Chinese International Students' Health and Well-being in UK Universities

A thesis submitted to Lancaster University in partial fulfilment
of the requirements for the degree of Doctor of Philosophy

Dongshuo WANG

Faculty of Health and Medicine

Lancaster University

June, 2017

Declaration

This thesis results entirely from my own work, except where due acknowledgement is made. This thesis has not been offered previously for any other degree or diploma.

The studies presented within this thesis all received independent ethical approval letters from the Lancaster University.

Signed: Dongshuo WANG

Abstract

The purpose of this study is to investigate the health beliefs and well-being experiences of Chinese international students in the UK. On the basis of the literature review and semi-structured in-depth interviews, the *Chinese International Students' Well-being Survey* (CISWS) was designed and implemented. Three hundred and two Chinese international students from UK universities were recruited for the online questionnaire survey. Through this research design, Chinese international students were provided with the opportunity to have their voice heard concerning their health status and well-being experiences. The qualitative data from personal interviews were analysed within the framework of interpretative phenomenological analysis (IPA).

The qualitative data analyses revealed that the health and well-being experience of Chinese international students studying in UK universities are related to 1) culturally specific health beliefs and well-being practice; 2) sociocultural adaptation; 3) academic stress and anxiety; 4) psychological adaptation; 5) views on social support; 6) dilemma regarding health service: Traditional Chinese Medicine (TCM) or Western Medicine (WM)，and 7) health concern of female students. Chinese international students, irrespective of their gender and academic status, report facing academic stress while studying in UK universities. They employ different strategies to achieve their well-being in the UK such as dietary regulation, and drinking herbal tea and soup - practices embedded in their home culture. To resolve their perceived psychological stress, they use different types of social support. Chinese international students reported seeking social support from families, friends and university counselling services. In their spare time, they watch English TV programmes and BBC news to

improve their English proficiency. The emotional support from families and friends is also used to reduce their psychological stress.

Regarding quantitative data analyses, multiple regression tests and hierarchical regression, coupled with Pearson's product moment correlation tests showed that 1) academic stress is a significant negative predictor of well-being; 2) sociocultural adaptation, psychological adaptation, social support and cultural health belief are significant positive predictors of well-being; 3) sociocultural adaptation is a significant predictor of psychological adaptation; 4) social support mediates the association between sociocultural adaptation and well-being.

Furthermore, this study recommends a close examination of the role of specific cultural factors such as the union of human beings and nature (天人合一), balance of *Yin* vs. *Yang* (阴阳平衡), eating in accordance with the change of season (四季饮食), and mixture of hot and cold food (食性搭配), which may exert some influence on the health and well-being of Chinese international students during the dynamic and ongoing process of study abroad.

Table of content

List of tables

List of figures

Glossary

- Definition of key terms used in the study:

Acculturation is defined as the process by which groups or individuals integrate the social and cultural values, ideas, beliefs, and behavioural patterns of their culture of origin with those of a different culture (VandeBos, 2007, p. 8).

Acculturative stress is related to individuals' cross-cultural encounters that can produce physical, psychological and social problems (Berry, Minder, & Mok, 1987).

Agency refers to one's socio-culturally negotiated ability or willingness to act within specific sociocultural contexts (Hall, 2005, p.212).

Cultural distance can be defined as the similarities and differences between the culture of origin and the culture of contact (Ward & Kennedy, 1996).

Dietary acculturation refers to the process that occurs when members of a minority group adopt the eating patterns or food choices of the host country (Peng, 2005, p.9).

Embodiment refers to how we bodily live in meaningful ways in relation to the world and others (Todres, Galvin, & Dahlberg, 2007, p.57).

Enculturation is defined as cultural socialization to the culture of origin (Kim & Omizo, 2006, p. 143).

Hassles refer to chronic irritants that individuals meet on a frequent basis, such as arguing with friends, time pressure, and being overburdened with responsibilities (Safdar, Lay & Struthers, 2003, p.562).

Health is defined as the balance of the person, both within one's being — physical, mental, spiritual — and in the outside world — natural, familial and communal, metaphysical (Spector, 2002, p.199).

Intersubjectivity refers to how we are in a world with others (Todres, Galvin, & Dahlberg, 2007, p.56). We cannot be understood without reference to how our lives take place within a social world. For example, who I am getting on with, and who I am not.

Mental illness refers collectively to all mental disorders, which are health conditions characterised by alterations in thinking, mood, or behaviour (or some combination thereof) associated with distress and/or impaired functioning (US Department of Health and Human Services, 2001, p.7).

Resilience is defined as a dynamic process encompassing the positive adaptation within the context of significant adversity (Luthar, Cicchetti, & Becker, 2000, p.543).

Perceived Social Support refers to an individual's perceptions of general support or specific supportive behaviours (available or enacted on) from people in their social

network, which enhance functioning or may buffer them from adverse outcomes (Demaray & Malecki, 2002; p. 215).

Psychological adaptation denotes the feelings of well-being and satisfaction (Searle & Ward, 1990, p. 450).

Self-efficacy refers to belief in one's ability to accomplish a task (Bandura, 1994, 1995). It involves a self-appraisal of one's ability to complete a task and one's confidence in one's skills to perform that task (Chang, 2006).

Sociocultural adaptation denotes the ability to fit in and to negotiate interactive aspects of the new culture (Searle & Ward, 1990, p. 450).

Well-being refers to a state or a condition of a system in which the essential qualities are relatively stable (Reber, 1995, p.750). Well-being means to develop as a person, being fulfilled and making a contribution to the community (Shah & Marks, 2004, p. 2).

Acknowledgement

First and foremost, I would like to express my sincerest gratitude to my supervisors, Dr Ian Fletcher and Professor Carol Thomas who have given me immeasurable guidance and generous support over the years through every stage of my PhD journey. Apart from encouragement and consolidating my ideas, they have always opened up alternative perspectives for me to think about, guiding me through this experience with such extremely high-level expertise, excellent advice and enormous patience. I have gained so much from discussions with them and their feedback has always been very insightful and constructive, especially when they bring my attention to details and train me to be more critical, thoughtful and professional. My heart-felt gratitude also goes to Professor Shulan Tang who provided Shulan Chinese Medicine Institute in Manchester as a platform for me to explore emotional issues from a new perspective to widen my horizon and establish contact with some of the best Chinese Medicine practitioners. I would also like to thank the faculty and staff of the Faculty of Health and Medicine, Lancaster University for providing such a supportive academic environment, which is highly appreciated.

Also, I would like to thank all the Chinese international students who were actively involved in answering my interview questions about their health and well-being experiences and all those students who patiently filled in my questionnaires about their health and well-being in the UK. I am truly grateful for their generosity of their time, wishing to help future students following in their footsteps. This thesis would not have been possible without their contribution.

CHAPTER ONE
INTRODUCTION

1.1 Research background

At the opening ceremony of the 9th Global Conference on Health Promotion in Shanghai (WHO, 2016), Li Keqiang, Premier of the People's Republic of China announced a wide-ranging Health Plan of China 2030 — a plan the government promises will be second to none in ensuring clean air, high-quality life, and fair medical service for all Chinese people. The Chinese government has committed to make bold political choices for health, promote the health of citizens, and stress the links between health and well-being, thus going along with the United Nations 2030 Agenda for Sustainable Development (China Daily, 2016). The announcement made it clear that the Chinese government will take actions to provide high quality health services and promote the awareness of well-being.

Clearly, health and well-being are high on the agenda of the Chinese government. Although China has developed its economy, technology and international trade in the past three decades, and has become the second largest economy in the world, yet more than 200 million people are still suffering from a variety of chronic diseases, including dementia, diabetes, mental illness, high blood pressure, and cardiovascular system disease etc. due to a variety of reasons. According to the China Central Television (CCTV) report on the 22nd of May, 2016, mortality tends to ascend/increase with chronic diseases, leading to the phenomena of "poverty out of poor health or illness" in China, where medical service tends to become market oriented (Yip & Hsiao, 2014).

Encouragingly, the importance of health and well-being is widely recognized in China, particularly the health and well-being of the aging people, migrant workers and urbanized "new comers" (Gao, Ahern, & Koshland, 2016; Sun, Chen, Johannesson, & Burstrom, 2016; Zhang & Zhang, 2017). However, the health and well-being issues of the university students with different academic status (undergraduate and postgraduate) especially those outgoing university students, namely Chinese international students appear to have been ignored (Zhang & Goodson, 2011a).

Worthy of note is that Chinese international students have emerged as the single largest group of international students with a number of more than 150,000 studying in the UK universities and the number is growing every year (UKCISA, 2017). Considering their inadequacy in the English language and the lack of social networks, Chinese international students may endure large amount of stress and anxiety in daily lives (Yan & Berliner, 2011a). It is highly likely that they run into culture shock, homesickness, lack of support, unfriendliness, helplessness, loneliness and low awareness of treatment options (Dixon, 2014; Van Gordon, Shonin, Sundin, & Griffiths, 2014), which may affect their well-being and educational experiences (Jung, Hecht, & Wadsworth, 2007; Yan & Berliner, 2011b). More importantly, the economic climate of the 21st century is competitive, and a key element in maintaining a competitive edge is the ability to participate in the global market in technical innovation and knowledge advancement. As such, the health and well-being issues of Chinese international students, the promising backbone of the country, merit an in-depth study. For this reason, the research on health and well-being of Chinese international students was carried out in the context of UK universities.

