, such as work avoidance, protest, defiance and quitting (Meyer, 2016). The government and education authorities (e.g., MOE, Sichuan Provincial Department of Education), universities and teachers should work together to deal with such challenge and improve teachers' professional well-being.

The findings also imply universities should pay attention to teachers' views on organizational support because it will help the leadership strengthen the relationship between teachers and the institutions. In the background of higher education, with the increasing administrative burden and the tension caused by high expectations, university teachers may feel whether institutions treat them favorably or reward their performance in a mutually beneficial

way (Shrand & Ronnie, 2019). University teachers believe that fairness and full support will generate a sense of justice in the communication with universities (Beta & Ali, 2017).

When teachers perceive a high level of organizational support, they may be highly motivated to teach and feel supported by their institutions (Panaccio & Vandenberghe, 2009). Teachers' perception on organizational support shows in the classrooms as well. Teachers with high levels of perceived organizational support are likely to share their positive experiences, which may buffer the negative effect of emotional demands on work-related fatigue. It will be beneficial for universities, teachers and students.

6.2.1 Managerial implications for policymakers

In the process of the reform and transformation of China's higher education management system, the government and education authorities (e.g., MOE) play a leading role in policy guidance and resource allocation (Zeng, 2011). Compared with the universities under the central government, local universities obtained limited resources and support from government and education administration, however absorbed most of the increased enrollment. Thus, most local universities are in the marginal and vulnerable position in the higher education system (Yang et al., 2015). In addition, MOE issued a comprehensive structure of quality assurance to establish guiding principles for universities and teachers. For teacher working in local universities, this may lead to the increase of job demands (e.g., emotional demands) and the lack of job resources (e.g., perceived organizational support). In order to deal with this situation, the government and education authorities may help the operation and development of local universities from at least two aspects, namely policy support and financial support.

In terms of policy support, the MOE and other institutions directly under the state should consider gradually opening state-level projects to local universities, such as the program of "Introducing talents for discipline innovation in colleges and universities". Local universities should obtain a fair opportunity to apply for some talent construction projects and platform construction projects, such as the selection of Yangtze River scholars and new century talents, scientific research projects and scientific research awards of MOE. Meanwhile, Sichuan Provincial Department of Education and other provincial departments should strive for the back from the ministries directly under the state (e.g., MOE, the Ministry of science and technology) for higher education in Sichuan Province, so that the local universities can also attain support similar to those under the central government.

In terms of financial support, the government and education authorities should consider increasing funds for provincial colleges and universities. For example, the government and education authorities could set up a state-level special funds for the development of local universities, increase the investment in discipline construction, and appropriately expand the use of discipline construction funds on a larger scale. At the provincial level, Sichuan Provincial Department of education and the Department of Finance jointly establish a special fund for basic scientific research business expenses of local universities. This special fund is mainly used to support young teachers in provincial universities and students with excellent character and learning and strong scientific research potential to carry out independent scientific research.

6.2.2 Managerial implications for universities and administrators

Teachers' emotion is often ignored by universities and administrators, especially in Chinese local universities and colleges. This is because most of those universities place their emphasis on performance appraisal of teachers' scientific research and teaching aspect. However, this study suggested university teaching engages in high emotional demands. The findings also supported deep acting as a mediator between emotional demands and occupational commitment, and surface acting and deep acting as mediators between emotional demands and work-related fatigue. And perceived organizational support as a moderator between emotional labor (surface acting and deep acting) and work-related fatigue has also been confirmed.

The results suggest that when facing high degrees of emotional demands at work, performing more emotional labor, university teachers show weaker occupational commitment and stronger work-related fatigue. However, perceived organizational support, as an important work-related resource, provided an effective intervention for teachers to cope with potential negative job outcomes because job resources may maintain or renew various energies. Teaching resources offer teachers with encouraging working conditions, among which peer support from colleagues is an important resource to help teachers reach their work goals, and administrative support from the institutions may help teachers cope with teaching demands and illness (Väänänen et al., 2003; Bakker & Demerouti, 2007).

Consistent with the JD-R model, this study indicated that it is effective to create a supportive and cooperative environment for university teaching to deal with the work-related outcomes associated with emotional demands, to improve teachers' attitude towards occupation and decrease their work fatigue. At the organization level, intervention efforts need to increase the organizational support. For example, the universities and administrators should strive to

establish a fair and open performance appraisal which is related to teachers' emotional demands and emotional labor, and to create a supportive administrative environment at campus, and other organizational resources required for teachers to succeed in the goals and tasks.