1.2 Rationale for the study

Study abroad is in vogue nowadays (Beaven & Borghgetti, 2016), yet research on the health and well-being of Chinese international students is rarely reported. The curiosity to learn more about Chinese international students' health and well-being motivated the author to conduct the current study. As an insider of Chinese international students, the author has been studying in the UK university settings for seven years, where she has experienced an in-depth cultural exposure, which helps to work to her advantage to provide "thick descriptions" about Chinese international students' health beliefs and well-being practice in UK universities.

Given that Chinese international students is the largest group of international students in the UK (UKCISA, 2017), and it is worth understanding how these students perceive their well-being in the process of sociocultural adaptation and psychological adjustment, as they come from substantial distance, being separated from their parents, families and friends. Chinese international students may find it hard to make friends and communicate effectively with academic staff of native speakers of English (Szabo, Ward, & Jose, 2016). It is not surprising that the majority of Chinese international students may experience a "long-affect torment" (Huang & Rinaldo, 2009, p.10). Considering that Chinese international students in UK universities have a variety of health beliefs due to educational, geopolitical and cultural differences, their health practices may vary. This prospect has generated the author's interest in exploring Chinese international students' health and well-being perceptions and practices in a Western cultural context.

Furthermore, Chinese international students may experience great academic stress as they attach too much importance to academic success and link it to their family's reputation (Hsu & Wu, 2015). Considering that the academic demands in UK universities are different from the requirements in their home culture (Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013), this difference may exert even more pressure on Chinese international students to achieve academic excellence than their Western counterparts. Seemingly, they are more vulnerable to academic stress and prone to psychological crisis (Han et al., 2013; Hsu &Wu, 2015).

Considering that Chinese international students encounter a culture vastly different from their own, they need to adjust, change, or keep their cultural values and behaviours after entering into a new culture (Kim & Sasaki, 2014). Study abroad may result in mental exhaustion and burnout, as loneliness and anxiety are the two major emotional challenges that Chinese international students have to face (Shanafelt & Dyrbye, 2012). There are additional cumulative burdens for Chinese international students such as the challenge of using their non-native language for communication (Fobes, 2005). These difficulties are likely to distress Chinese international students and heighten the risk of developing mental health and physical health problems (Funder, 2015). It is believed that the lack of social support may leave Chinese international students prone to psychological problems, and eventually affect their overall well-being (UKCOSA, 2017).

Viewed thus, an in-depth research is needed to understand the Chinese international students' health and well-being issues during their psychological and sociocultural adaptation in the UK, and researchers need to have the voice of Chinese international

students heard so as to develop a clear picture about their health beliefs and well-being practices while studying abroad.

1.3 Statement of the research problem

China's Open-door Policy makes study abroad popular, and allows more and more young Chinese students to learn in the Western countries such as the US, the UK, Canada and Australia. Although study abroad provides Chinese international students with an opportunity to have personal growth, immerse in a new cultural context, increase professional knowledge and expand worldviews (Grey, Cox, Serafini, & Sanz, 2015), overseas study experience may also give rise to cross-cultural adjustment problems and psychological challenges, thus affecting the health and well-being of international students (Coll & Mangnuson, 2014). Facing intercultural adaptation, the growing number of Chinese international students emerges as a new global health and well-being challenge and presents an opportunity to advance our understanding of the cross-culture experience and its effects on health and well-being.

Despite the fact that some studies have contributed to the literature on the unique aspects of Chinese international students' health and well-being, (e.g. Ellis-Bosold & Thornton-Orr, 2013; Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007), several issues are needed to be addressed. To begin with, previous literature tends to have a vague definition of Chinese international students. Students coming from mainland China, Hong Kong, Taiwan or Chinese heritage students from Malaysia, Singapore were generally considered as one group, though they speak different languages and have distinctive local cultures. Some studies include students from mainland China and Taiwan (Ellis-Bosold & Thornton-Orr, 2013) whereas others recruit overseas-born

Chinese speaking tertiary students of Chinese ancestry (Lu, Dear, Jonaston, Wootton, & Titov, 2014). Although these groups of students share cultural similarity, each is a unique group in terms of language and exposure to Western culture. According to Clark and Gieve (2006), Chinese students from mainland China, Hong Kong, and Taiwan should not be taken as a homogeneous group with overseas Western Chinese or simply categorised as 'Asian', for there are important differences based on their region of origin. In a rigorous study, Chinese international students from mainland China, Hong Kong, Taiwan and Malaysian Chinese, Singapore Chinese should be investigated as separate groups.

Besides, there is a lack of information about Chinese international students' health and well-being. Zhang and Goodson (2011b) conducted a systematic review about the psychosocial adjustment of international students in the United States, and report that among the 64 studies reviewed, only five studies focus specifically on students from mainland China. According to Gao, Larsson and Luo (2013), even fewer studies have been conducted in the UK, where Chinese international students are largely underrepresented in the UK psychological literature because of the misassumption that they are relatively free of the problem (Gao, Larsson, & Luo, 2013; Lee, Choi, & June, 2014).

Furthermore, the research on mental and emotional health of Chinese international students seems to be westernized in the contemporary studies (Zhang & Goodson, 2011 a, b), with researchers relying on Eurocentric theorising. The measuring tools, questionnaires were largely in English and developed by Western researchers with psychological or educational research backgrounds, who may run a risk of failing to

reveal the true nature of health and well-being of Chinese international students. Barry and Garner (2001) also called for more research on acculturation to assess discrete, psychologically relevant facets in this process rather than through the lenses of Western centralisation approach when examining the group with immigrating or sojourning experience.

Regarding depression (抑郁症 *yiyuzheng*), it may mean different things in Chinese culture and British culture. In the British corpus, depression swings between a psychological problem and a biochemical condition (Parker, Chan, Tully, & Eisenbruch, 2005; Wang, 2016); by contrast, in the Chinese corpus, depression is viewed as body discomfort, such as insomnia, stomach ache, fatigue or persistent sadness/pessimism. Emotional disturbance is not typically considered as disease by many Chinese patients (Parker, Chan, Tully, & Eisenbruch, 2005). Clearly, Chinese culture has its own theory and ideology about health and well-being, which may not be comprehensible to Western researchers, more efforts are needed to understand Chinese international students' health and well-being from the perspective of Chinese culture such as Traditional Chinese Medicine (TCM).

With regard to acculturative, the majority of Chinese international students are sojourners in the UK with a clear target of obtaining academic degree certificate, and they may not show strong interest in acculturation as researchers previously assumed stress (Wei, Heppner, Mallen, Liao, & Wu, 2007; Ying & Han, 2006; Ying, 2005). A growing number of cooperation programmes termed as "2+2" or "3+2" (Note 1) have given birth to a phenomenon that Chinese international students are coming as a group (sometimes the whole class). Before coming to the UK, they have already spent two or

three years in a Chinese university as course-mates, and learn together in the same programme in the UK. They may not experience the same level of the so-called acculturative stress as individuals investigated in the previous research. How do these cohorts of Chinese international students perceive their health and well-being? This issue is not fully understood.

Nor does it stop there. For each Chinese international student, study abroad involves the development of intercultural communicative competence (ICC) (Byram, 1997), which places an emphasis on the following five central elements: *savoirs* (knowledge), *savoir-comprendre* (skills of interpreting and relating), *savoir-faire* (skills of discovery and interaction), *savoir-être* (attitudes of openness and curiosity), and *savoir s'engager* (critical cultural awareness) (Byram, 1997, pp.57-61). How well or how efficient Chinese international students communicate in a culturally different context may affect their sociocultural adaptation, psychological status and well-being. In view of this, more empirical data is needed to understand their health and well-being in UK universities.

Taken as a whole, study abroad tends to give rise to the big concern of Chinese international students' health and well-being. How do Chinese international students report about their health and well-being while studying in the UK? What factors drive or affect their well-being? To what extent, do they use the health resources (e.g. NHS or others) in the UK? What difficulties do they encounter in the course of consultation and communication with UK doctors? Do Chinese international students maintain or reject their traditional beliefs, or do they combine them with Western biomedical systems? To answer these questions, an exploratory study is considered as necessary

for a better understanding of the health and well-being of Chinese international students in the UK higher education.

1.4 Purpose of the study

The purpose of the study is to gain some fresh insights into the health and well-being of Chinese international students while studying in the UK. Specifically, the purposes of the study were 1) to deepen the understanding of the health and well-being of Chinese international students at UK universities, coupled with their attitudes towards using Western Medicine (WM) and Traditional Chinese Medicine (TCM); 2) to identify the factors that affect Chinese international students' health and well-being; and 3) to assess the extent to which Chinese international students utilise social support and strategies to maintain and enhance their health and well-being.

1.5 Research questions of the study

Three main research questions and a range of sub-questions were raised to guide the current study:

RQ1.What do Chinese international students report about their health and well-being while
     studying in the UK?

  1) What are the health beliefs and practices of Chinese international students when studying at UK universities?

  2) What are their attitudes towards the use of WM and TCM? and why?

RQ2. What factors drive Chinese international students' well-being?

  1) What is the relationship between academic stress and well-being of Chinese international students in the UK?

  2) What is the relationship between sociocultural adaptation and well-being of Chinese international students in the UK?

3) What factors may predict their psychological adaptation?

4) What is the effect of social support in the association between sociocultural adaptation and well-being?

5) How is their sociocultural adaptation?

RQ3. How do they manage to achieve their well-being in the UK universities?

1) What strategies do they employ to reduce their academic stress?

2) What social support/resources do they use to resolve the perceived psychological stress?

Those research questions were expected to elicit both quantitative and qualitative data. It was hoped that the study may deepen our understanding of Chinese international students' health and well-being in UK universities.

1.6 Significance of the study

This study attempts to make a contribution to current understanding about the health and well-being of Chinese international students. The study is considered significant due to the following reasons:

Firstly, there are few studies which investigate the Chinese international students' health and well-being in UK universities. As such, the current study scrutinises the core concepts that apply to the analysis of Chinese international students' well-being, health related practices, and perceptions of WM and TCM. For years, studies on international students' health and well-being have been investigated from perceptions of counselling professionals. However, little research has been pointed towards the

Chinese international students in relation to their health and well-being beliefs and practices which can be culturally bounded. This study makes it possible to find out what Chinese international students say about their experience of utilising health services while studying abroad and how they perform health related activities.

Secondly, from an insider perspective (emic vs. etic), the study investigates the health and well-being of Chinese international students in UK universities. The voice of Chinese international students may help to highlight the context-dependent health choice, and open the door for options (TCM service or NHS services) especially in the context where WM is dominant for international students. This study may help to highlight the power of context specific health choice, and encourage Chinese international students to make their own decisions to maintain health and well-being while studying in the UK.

Thirdly, the empirical data collected are likely to enhance Chinese international students' awareness of health and well-being. For example, under the influence of Chinese traditional beliefs, too much attention has been attached to academic achievements, and the well-being of Chinese international students has been ignored to varying degrees. In line with the UN 2030 Agenda for Sustainable Development, people in all walks of life have the right to control their own health and well-being. Namely, in the Western context of "Health for All and All for Health", students are in a position to make healthy lifestyle choices. To reach a desirable state of health and well-being, an individual or group/community should be allowed to achieve their aspirations. Clearly, the promotion of health and well-being is not just the duty of

public health sector, but the responsibility of every individual, including international students while studying abroad.

Fourthly, as widely recognised, UK is strong in financial service (economic), legal service, health and medical service, and technical innovation which have attracted a great number of Chinese international students to study in the UK. Worthy of note is that the UK Minister of State in the Department for International Trade, Rt Hon Greg Hands visited China and sought to build Sino-British strong ties for economic and trade development. On Thursday the 16th February, 2017, Mr Sharma, the UK Minister for Asia visited Beijing and emphasised the UK's support for China's "One Belt One Road" initiative and explored opportunities to develop closer infrastructure and finance partnerships. He led delegations with world-class UK experts of UK healthcare and life-science business leaders to Guangzhou, Fuzhou and Xiamen and explored trade and collaboration opportunities across the regions (Gov UK, 2017). In the context of growing interest of cooperation between China and UK, those Chinese international students are viewed as potential cultural mediators to bridge the gap between China, the UK, and the world as a whole. In other words, those university students are promising talents who will play a special role in the Sino and British cooperation of trade and technical innovation in the years ahead. In addition to making contributions to the global economy, these international talents are playing a leading role in promoting global well-being. Viewed thus, an in-depth study of the health and well-being of Chinese international students is considered as necessary and crucial for the mutually beneficial cooperation between China and the UK.

Last but most important, the study may help university counselling service providers to examine the willingness and readiness of Chinese international students for health and well-being service. The research findings are likely to support sociocultural adaptation of international students, emphasising culturally sensitive counselling, thus offering alternative solutions to change the status quo. Cultural diversity may be conducive to the development of culture specific health and well-being service. Through scrutinising international students' health and well-being beliefs, the counselling service would have a clear picture of their students' needs in terms of health service and help seeking behaviour. With a better understanding of the students' health needs, the counsellor service provider may create a more culturally sensitive counselling environment. As a result, more and more international students including Chinese students are likely to enjoy high quality health and well-being service while studying abroad.

1.7 Outline of the thesis

The thesis consists of eight chapters. Chapter 1 presents the general introduction, including background of the study, research rationale, statement of the problem, purposes of the study, research questions, and significance of the study. Chapter 2 provides the research context, introducing China in transition resulting from a dramatic rise of Chinese international students, addressing a range of conceptualisation of health and well-being in China, especially the TCM view of health and well-being as well as the health service in contemporary China. Chapter 3 reviews the literature in relation to international students' health and well-being in the acculturation context worldwide, discussing a range of issues related to the health and well-being, with a focus on Chinese international students. Chapter 4 deals with

methodology, including research design, participant recruitment and sampling, research instrument，data collection procedures, triangulation of the data, validity, reliability, and generalizability of the study, coupled with ethical issues. Chapter 5 concentrates on qualitative data analysis and results. Emerged themes include 1) Cultural health beliefs and well-being practice of Chinese international students; 2) Sociocultural adaptation of Chinese international students; 3) Academic stress arising from study abroad; 4) Psychological adaptation during study abroad; 5) Different views on social support; 6) Dilemmas regarding TCM or WM health service; and 7) Health concerns of female students, which informed the design of questionnaire for the quantitative study. To further explore the relationships among the variables identified in the Chapter 5 and other theoretically related factors, Chapter 6 is devoted to quantitative data analysis and results, including how to test the underlying assumptions and how to analyse the quantitative data as well as reporting the testing results and mediating/moderating models. Chapter 7 discusses the findings presented in Chapter 5 and Chapter 6, compared the consistency and discrepancy between the findings from the two sets of data. This chapter also offers possible explanations for unexpected findings together with the difference in comparison to literature as well as the strengths and limitations of the study. The theoretical implications, methodological implications, and practical implications are also discussed in Chapter 7. Chapter 8 summarises the main findings. The thesis concludes with recommendations for future research.

1.8 Chapter summary

This chapter has provided the introduction to this thesis by presenting the research background of the well-being and health among Chinese international students in UK

universities, their adjustment and adaptation. This chapter has also highlighted the research questions and research purposes in this study, providing a brief outline of the determinants of health, the significance of the study and the study's rationale. Finally, the layout of the thesis has been detailed. The following chapter provides essential context concerning China in transition, why an increasing number of Chinese students are choosing to study in the UK, the conceptualisation of health and well-being in Chinese culture and the health services in contemporary China. Chinese international students used to be taken as a homogeneous group, Chapter 2 explains the sociocultural difference among mainland Chinese students, Hong Kong and Taiwan international students. These factors have a significant influence on Chinese international students' perception and practice of health and well-being while studying in the UK.

Note 1: "2+2/3+2 students programme" refers to a unique structure of the cooperative educational programme. Students in the programs will spend first 2 to 3 years in our Chinese universities. By the end of their second or third year, if they successfully pass their university's partner UK universities' language and requirements, they will be transferred to UK universities to finish their matching programmes and get bachelor degree in the UK.

CHAPTER TWO
RESEARCH CONTEXT

China, as the world's second largest economy, is playing an increasingly important role in the global economy (The World Bank, 2017), and the economic growth has raised aspiration for international education. Each year, more than 400,000 Chinese students go abroad in their academic degree pursuit (Times Higher Education, 2016). As such, the health and well-being of these students has become a big concern locally and globally. This chapter provides the research context, starting from China in transition, the conceptualization of health and well-being in Chinese culture, health services in China, and ending with the relatively low level of research into the health and well-being of Chinese international students.

2.1 China in transition

The G20 summit in *HangZhou* (2016) has witnessed China in transition, which involves not only economic development and technological advancement (Coase, 2016; He, Chan, Mao, & Zhou, 2016), but also educational and healthcare reform. From 1978 onwards, China has adopted "Open-Door Policy", and created more opportunities for Chinese people to broaden their horizon about the changing world. After nearly forty years of rapid economic development and social progress, China has become an active player in the global economy. Economic development has now enabled China to become more actively involved in the international cooperation and exchange programmes and China's voice is being heard on the international stage.

Of some interest, China's proposal of "One Belt One Road" was written in the resolution of the United Nations (UN) at the 71 General Assembly on the ground that the proposal may promote the implementation of a UN facilitated sustainable development agenda, which aims to end poverty and promote prosperity and contribute to the practical economic cooperation among the countries and regions involved (China Daily, 2017). More importantly, China's proposal proves to be consistent with the UN conceptualization of economic development, providing more opportunities for different countries to have a free ride and realise their aspirations of working together to win in economic development and international trade.

With the advent of the era of knowledge based economy, China came to recognise that innovation is the key to economic prosperity, social progress and global competitiveness. In recent years, China has doubled her efforts to encourage scientific and technological innovation so as to catch up with the developed countries worldwide. In May 2017, China successfully launched her first skylab of *Tianzhou* (天舟一号), suggesting that China has entered a new stage in technological innovation. The speedy development of science and technology in China requires more and more Chinese international students to come back to China after they have studied in the West with solid knowledge and updated skills.

Regarding educational reform, China pursues a policy of "going outside and inviting inside" to change the status of Chinese higher education. Realising that Chinese university students' lack of international knowledge and skills in an era of globalization, China encourages universities to take multiple measures to reform the current higher education. A range of questions were raised such as 1) What is the

fundamental role of higher education in relation to the national economy and social development? 2) How to bridge the gap between China and the developed countries in higher education? 3) How to find a better way for the internationalization of China's higher education? 4) How to ensure the quality of higher education advisers? 5) How to develop a higher education system with Chinese characteristics (Wang & Song, 2016).

By comparing the systems and regulations in relation to quality assurance of graduate education in the US, the UK and Japan, China strives hard to find a way forward. Every year, "young backbone teachers" are sent to prestigious universities worldwide for more than one-year study so as to learn from the West and broaden Chinese teachers' global horizon. Meanwhile, different projects of "co-building curriculum with the international high level scholars" are carried out. For each joint construction, scholars with high academic attainments and rich experiences in higher education from internationally renowned universities are invited to form a cooperative team, who are responsible for discussing and determining the teaching requirements, teaching materials, teaching methods, teacher training, and other related matters.