First of all, the performance appraisal system in Chinese universities often focus on teachers' explicit performance, such as the number of scientific research and teaching hours, while the aspects of emotional demands and emotional labor of teaching profession are often ignored and undervalued (Xia, 2011). University teachers undergo high emotional demands and continuous emotional labor. For example, university teachers need to "please" students in order to "earn" positive student evaluation of teaching. However, teachers' emotional efforts and emotional labor to meet emotional demands in the workplace are hardly reflected in the reward and reward system (Liu & Hu, 2015), which may lead to decreased occupational commitment and increased work-related fatigue. According to conservation of resource, individuals always try to maintain valuable resources and minimize the loss of resources in order to achieve the balance of resources. Individual efforts will lead to resource depletion, and reward can make up for resources. In emotional labor, when emotional workers use surface and deep acting, they need to consume resources, which will lead to resource loss. When emotional labor does not produce some kind of reward and the lost resources cannot be made up, there will be an imbalance of resources. When resources are out of balance, according to the resource conservation theory, organization members will reduce their efforts to maintain the balance of resources.

Secondly, university administration should be aware of that the level of teachers' emotional demands are related to their interactions with students, associates, and superiors. A pleasant atmosphere and institutional environment will help teachers to handle the state of emotional demands and improve the level of emotional labor regulation. Teachers may work happily in a good interpersonal atmosphere because they can speak freely and naturally instead of being suppressed. And in a good teaching environment, teachers can gain favorable treatment by the universities, support and help from supervisors and coworkers. Thus, it will be strong emotional support if school administrators try to care about teachers' needs, help, and attach importance to teachers' job objectives and values. It may encourage teachers to deliver valuable opinions and suggestions to their superiors if university administrators set up standards-based supervision and complaint mechanism. It may also encourage teachers to seek help and support via effective channels when facing high emotional demands if managers give reasonable feedback to teachers' opinions, suggestions and complaints. This may alleviate the negative influence of emotional demands on teachers' well-being.

In addition, it is worth noting that teaching assistants reported the lowest level of perceived organizational support among the four different professional title groups in this study. Universities and their administration should realize it is unfair to both students and teachers to put teachers with little teaching experience in the classroom and expect them to succeed. It is important for this group that the administrators provide with training, communication and learning opportunities. For example, universities may consider carrying out the service of employee assistance program. This program is a new popular welfare system, including stress management, occupational mental health, catastrophic events, healthy lifestyle and so on. It aims to help teachers, especially young teachers, to solve their personal emotional issues, reduce pressure and maintain positive emotions. Such support may increase teachers' competency and confidence to manage the classroom.

6.2.3 Implications for university teachers

University teachers in the current study reported high levels of emotional demands, emotional labor and work-related fatigue, but moderate degrees of occupational commitment and perceived organizational support at workplace. University teaching involve in high emotional demands, which may consume both emotional and cognitive energy during the interpersonal relationship with students and colleagues (Ilies et al., 2015). These emotional and psychological efforts may contribute to extreme mental tiredness and reduced capacity to carry out cognitive activity suffered during and at the end of the working day (Frone & Tidwell, 2015). University teachers are likely to attribute it to the increase of work pressure and the lack of job resources. They may lack enthusiasm for work, perfunctory, tired of dealing with work, and indifferent to people and things in work. The problems of low professional commitment and high work fatigue among teachers can lead them to fall into a negative mood, poor interpersonal relationship, lack of self-esteem, and easily feel frustration, being blamed by superiors and colleagues.

With the acknowledgment of the energy depletion process of emotional demands and the motivational process of perceived organizational support, university teachers could take more effective coping strategies under the stressful situation. At the personal level, interventions need to help teachers learn to handle risk exposure more effectively, obtain more job resources and personal resources, to promote positive personal behaviors, which may increase their devotion to occupation and reduce work fatigue.

Teacher student relationship is the core interpersonal relationship in school education. Positive and professional relationships with students are considered to be one of the key factors for teachers to teach out of love, wish to stay in the occupation (Veldman et al., 2013). In the classroom, it is strategic for teachers to avoid negative patterns or preventing from entering these. Psychological seminars, teacher education or development programs may assist teachers, especially young teachers, improve such strategies and maintain a professional stance when connecting with students. Mutual appreciation and respect are important elements in this professional working relationship. It will be helpful if teachers express their respect and care for students, listen and give proper response to students' opinions.