To improve the theoretical depth and introduce the cutting-edge technology in graduate education, China has implemented the "Chief International Academic Adviser Appointment Plan", inviting top scholars from world class universities and disciplines to "feel the pulse" and deeply participate in discipline development, teacher development, and personnel training programs. In this way, China is realizing the effective "grafting" of world-class with Chinese characteristic graduate education, thus lifting the level of "inviting inside". As such, international part-time supervisors

can play an active role in the construction of disciplines and the cultivation of high-level talents.

To broaden students' international vision, great efforts have been made to attract international students to pursue their higher academic degrees in China. It is hoped that the increasing number of international students may bring more diversity and vitality to the educational environment in China, though China still lags far behind the developed countries in terms of international recruitment (Wang & Song, 2016). It seems that the internationalization of Chinese higher education shows a good prospect with the continuous improvement of China's economic strength and scientific research level.

China's joining of the World Trade Organization (2002), the successful hosting of the Olympic Games in the year of 2008 and the G20 Summit in *HangZhou* (2016) have made the country more open, cooperative and promising than ever before (Chan & Ip, 2014). Many Chinese people are confident that in another thirty years, China may become a strong economic player in the world, facing more opportunities and challenges as well.

2.2 Conceptualization of health and well-being in Chinese culture

Traditionally, the conceptualization of health and well-being in China is rooted within the broad context of classical Chinese cosmology (Lu, Cooper, Kao, & Zhou, 2003). The human organism is viewed as a miniature version of the universe, which means that nature is regarded as a macrocosm and man as a microcosm (Petri Jr, Delgado, & McConnell, 2015). Just as the natural world adjusts itself to climatic and seasonal

19

changes, people are supposed to adjust to the outer forces of nature as well as to inner forces such as emotional and glandular changes.

Two philosophical systems - the duality of *Yin-Yang* and the Five-Elements provide the foundations of Chinese medical theory and bases for clinical diagnosis and treatment plan in the health service (Chu, 2014; Fang, 2012; Gurung, 2013).

Yin and *Yang*

Chinese conceptualization of health and well-being can be traced back to the theory of *Yin-Yang* (the 4th century B.C.) (Harris, 2016), which depicts how things function in the universe. According to *Yin-Yang* theory, everything in the universe is seen as parts of a whole, which goes along with the continuous natural changes. The correlation of *Yin* and *Yang* exists among everything, and nothing is isolated from the rest. *Yin* and *Yang* are two complementary forces that together describe the nature of real-world elements, and they express the interdependence of opposites in the individual, nature, and the cosmos. The *Yin - Yang* Theory suggests the following philosophical underpinnings:

1. *Yin* and *Yang* coexist in everything, and everything embraces *Yin* and *Yang*.
2. *Yin* and *Yang* give rise to, complement, and reinforce each other.
3. *Yin* and *Yang* exist within each other and interplay with each other to form a dynamic and paradoxical unity (Wang & Zou, 2011).

The *Yin-Yang* theory is viewed as fundamental to the practice of TCM in terms of understanding, diagnosing and treating health issues (Zhang & Wang, 2014). TCM treatment seeks to restore the balance of *Yin* and *Yang* both physically and mentally. This balance of *Yin* and *Yang* is symbolized as a "*Yin – Yang* fish" (see figure 2.1).

20

The curvy line ("S" shape) in the symbol signifies that there are no absolute separations between opposites (Fang, 2012, p.7). The dark circle in the light part looks like the eye of the fish, suggesting that *Yang* entity contains *Yin* element; and in a similar vein, *Yin* entity contains *Yang* element as well, indicating the coexistence and unity of the opposites to form the whole.
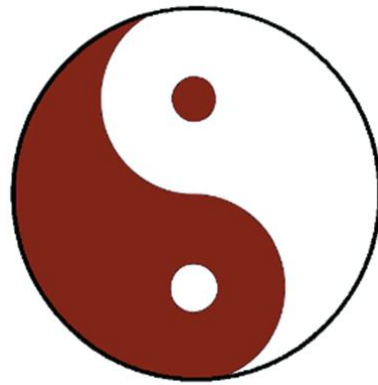
Figure 2.1. Bi-polar construct of *Yin* and *Yang*

Notes 2: Light colour = positive side; dark colour = negative side.

The *Shi Jing (诗经) (The Classic of Poetry, 601 BC),* contains possibly the origins of the *Yin-Yang* link. The written character for *Yin* is a pictograph which means the 'shady side of the hill', and the character for *Yang* is the 'sunny side of the hill' (Yuan, 2015). From then on, *Yin* and *Yang* have been endowed with innumerable qualities with many of the additional connotations either related to or derived from the original concepts (Ling, 2015).

Ancient Chinese people would take *Yin* and *Yang* as one entity, which exists in everything such as foods, drugs, body organs, disease etc. and stages of the life cycle etc. The theory of *Yin* and *Yang* describes the human body as an organic and dynamic whole, unified but with opposing aspects. *Yin* usually connotes "water" property: i.e.

coldness, darkness, femininity and weakness; while *Yang* stands for "fire" characteristics: i.e. hotness, brightness and masculinity.

The notion of *Yin* and *Yang* lays an important foundation for the theoretical development of TCM as evidenced in the following five aspects:

1) All things have two aspects: a *Yin* aspect and a *Yang* aspect. Illness is associated with slowness, coolness, weakness or under-activity which are characterised as *Yin*; whilst sickness related to manifest strength, over-activity or heat is related to *Yang*.

2) Any *Yin* or *Yang* illness can be further explored. For example, heat or hyperactivity is associated with a *Yang* illness; whereas weakness or loss of weight may be related to *Yin* illness.

3) *Yin* and *Yang* are regarded as interrelated or interdependent.

4) *Yin* and *Yang* are believed to have a mutual control relationship. For instance, if *Yin* is excessive, and then *Yang* will be weak (Maciocia, 2015).

5) *Yin* and *Yang* are thought to have the potential to transform from each other (Mair & Tzu, 2012).

For TCM, the affinity of *Yin* and *Yang* is vital to human health and well-being. To be concrete, harmony between *Yin* and *Yang* indicates good health, whereas disharmony or preponderance of one element over the other may result in disease or death. It is postulated that the balance or imbalance of *Yin* and *Yang* reflects one's physical and emotional status of the body. Balance and harmony give structure and meaning to the understanding of the complementary and yet antagonistic forces (Xutian, Cao, Wozniak, Junion, & Boisvert, 2012).

In health service and medical treatment, a practitioner needs to judge whether an illness is located in the interior or exterior of the body, i.e. in the *Yin* or *Yang* (regions

of the organism), and whether an affliction is caused by cold or heat, either inside one's body or the external environment. Good health condition is considered as a harmony or balance between *Yin* and *Yang*. When the harmony is broken, illness will occur (Kaptchuk, 2014). Hence, *Yin* and *Yang* dominates Chinese health beliefs, illness causation and health management choices, with an emphasis placed on the internal and external balance between the body and the mind. In brief, *Yin-Yang* philosophy serves as the theoretical foundation for Chinese medical diagnosis and treatment (Fang, 2012).

Five-Elements Theory

Coexistent with the *Yin-Yang*-Theory, the Five-Elements Theory (also called Five Phases Theory) is highly valued in ancient Chinese health and well-being civilization. The five phases (i.e. *wood, fire, earth, metal and water*) are often used to describe clinical processes and relationships, helping to conceptualise proper medical treatments. According to Kaptchuk (2014), Five-Elements Theory was first systematized by *Zou Yen* (approximately 350 B.C. to 270 B.C.) and his followers. Chinese physicians in the ancient time noticed that the inter-relationship among the internal organs corresponded closely to that of the five elemental processes in nature.

Originally, the five phases were used to show the general processes that take place during the annual cycle. The sequence - the mutual production order of *Wood, Fire, Earth, Metal and Water* – describes normal generative functions. In the sequence, the producer is called the Mother and the produced is termed as the Child (Kaptchuk, 2014). The Five Elements are believed to distribute over the seasons, i.e. wood

belongs to the season of Spring, fire to Summer, earth to late Summer, metal to Autumn and water to Winter.

As such, health and well-being were perceived as a harmonious balance that existed through the interaction of the five fundamental elements, interacting in harmony with related forces and elements in nature. Illness was attributed to the natural conditions such as 'wet', 'dry', 'hot', 'cold', 'wind' and 'flame'; or to the related emotions: 'grief', 'fear', 'anger', 'hatred' and 'desire' (King, 2005). Good health is maintained through the balance between the five elements and the control of human emotions.

Within the framework of the Five-Elements Theory, natural phenomena and abstract concepts can be put into five lines of correspondence (Patwardhan, Warude, Pushpangadan, & Bhatt, 2005). For example, the five flavours of foods are considered vital to human health and well-being (Mennella, 2014). Foods with a salty flavour are thought to moisten the body, strengthen the bones and viscera, calm the nerves, loosen the bowels and reduce swellings. An excess is however believed to harden the pulse. Salty foods manifest their effects on kidney and urinary bladder. Foods with a sweet flavour could slow down the acute symptoms of disease and promote energy circulation whilst an excess is thought to cause aches and pains. Sweet flavours manifest their actions in the spleen and stomach. Sour flavours are to have an astringent action as well as activating blood circulation. An excess is believed to toughen the flesh. Sour flavours manifest their actions in the liver and gallbladder. Pungent flavours are considered to induce perspiration and promote blood or energy circulation. An excess could knot the muscles. Pungent flavours manifest their actions in the lung and large intestine. Foods with a bitter flavour are thought to have an

antipyretic effect, eliminate dampness and stimulate the appetite. An excess is thought to wither the skin. Bitter flavours manifest their action in the heart and small intestine.