It is noteworthy that university teachers in this study working more than 50 hours per week reported the highest level of emotional demands. Long working hours may have a great impact on teachers' health. It also may wear out teachers' energy and enthusiasm for work, which may reduce teachers' interest in their profession and aggravate their work fatigue after a day of performing emotional labor. This suggests university teachers need make use of proper recovery experiences to renew exhausted sources during non-work time, especially if they do not sufficiently recuperate from work strain. Meanwhile, it is significant for teachers to recognize what strategies may help them manage job demands without excessive fatigue or losing commitment to their occupation. For example, teachers can engage in suitable hobby activity or social activity with family or friends, which may help to reduce work fatigue.

Furthermore, university teachers should be aware of that organizational support plays a significant role to promote individuals' personal growth and career development, as well as an extrinsic motivation to achieve work goals and tasks (Demerouti et al., 2001). This is because perceived organizational support, as a job resources, may stimulate the intrinsic and extrinsic potentials, leading to high work engagement and performance (Bakker & Demerouti, 2007; Guglielmi, Panari, & Simbula, 2012). Teachers' perceived organizational support mainly involves administrative support from the institutions and peer support from colleagues. The former may help teachers cope with teaching demands and illness, the latter acts as an important resource to help teachers reach their work goals (Väänänen et al., 2003; Bakker & Demerouti, 2007).

Thus, it is important to get along well with leaders and colleagues both inside and outside the workplace. For example, it may be beneficial for teachers to build communication channels with colleagues by showing friendship and care to colleagues, respect for their privacy, listening to and moderately responding to their views. The emotional rules with colleagues are also applicable to the relationship between teachers and school leaders. In addition, when interacting

with leaders, teachers may need to consider the relationship between superiors and subordinates, maintain leaders' authority. This is because most school leaders have a relatively strong sense of authority due to the influence of Chinese cultural tradition. School leaders often care about teachers' attitude towards themselves, which is often considered as an important indicator whether teachers respect themselves.

Furthermore, university teachers should realize personal resources may buffer the negative impact of high job demands on their job involvement and the positive impact on work fatigue. University teachers should take part in physical activity regularly, which may enable them to meet their physical, mental, and emotional demands with lower levels of related fatigue. And university teachers should find their way to keep high quality sleep. This is because high quality sleep represents a necessary personal resource to decrease and protect them from undergoing fatigue at work. It is also essential for university teachers to maintain high levels of optimism and self-efficacy in daily life. Teachers with high optimism and self-efficacy have faith in good things, and feel more confident in handling complex events, such as high interpersonal and emotional demands at work. This may promote university teachers' devotion to teaching profession and reduce work-related fatigue.

6.3 Limitations and suggestions for future research

This study explores the applicability of the JD-R model in the context of Chinese higher education, the mediation role of emotional labor between job characteristics and teachers' well-being, and the moderation role of perceived organizational support between emotional regulation strategies (surface acting and deep acting) and teachers' well-being. However, some limitations should be noticed as suggestions for future research.

First of all, a cross-sectional design used in this study limits the inference regarding the causal effects between variables. In the follow-up research, longitudinal panel or diary research design may be considered to address issues of causal effects and paths.

Secondly, this study supported the usability of the JD-R model by investigating emotional demands as one factor of job demands and perceived organizational support as one of job resources. But we did not explore the role of personal resources in the JD-R model. Further research may be considered to expand to examine personal resources.

Thirdly, teacher's occupational commitment involves different dimensions including affective occupational commitment, continuance occupational commitment and normative occupational commitment. But this study only emphases on affective occupational

commitment, which may not be sufficient for the full picture of teachers' devotion to their career. Further studies may be considered to investigate the three dimensions of occupational commitment.

Fourthly, the definition of work-related fatigue is a complex one, and it has several dimensions including physical, mental and emotional fatigue. We only examined one dimension, namely mental fatigue, which may not enough to show the whole picture of work-related fatigue suffered by university teachers. This is because job demands involve the input of energetic resources, including physical, mental or emotional resources. The long-term effect of being more active and effort at workplace can consume individuals of energy, eventually leading to not only mental breakdown, but also psychological and physical fatigue symptoms (Guglielmi, Panari, & Simbula, 2012). Further research may be considered to examine overall fatigue based on a multifaceted conception.

Finally, this study only investigated the full-time teachers from a single university in Chengdu, China. We did not discuss the potential differences among teachers with different circumstances. It may be limited to generalize the results of this study to other organizations. Further research may be considered to increase research objects with various backgrounds.

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Annex: Questionnaire on Teacher Working Condition

Dear teachers,

Thank you very much for participating in this questionnaire! This questionnaire is about an academic study about university teachers. Please answer the questions that best describe yourself and click "√" on the corresponding options. There is no right or wrong in the questionnaire.

On the following pages, you will find several different kinds of questions. Your truthful answer is of vital importance to this research!