The Five-Elements Theory was an exploratory theory, not taken as a binding doctrine. The relationships of mutual destruction and of mutual generation are symbolically expressed as follows: Water overcomes fire; fire melts metal; metal (in the form of a knife for example) - overcomes wood; wood (as in a spade) - overcomes soil; soil (as in a dike) subdues water. Water/watering produces plants and trees, that is wood; wood brings forth fire; fire produces ashes, that is soil; soil brings forth metal; when heated, metals produce steam, that is water (Yuan, 2015).

The use of the five elemental processes in diagnosis was perceived as a concise and symbolic way of explaining complicated symptoms and changes (Williams, 2016). For example, giddiness, watery eyes, irritability, anger and incessant flow of tears are taken as "wood symptoms" related to diseases of the liver meridian. Reddish face, fiery feeling and excessive perspiration are "fire symptoms" related to the heart meridian. Yet, while diagnosing patients, Chinese physicians do not rely on those classifications alone, nor are these classifications rigid or compartmental. Viewed in this way, the Five-Elements Theory only served as a helpful guideline in the medical treatment of ancient Chinese people.

Noteworthy is that the *Yin-Yang* Theory and the Five–Elements Theory co-existed independently during the third and fourth centuries (Kaptchuk, 2014). It was not until the Han dynasty, the two systems began to merge in Chinese medicine (Kaptchuk, 2014). From then on, different attempts were made to fit the Five Phases neatly into

the *Yin - Yang* framework (Veith, 2015). Active in character, wood and fire were viewed as the *Yang* Phase; whereas metal and water associated with quiescent functions were taken as the *Yin* Phase. Earth was believed to be the balance point for *Yin* and *Yang*. Given that one organ is diseased (*Yin* deficiency) or is not functioning properly (*Yang* deficiency), it can be restored to normal by nourishing its related organ. In other words, when one organ suffers from diseases, it would directly or indirectly affect other organs. When a person is healthy, all the organs function properly in harmonious coordination (Kiew Kit, 2002).

In spite of the possible marriage between the Five-Phases Theory and the *Yin – Yang* Theory, the two systems of correspondence frequently interpreted health and disease in a different manner. From the perspective of Five Phases, the Liver opens into the eyes; the Kidney opens into the ears; the Heart opens into the tongue. Disorder in a particular orifice would be necessarily linked to its corresponding organ (Kaptchuk, 2014). From the standpoint of *Yin - Yang*, the following assertions of the *Huang Di Nei Jing* (Inner Classic of the Yellow Emperor) were emphasized: The pure *Qi* (energy) of all organs is reflected in the eyes; all of the meridians meet in the ears; the tongue is connected to most of the meridians. *Yin-Yang* Theory would not necessarily see a link between one part and another part. Instead, all disharmonies of the eyes, ears, or tongue would be interpreted in terms of patterns. For instance, an eye disorder could be part of a Liver disharmony, perhaps a Kidney, or Spleen disharmony, depending on the configurations of other signs.

The differences between those medical interpretations stem from the fact that the Five-Phases-Theory tends to emphasize the one-to-one correspondence, whereas the

Yin - Yang-Theory tends to address the need to understand the overall configurations upon which the part depends (Kaptchuk, 2014; William, 2016). Irrespective of these differences, the Five-Phases-Theory and the *Yin-Yang* Theory work together, and play an important role in the interpretations of health and diseases in Chinese culture, ancient and contemporary.

Qi

It is worth noting that ancient Chinese people conceptualized an invisible energy force as *Qi* (vital energy - the source of life), which is believed to circulate through the body to give life (Palos, 1972). *Qi* pervades all forms of matter to create change or movement. A proper balance of *Qi* throughout the body is assumed to increase the body's resistance to disease and illness results when circulation of *Qi* is blocked or when organs suffer from excess or insufficient *Qi* (Kohn, 2013). The essential *Qi* comes from birth and other forms of *Qi* come from food and nutrients. An excess of *Yin* forces is thought to produce cold air (han *Qi* 寒气) whilst excess *Yang* forces produce hot air (re *Qi* 热气).

Both *Qi* and blood are considered to circulate through the body and interchange with each other. Health is attained through the production and accumulation of sufficient *Qi* in the body. The maintenance of health depends on the vital *Qi* energy's circulation through the regular patterns in human body. In this *Qi* circulation process, energies are distributed, and stored in organs. The rhyme of the seasons, equilibrium in dealing with time though routine and the proper timing of meals, and climatic conditions are crucial to the health, the balanced state of the vital energy - *Qi*.

The balance and harmony in the body are the most fundamental health constructs in TCM. "Health is maintained not only within the body, but also in social relations, in relations with the landscape and nature, and in relations with the supernatural" (Fang & Schinke, 2007, p.403). Health results from sufficient and adequately distributed energy whereas illness is the symptomatic manifestation of energy disequilibrium or insufficiency.

Both internal and external factors could cause energy imbalance in human body. The former embraces one's hereditary proneness to having a *Yang* or *Yin* which can be affected by personality, age, poor diet, infections, accidents, fatigues, or excessive emotions such as joy, anger, fear or sadness. The latter is related to natural or meteorological conditions such as temperature, humidity and volume of rainfall, atmospheric pressure, wind speed and direction, together with the movement of celestial bodies. Environmental factors include irritants, germs, viruses and bacteria etc., and of these external factors, windy, cold, wet, hot or dry weather conditions seem to be the most salient dimensions used to explain the cause of illness.

As can be seen from the above that the conceptualization of health and well-being in Chinese culture involves a range of theories and central concepts, including *Yin* and *Yang* Theory, Five Elements Theory, the *Qi* concept and harmonious balance, which prove to be central to the conceptualization and the development of health and well-being in Chinese culture.

2.3 Health service in contemporary China

The past few decades have witnessed remarkable transformation of healthcare services in China. The central government has promised to make public health services as well as psychological counselling services accessible and affordable for all, urban or rural, rich or poor (Chang, Tong, Shi, & Zeng, 2005). The current policy from central government on health system lies in the middle of a spectrum from extreme command-and-control system to complete market-driven system (Jiang, Zhang, Long, & Dong, 2016).

China's health system is characterised as a combination of TCM and WM, and the integration of the two started in the 1960s (Keji & Hao, 2003). The integration of TCM and WM are considered more efficient for the prevention and cure of the diseases (Shin, 1998). At the early stage of integration of TCM and WM development (1950s – 1960s), WM was mostly used for the diagnosis with laboratory tests such as X-ray, MRIs and for observation of treatment effectiveness with blood tests. The cure of the disease was mainly dependent on TCM, with herbal medicine and acupuncture. During the process of treatment, TCM and WM record were kept at the same time, but separately. Afterwards, the treatment the TCM doctors and WM doctors would discuss the case together and complement each other. Nowadays, the definition of TCM and WM integration is updating but has not reached a conclusive answer, and the widely accepted way is the cooperation of TCM and WM team, using modern scientific methods including the diagnosis theory and clinical experience to achieve highly effective treatment and a high standard of research. In the early 1950s, the government greatly promoted WM to appreciate TCM, and to investigate the TCM theory. Gradually, TCM and WM integration is widely accepted in China.

China now has 3072 TCM hospitals, with the bed number reaching more than 333,000. Most of the general hospitals have been equipped with the TCM departments; 72% of rural public health centres , 92% community health service centre and 54.7% of community health service station can provide TCM services for the public (Tang, Reilly, & Dickson, 2012). As to the training and education of TCM doctors, most TCM universities offers five years training with three years on campus to learn the medical theory: pharmacology, diagnostic techniques, internal medicine, paediatrics, gynaecology, skin disorders and acupuncture. For the remaining two years, students mostly work in the hospitals as apprentices, supervised by their university teachers and experienced practitioners in the hospitals. As a new generation of Chinese doctors have received formal medical training, health services in China have been gradually improved (Eggleston, Ling, Qingyue, Lindelow, & Wagstaff, 2008). The Chinese medical universities and colleges have trained an increasing number of TCM doctors, and as a result, the integration of TCM and WM has opened a new prospect to the health and well-being of contemporary Chinese people.

Not surprisingly, China has announced its wide-ranging health plan for a healthy nation - a plan the government promises will be second to none in ensuring clean air, water and land for the Chinese people (China File, 2016). China has underscored the importance of healthcare in relation to its economic development and social progress. The performance of the health system did not improve at the same pace as the economic development in China, though the "Open-Door Policy" has resulted in rapid economic growth and poverty reduction nationwide.

As noted, China's healthcare system and the related infrastructure leave much to be desired in spite of the rapid economic development in the past thirty years. The failure of the grand Maoist-era experiments in restructuring the Chinese economy (from 1949 to 1976), in particular the Great Leap Forward Movement in the late 1950s (Yang & Zhao, 2015), and the political violence that occurred during the Great Proletarian Cultural Revolution eroded the healthcare development in China (Gao, 2015). The most recent efforts from the government is emphasising the community healthcare services (Wang, Gusmano, & Cao, 2011).

Some unique features and dramatic improvement in healthcare for Chinese people were noted in Mao-era, after the establishment of the People's Republic of China (PRC) government in 1949. All the hospitals were government funded, owned and entirely supported by the state, ranging from big city hospitals to village clinics (Blumenthal & Hsiao, 2005). The healthcare system in China was rudimentary but egalitarian from 1950s to the mid-1970s. For the majority of people living in the rural areas with a great number of peasants, underprivileged urban people or those urbanised migrants, TCM has contributed enormously to their health and well-being. At that time, healthcare provision was greatly decentralized and diffused throughout the countryside. To be specific, the Chinese government democratized healthcare, with 'barefoot doctors' (Li, 2015). The 'barefoot doctors' were mostly self-taught learners who provided both TCM service as well as basic WM services. Health clinics became widely available to segments of the Chinese population who had no such access to health service before. Great achievement in public health was recognised, especially in infant mortality and infectious disease. During 1952 to 1982, life expectancy of Chinese almost doubled, from 35 to 68 years (French, 2006).

China's health system turmoil started in the early 1980s (Nolan, 2005), due to the historical and ideological transformation: changing from planned economy to a market, industrialized economy (Breslin, 2016). The "Open-Door Policy" and economic reforms have brought significant benefits to many Chinese people, but regarding the access to healthcare services, there is marked trend of inequality, especially geographically. In 1980s–1990s, Deng Xiaoping dismantled the central government sponsored health system, leaving local governments to be responsible for their hospital income. As the central government reduced investment and support in healthcare services, the local government was responsible to provide healthcare with local taxation. The immediate effect is that economically more developed areas e.g. coastal cities started to show superior advantage of having more health facilities and more private health services, especially through the lens of urban‑rural comparisons. Meanwhile, there is some alarming evidence that the efficiency of the Chinese healthcare system has declined precipitously (Blumenthal & Hsiao, 2005). Chinese doctors were so underpaid that they often had to supplement their salaries with kickbacks from drug companies and patient bribes, with public health service largely ignored (Wagstaff, Lindelow, Jun, Ling, & Juncheng, 2009). Sales of medicines and services became the main source of operational funds for public health facilities (Meng, Xu, Zhang, Qian, CAi, Xin, & Barber, 2012). Central to the criticism on the healthcare system in China during this period has been on the growing inequalities, unbridled profit seeking and health services quality declining (Millar, Jian, Mannion, & Miller, 2016).

Today, China is faced with the turning point of healthcare reform. With the aim to achieve universal access to healthcare by 2020 (Meng et al., 2012), the government, central and local, pledged that continuous healthcare reform will be launched, including financial investment increase and healthcare equality promotion (Millar, Jian, Mannion, & Miller, 2016). Like the Western countries, hierarchical medical treatment will be implemented in the urban area, and in the rural area, and new rural cooperative medical system (NCMS) will be adopted. Difficulties in the implementation have been highlighted, e.g. the unsustainable support from the government, resources inadequacy, and the patient-doctor trust crisis (Wang, Gusmano, & Cao, 2011). The reform placed an emphasis on community healthcare, which has been associated with success in changing the patterns of Chinese people's healthcare utilisation. The reforms are evolving, and hopefully, great progress will be made regarding the healthcare services and psychological counselling services as well.

2.4 Absence of research into the health and well-being of Chinese international students

According to the statistics of the Chinese Ministry of Education (MoE), in the past three decades, China has seen a growing number of high school students studying for higher degrees in Western countries, especially in the countries with English as official language such as the UK, the US, Canada, Australia, and New Zealand. The launch of the British Government's long-term worldwide educational campaign in 1999 and subsequent of national policies has boosted the number of international students in the UK (Guo & Guo, 2016).

To maintain the economic development and social progress, a talented pool of educated personnel are crucial (e.g. Simon & Cao, 2009; Zhu & Dowling, 2000) as the pace of globalisation continues to accelerate. As such, the Chinese government has launched the Chinese Scholarship Council (CSC) to provide scholarship and to encourage self-financed students to seek opportunities to study abroad (Ng & Lau, 2014) in developed countries, including the UK (Constant, Tien, Zimmermann & Meng, 2013).

Chinese international students are strongly motivated to study in the UK universities due to the following reasons: 1) the perceived high quality of the UK tertiary education enjoys a good reputation in China (Gu, 2016), including the world-class universities such as Oxford and Cambridge; 2) the rich culture in the UK makes it attractive for Chinese international students (Chinaview, 2017), which will broaden their global vision and enrich their intercultural experiences; 3) the advanced technology and economic development in the UK, which will make Chinese international students more competitive in the employment market, home and abroad (Jackson, 2003); 4) Most important of all, the rapid economic development and social progress of China led to a growing number of middle-class families, and the boosted economy income and personal savings make studying in the UK an affordable and achievable objective (Chen, Lai, & Yang, 2013; Ozturk, 2016).

Compared to the students sponsored by the government, the self-funded Chinese international students make their study-abroad decisions on the basis of their personal interests so as to enhance their motivation and competitiveness in the employment market, locally and globally (Hao, Wen, & Welch, 2016). For this reason, study

abroad gives rise to a "Chinese Dream" of many Chinese families, who expect the outstanding academic achievements and successful career development of their children by studying abroad.

Facing the new environment with new education requirements and expectations, sociocultural beliefs when studying abroad, Chinese international students are exposed to the differences and acclimatise themselves to adapt to the new environment. They have to manage different ways of dealing with daily life tasks, and on-off campus cultural adjustments, which may lead to homesickness, role conflicts, and academic concerns (Jen, 2016; Poyrazli, 2015). It is frequently reported that some international students experience depression and others develop psychological and physiological symptoms in the new academic culture (Furham, 2012).

Compared with the students from continental Europe, Chinese international students tend to experience more difficulties in the British academic culture as evidenced by higher anxiety, lower English language proficiency, more communication problems, and lower perceived social support (Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013). In addition, Chinese international students face unique stressors due to the differences in the UK and Chinese educational systems and sociocultural norms, e.g. they tend to have more difficulty with fitting into the British style of social conversation and rarely have their own voice heard in the classroom, even when they have questions (Ruble & Zhang, 2013).

Unfortunately, relatively little effort has been made to investigate the health and well-being of Chinese international students. Given the potential seriousness of the effect

that study abroad may have on the health and well-being of international students, one of the most important tasks for medicine and the public-health science is to investigate the possible health effects of study abroad and other psychological problems, to help these Chinese international students adapt themselves to meet a different set of academic performance expectations and enhance their study abroad experience.

Encouragingly, priority has been given to the health and well-being of university students in the UK higher education. According to a new survey in 2016, the number of students accessing counselling at top UK universities has increased by 28% over three years (the Guardian, 2016). As thousands of new students leave their families for the first time and arrive on campuses for university life, research shows increasing numbers of students report suffering from depression and other mental health problems (Zimmaro et.al, 2016).

Among students' different kinds of depression and stress, the most influential ones are related to exams (Richardson, Abraham, & Bond, 2012). Other stressors regarding academic work include but are not limited to high volume of a workload, not fully understanding the instructions and requirements and too much information to digest. Worthy of note is that academic stress is a significant predictor of college dropout rates (Stinebrickner & Stinebrickner, 2012). As depression and stress are parts of health and well-being, the current research investigates this issue from the angle of Chinese international students at the UK universities.

2.5 Difference between mainland Chinese students and the students from Hong Kong and Taiwan

Chinese international students from mainland China, Hong Kong and Taiwan comprise the largest international student group studying in the UK. It is not surprising that they are often studied together (e.g., Lin & Betz, 2009; Wang & Mallickrodt, 2006; Wei, Liao, Heppner, Chao, & Ku, 2012) as they share the same cultural heritage (e.g., Confucius values pertaining to modesty, relationships, and collectivism; Taoist values of harmony with reality) and the same language (Mandarin), although people in Hong Kong and Taiwan have their own spoken dialects.

Chinese international students from mainland China and those from Hong Kong and Taiwan share the same race/ethnicity, yet they are different in many aspects, including language, dietary habits and education systems etc. In the first place, individuals from the mainland China, Hong Kong and Taiwan are all Chinese ethnics, most of whom share the same official language-Mandarin Chinese. However, due to historical reasons, e.g., Hong Kong being a British colony, Taiwan as a Japan colony, mainland China having been through the Cultural Revolution, they may endorse different value systems as well as lifestyles. Even within mainland China, considering it covers a large geographic diversity, it is not surprising to find people speak different dialects and have different sets of cultural health beliefs.

Hong Kong has "returned" to China since 1 July, 1997. This transfer of sovereignty over Hong Kong from the UK to China concluded one hundred and fifty-six years of British colonial rule. With the British rule, Hong Kong became one of the world's

financial centres and well-established international financial market and enjoyed the highest degree of economic freedom in the world (Miller, Kim, & Holmes, 2015). Over the one hundred fifty years being ruled as a British colony, Hong Kong went through a tremendous change in terms of economic development and sociocultural change, forming the unique local culture. Hong Kong is regarded as a typical city where East meets West, elements of Chinese culture and Western influence clash and spark with numerous streets named after British figures like Victoria Road, Queen Elizabeth Hospital Road and predominately a Cantonese-speaking Chinese population.

Though "hand over" to China was in 1997, the British colonial presence has still resonated within the education system. Hong Kong currently is a Special Administrative Region in China, suggesting a high degree of autonomy, under the policy of "One country, Two systems", which suggests that for the following fifty years, Hong Kong maintains the capitalist system after the resumption of Chinese sovereignty.

More importantly, the Chinese government announced the "Biliterate and Trilingual" policy for all Hong Kong schools after 1997. Students are expected to be proficient in written English and Chinese, and speak fluent English (the international language), Cantonese (the vernacular language) as well as Mandarin (the official language of the PRC) (Lai, 2001). The written characters used in Hong Kong are complicated traditional Chinese characters instead of simplified Chinese character in mainland China. In mainland China, teaching at secondary and tertiary education are conducted in mandarin Chinese. Thus, when mainland Chinese students study abroad in the UK,

more efforts are needed than those from Hong Kong to adjust themselves to the UK academic culture and daily communication.

Furthermore, in terms of culture differences of individualism-collectivism orientation, a national level analysis suggests that Hong Kong scored high on self-reliance and competitive hedonism while mainland China showed higher score on interdependence, family integrity but low in self-reliance (Wu & Mak, 2012). This difference may have an impact on their health related help seeking behaviour and gaining social support.