Declaration: The survey is conducted in an anonymous way. The questionnaire will be kept strictly confidential and only for research purposes. Please feel free to fill in the questionnaire.

Thanks again for your support to this study!

I. Instructions for completing this survey

The survey consists of five sections. There will be an instruction at the beginning of each section. Choose the answer as guided.

A. EMOTIONAL DEMANDS						
Instruction: When interacting with your students, how often do you actually do the following behavior during a typical work day.	Never	Seldom	Occasionally	Sometimes	Often	Always
1. You have to observe (pay attention to understand) students' emotions.	1	2	3	4	5	6
2. You have to understand how students feel at certain moments (which is important for my job).	1	2	3	4	5	6
3. It is necessary in your job to put yourself into your students' place.	1	2	3	4	5	6

B. EMOTIONAL LABOR						
Instruction: When interacting with your customers (supervisors, colleagues, students), how often do you actually do the following behavior during a typical workday?	Never	Seldom	Occasionally	Sometimes	Often	Always
Surface acting – managing facial expressions						
1. Put on an act in order to deal with customers in an appropriate way	1	2	3	4	5	6
2. Fake a good mood	1	2	3	4	5	6
3. Put on a "show" or "performance"	1	2	3	4	5	6
4. Just pretend to have the emotions I need to display for my job	1	2	3	4	5	6

5. Put on a "mask" in order to display the emotions I need for the job	1	2	3	4	5	6
Deep acting-managing internal feeling states						
1. Try to actually experience the emotions that I must show	1	2	3	4	5	6
2. Make an effort to actually feel the emotions that I need to display towards others	1	2	3	4	5	6
3. Work hard to feel the emotions that I need to show to others	1	2	3	4	5	6

C. OCCUPATIONAL COMMITMENT						
Instruction: The statements listed below represent possible opinions that YOU may have about your career. Please suggest how well each statement agrees with your point of view about your career.	Strongly disagree	disagree	Rarely disagree	Sometimes agree	Often agree	Strongly agree
1. Teaching is important to my self-image.	1	2	3	4	5	6
2. I do not regret having entered education profession.	1	2	3	4	5	6
3. I am proud to be in the education profession.	1	2	3	4	5	6
4. I like being a teacher.	1	2	3	4	5	6
5. I do identify with the teaching profession.	1	2	3	4	5	6
6. I am enthusiastic about teaching.	1	2	3	4	5	6

D. WORK-RELATED FATIGUE						
Instruction: During the PAST 12 MONTHS, how often did you feel the following syndromes at the end of the workday	never	seldom	occasionally	sometimes	often	always
1. I feel mentally exhausted.	1	2	3	4	5	6
2. I have difficulty thinking and concentrating.	1	2	3	4	5	6
3. I feel mentally worn out.	1	2	3	4	5	6
4. I want to mentally shut down.	1	2	3	4	5	6
5. I feel mentally drained.	1	2	3	4	5	6
6. I want to avoid anything that took too much mental energy.	1	2	3	4	5	6

E. Perceived Organizational Support						
Instruction: The statements listed below represent possible opinions that YOU may have about working in your organization. Please suggest how well each statement agrees with your point of view about your university.	Strongly disagree	disagree	Rarely disagree	Some-times agree	Often agree	Strongly agree
1. The organization values my contribution to its wellbeing.	1	2	3	4	5	6
2. The organization appreciate any extra effort from me.	1	2	3	4	5	6
3. The organization would value any complaint from me.	1	2	3	4	5	6
4. The organization really cares about my well-being.	1	2	3	4	5	6

5. If I did the best job possible, the organization would notice.	1	2	3	4	5	6
6. The organization cares about my general satisfaction at work.	1	2	3	4	5	6
7. The organization cares about my opinion.	1	2	3	4	5	6
8. The organization takes pride in my accomplishments at work.	1	2	3	4	5	6

II. Respondent's information

1. Gender: □ Male □ Female

2. Age: □ ≤ 30 years old
□ 31-45 years old
□ 41-50 years old

3. Marital status: □ Single
□ Married
□ Others (divorce, etc.)

4. Highest Educational Level: □ undergraduate
□ Master
□ Doctoral

5. Position: □ Professor
□ Associate Professor
□ Lecturer
□Teaching Assistant

6. Work Orientation □ Research-oriented
□ Teaching-oriented
□ integrated

7. Professional Tenure: □ < 3 years
□ 3-5 years
□ 6-10 years
□ > 10 years

8. Weekly Working Hours □ < 40 hours
□ 40-50 hours
□ >50 hours