With regard to the health practice in Hong Kong, the dominant hospitals offer primary healthcare with WM, while TCM attracted little interest of support from the government. However, people in Hong Kong have widely used TCM for prevention and health maintenance in daily lives especially in dietary treatment such as soup boiling. After 1997, the return of Hong Kong sovereignty, TCM research and clinic start to draw attention and funding from the government, marking a new era of TCM in Hong Kong being officially recognised profession with policies to regulate TCM practices formally introduced. Despite the change of policy, the progress of pushing collaboration between WM and TCM clinicians proves to be slow (Zhang, Pritzker & Hui, 2015).

In the case of Taiwan, the students differ from those students of mainland China and Hong Kong in that Taiwanese is widely spoken in daily communication though the official language in Taiwan is Mandarin Chinese. Taiwanese is a related dialect and descendant of *Minnanyu* or *Southern Fujianese*, which involves the borrowing of many Japanese words.

Occupied and ruled by Japanese as a colony from 1895 to 1945, Taiwan adopted a different policy and enjoyed a good reputation for its economic prosperity from the 1960s to 1990s though sluggish in economic development recently. With respect to health and medical service, TCM is widely used in Taiwan. It must be pointed out that the health and medical service system in Taiwan appears to be more sophisticated than that of mainland China (Lu & Hsiao, 2003). People in Taiwan, old or young, have an easy access to public health and medical service, which gives rise to some crisis due to its high social welfare and less competitive medical service (Pheonix TV, 2017). Living on the island, the Taiwanese are highly likely to experience identity crisis and struggle hard to integrate into the mainstream culture of the West (Huang, 2000; Ko, 2003). For example, many Taiwanese are proud to receive education in the US, the UK, Canada, and Australia.

It has become clear that Chinese international students from mainland China, Hong Kong and Taiwan are different in terms of educational tradition, economic status, medical service system, and health practice.

2.6 Chapter summary

This chapter has provided the research context of the health and well-being of Chinese international students. In the first place, China as the biggest developing country has experienced a transition (termed as *New Constant Norm* by the central government), ranging from technological advancement, economic development and environment protection to educational reform and healthcare. To have better education and enhance employability, an increasing number of self-financed Chinese international students

go to advanced countries in their academic degree pursuit. The Chinese conceptualization of health and well-being has its emphasis placed on the Theory of *Yin-Yang* and Five-Elements Theory. Furthermore, the absence or lack of research into the health and well-being of Chinese international students is addressed. More importantly, the difference between mainland Chinese students and the students from Hong Kong and Taiwan was identified so as to better inform readers about the different health practices among Chinese international students. Given the research context of China undergoing transformation and the sharp increase of Chinese international students, Chapter two provides the background information on Chinese conceptual well-being and health as well as the health services. The following chapter concentrates on the literature review regarding international students' well-being and health related research with a particular focus on Chinese international students.

CHAPTER THREE
LITERATURE REVIEW

Chapter three is devoted to a literature review concerning the qualitative and quantitative studies about the health and well-being issue in the adaption process of international students with a focus on studies of Chinese international students. The literature review aimed to identify a range of key variables in relation to health beliefs and well-being practices of Chinese international students, together with the potential gaps in the past research. The core of this review is a systematic literature review on quantitative studies reporting on Chinese international students' health and well-being. Other literature concerning the theoretical development of acculturation and international students' well-being is also included. The review followed the checklist of 22 item guidance from the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE), and the 21 item Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The literature review started with retrieval procedures and ended with gaps identified in the previous studies.

3.1 Retrieval procedures

This chapter was based on a systematic literature review, which attempted to gather English and Chinese language peer-reviewed journal articles published on Chinese international students' health and well-being from 01 January 2000 to 01 January 2017, which quantitatively investigated their physical health and well-being, psychological adjustment, and sociocultural adaptation. The researcher also attempted to review studies using qualitative methods on Chinese international students' well-being, however, only five studies were identified and two were from one author's

doctoral thesis. Hence, other relevant literature on international students' well-being or using qualitative methods were also included but not as a separate systematic literature review. Relevant books and doctoral/master's thesis were used to complement the study. These up-to-date studies were taken as representative of the current research trend.

The search of literature was conducted in seven English electronic databases and two Chinese databases (i.e.PsychoINFO/ MEDLINE/ SCOPUS/ Web of Science/ Academic Search complete/ ERIC, and British Education Index, Wan Fang and Zhi Wang). The databases chosen above were from several disciplines, including sociocultural studies, acculturative psychology, human geography, business management and other relevant disciplines. The retrieval procedure was exemplified as follows: using the *PsychoINFO* database with the search term 'Chinese international student health', the database showed phrases such as 'International students', 'Mental health', 'College students', 'Acculturation' and 'Well-being'. When the phrases 'International student' and 'Mental health' were combined, forty-four related research papers were found. Using the 'Web of Science', the phrases 'Chinese student' and 'Health' generated 1101 results. Upon narrowing the search down to 'Chinese international student', the number drastically reduced to 84. 'Academic Search Complete', 'Chinese international student' and 'Health' generated 331 results. When set the time period to 2000 and 2017, 301 remained. Inputting NOT 'Child*' lowered the number to 236, and inputting NOT 'Eld*' further reduced the number to 222. After skimming the 222 titles, those not relevant to international students were excluded, and the remaining 45 were stored in the folder with their abstracts for further examination. After reading the abstracts, those not matching the

[methodology] inclusion criteria (see section 3.2) were excluded and the remaining 12 were included in the current review.

3.2 Inclusion/ exclusion criteria

The used search limiters were within the date range of January 2000–January 2017, including full text documents and peer-reviewed journals (conference papers with abstracts only were excluded) as well as master/doctoral thesis. Hand searches of related literature were also conducted. The initial search with key words 'Chinese international student' and 'health' 'well-being' on the above databases yield 7943 papers. *Google Scholar'* was also used for seeking further articles. Letters, editorial, reviews and case-reports were excluded in the first stage. Titles and abstracts were reviewed to identify papers with potential relevance with the central terms of 'well-being /stress/depression/distress/ dysthymia /anxiety /psych* /eating disorder', meanwhile the samples are 'Chinese international student/Taiwan/Hong Kong students'. 332 articles of potential relevance were retained for further examination. 'After removing duplicates, 119 papers were identified, within which eleven papers were generated by manual search. The literature searching included the reference lists of identified papers to further explore the potential research to be reviewed. Although a great number of papers were identified at the initial stage, meeting all of the criteria: 1) collecting quantitative data; 2) reporting on Chinese international students; 3) university or college students; 4) health and well-being, left only 37 quantitative studies pertinent to the well-being issue of Chinese international students.
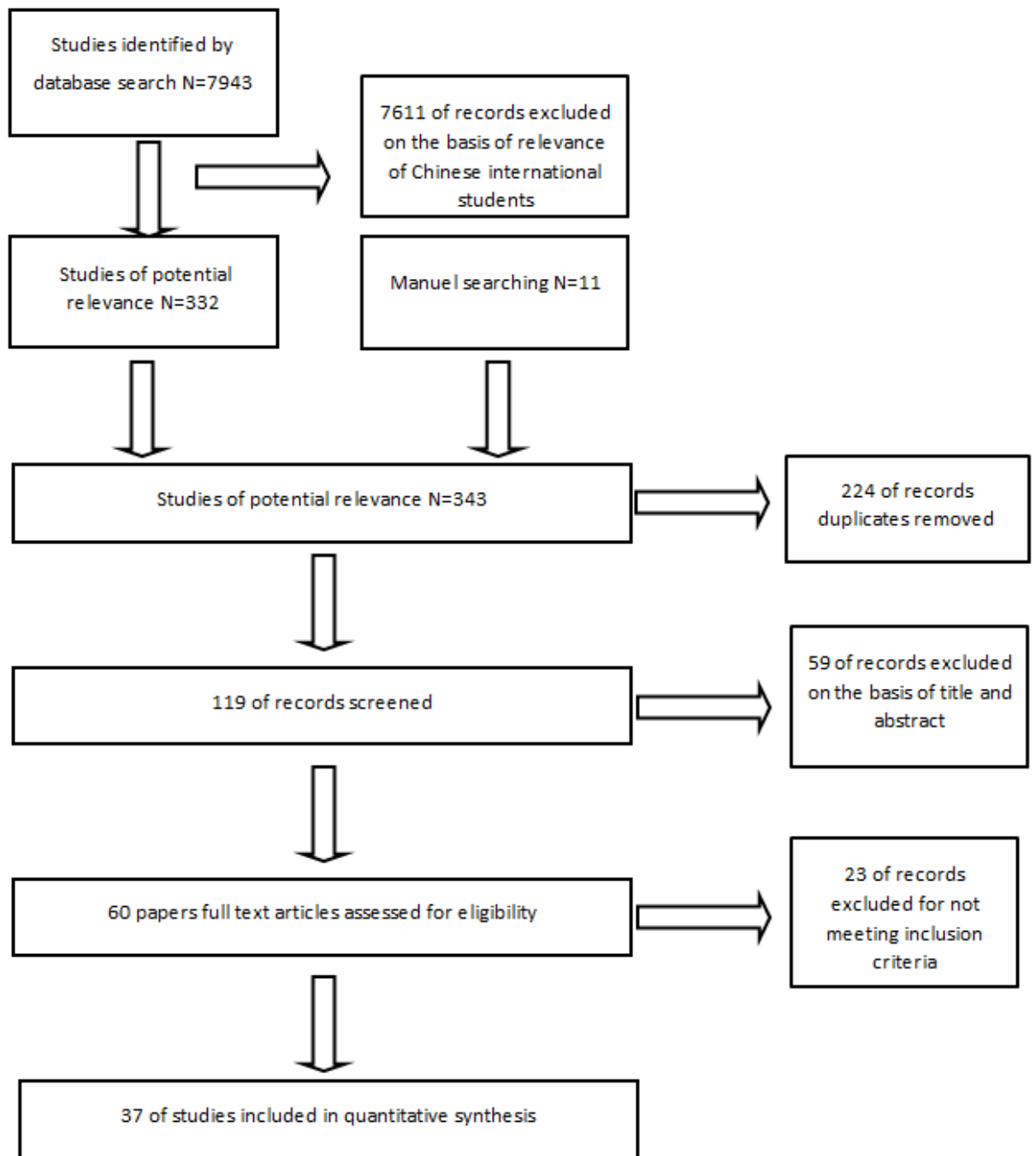
Figure 3.1 The systematic review flow

3.3 Results

The majority of studies were conducted in the US followed by Australia, and the UK. The findings of the existing literature were grouped into eight categories: 1) Acculturative stress in the West; 2) Psychological adaptation arising from study abroad; 3) Sociocultural adaptation of international students; 4) Social support in an intercultural context; 5) Academic stress hidden in a different culture; 6) English proficiency as pertinent to psychological health; 7) Access to psychological counselling/TCM service; and 8) Cultural beliefs in relation to diet and weather.

3.3.1 Acculturative stress in the West

The reviewed studies showed that the most frequently-reported variables were acculturation level and acculturative stressor, with acculturation identified as the key variable (Smith & Khawaja, 2011). The majority of the key concepts regarding acculturative studies were derived from acculturation models (Arends-Tóth & van de Vijver 2006; Berry 1997; Berry, Phinney, Sam, & Vedder, 2006; Bourhis, Moise, Perreault, & Senecal, 1997; Navas, García, Sánchez, Rojas, Pumares, & Fernández, 2005; Piontkowski, Rohmann & Florack, 2002; Safdar, Lay, & Struthers, 2003; Van Oudenhoven, Ward, & Masgoret, 2006). In spite of the plethora of research on acculturation about migrants or immigrants, there was a shortage of research concerning international students. Among the various models on acculturation models, only a multidimensional individual difference acculturation (MIDA) model has been tested with the sample of international students using a longitudinal research design (Rasmi, Safdar, & Lewis, 2009; Smith & Khawaja, 2011).

Acculturation is broadly defined as "cultural socialization to the mainstream society" (Kim & Omizo, 2006, p.143) in contrast with the notion of 'enculturation' which is termed as "cultural socialization to the culture of origin" (Kim & Omizo, 2006). Berry (1997) proposed an acculturation model based on the framework stress and coping model (Lazarus & Folkman, 1984 a, b).

An individual's attitudes toward cultural change and cultural continuity were categorised into four orientations: integration, assimilation, separation, and marginalisation (Berry, 1997), which were integrated into the bi-dimensional, fourfold model of acculturation (Berry, 1997; Smith & Khawaja, 2011).

Berry's Acculturation Model

Integration occurs when immigrants accept both home culture and host cultures; assimilation involves the yielding of their native culture to adopt the host culture; if home culture and host culture are both rejected, marginalisation occurs; separation occurs when immigrants desire to maintain traditions and refuse to have contact with

the host society. Noteworthy, 'integration' is deemed to be in line with reduced acculturative stress and greater subjective well-being (Scottham & Dias, 2010; Ward & Geeraert, 2016), beneficial to positive emotions and psychological well-being, such as higher self-esteem, lower depression (Chen, Hwang, Tai, & Chien, 2013; Hui, Chen, Leung & Berry, 2015; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Berry's (1997) acculturation framework provided a valuable insight into the complex acculturation process. The four categories of attitudes were individually appraised, through the exploration of acculturative stress and coping framework, different factors affecting the adaptation of acculturation are identified.

Nonetheless, the acculturation model developed by Berry (1997, 2005) has been criticized for its arbitrary cutting point between accept or reject host/ home culture which may lead to difficulty in making comparisons across studies with different samples (Rudmin, 2009; Rudmin, 2003). As an approach of acculturation, how many people will reject home culture and host culture simultaneously is questionable, thus the validity of marginalisation has been questioned (Del Pilar & Udasco, 2004; Schwartz & Zamboanga, 2008).

Focusing on migrant and refugee populations alone, the unilinear model of Berry (1997) was widely criticised for its false premise that change in cultural adaptation and identity occurs on a single linear continuum, that is, as one adapts to the host culture, an inevitable weakening of ties to one's culture of origin follows (Kim & Omizo, 2006; Kumar & Nevid, 2010; Miller, 2007, 2010; Yoon, Lee & Goh, 2008). That is to say, the more acculturated an individual was to the host culture, the more

likely this individual agreed with the host culture's values and behaviours, thereby leading to a reduced identification with his original culture.

In response to the criticism, Berry (e.g. Berry, 2005) re-defined acculturation as "the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members" (Berry, 2005, p. 698). It was posited that the process of acculturation and enculturation could happen simultaneously. Changes were deemed to be taking place on a micro level of individuals (psychological acculturation) as well as on a macro level of group cultural acculturation (Berry, 2005; Smith & Khawaja, 2011) with both home and host culture. Such a bilinear model of acculturation consistently outperformed the unilinear model (Miller, 2007) in culturally relevant behaviours related to cultural adjustment (Kang, 2006).

On the basis of Berry's (1997; 2005) model, Ward, Bochner, and Furnham (2005) integrated cultural learning and social identification perspectives, adding new dimensions to the model of stress and coping in their new model of acculturation study. Noteworthy, Ward (2001) and his associates (Ward & Kennedy, 1996) distinguished between psychological adaptation and sociocultural adaptation. Psychological adaptation is understood within a stress and coping model, involving feelings of well-being, self-esteem, or satisfaction with transitions, though it is usually measured through depression and other negative emotions (Ward, 2001; Ward & Rana - Deuba, 1999); while sociocultural adaptation is understood within the social/cultural learning and social identification theory (Smith & Khawaja, 2011), concerning how an

individual is managing daily tasks in the new society. The two concepts are inter-related conceptually and empirically (Brisset, Safdar, Lewis, & Sabatier, 2010).

With 85 male and 81 female Iranian participants including a number of postgraduates (MA and PhD) in Canada, Safdar, Lay, and Struthers (2003) developed a MIDA model, and used the hassles i.e. a composite of psychological well-being, perceived social support, and cultural competence, as a predictor of psychological and sociocultural adaptation. To probe the Iranian immigrants' acculturation experience in Canada, the researchers concentrated on three composite predictor variables in the model: 1) psychosocial adjustment including psychological well-being, bicultural competence, and perceived out-group social support; 2) connectedness to family and culture, such as family allocentrism, ethnic identity and perceived in-group support; and 3) the experience of acculturation-specific and non-specific daily hassles (Safdar & Struthers, 2003). The predictor variables such as psychosocial adjustment, hassles, and assimilation/separation were found to be crucial for predicting the psychological and sociocultural adaptation, and for promoting a more comprehensive understanding of the complexities of the experience in the acculturation as well.

On the basis of longitudinal data, Rasmi, Safdar and Lewis (2009) explored the international students' intercultural adaptation in Canada and tested the MIDA model on those students. Their study was designed to test whether or not psychosocial resources and difficulties at Time 1 (T1) would predict health status and sociocultural adaptation at Time 2 (T2). It was found that psychosocial resources at T1 would predict psychophysical distress and academic hassles (i.e. difficulties such as understanding lectures, taking notes, or asking questions) at T1, and they would

predict psychophysical distress at T2. Those international students reporting more academic hassles at T1 would perceive more psychophysical distress at T2 than those reporting fewer academic hassles.

Studies from Australia (e.g. Zheng, Sang, & Wang, 2004) brought to light a new perspective through its exploration of the cross-cultural adaptation and well-being of Chinese international students. Their study claimed that strong identification with either the host or home culture would enhance the students' subjective well-being, including their satisfaction with life and positive affect.

Their findings were echoed in the study of Wei and colleagues (Wei, Liao et al. 2012), who conducted an online survey of 188 Chinese international students, and explored the interaction of forbearance coping, heritage culture identification and acculturative stress and their effect on psychological distress. Via a hierarchical regression model, they found a significant predictive effect of the three way interaction on psychological distress. Specifically, those who reported a lower level of identification with their heritage culture tend to report experiencing a higher acculturative stress, and the active use of forbearance coping strategy was positively related with psychological distress. However, the use of forbearance coping was not significantly associated with psychological distress when acculturative stress was lower. More importantly, "for those with a stronger cultural heritage identification, the use of forbearance coping was not significantly associated with psychological distress regardless of whether acculturative stress was high or low" (p.97). Seemingly, cultural variables such as forbearance, perfectionism (a cultural value to honour their family through academic

achievement), and emotional self-control may be used to explore potential moderators to increase international students' health and well-being when studying abroad.

As becomes clear, the acculturation models aforementioned provided a range of key concepts and predictor variables for further acculturative stress studies in an intercultural context. Acculturative stress and cultural adjustment difficulties prove to be complex and challenging issues, which is worthy of an in-depth study.

3.3.2 Psychological adaptation arising from study abroad

In the literature reviewed, more than a dozen studies examined psychological adaptation in relation to the health and well-being of Chinese international students. Among them, eight studies (Dao, Lee, & Chang, 2007; Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Spencer-Oatey & Xiong, 2006; Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007; Ying & Han, 2006, 2008; Ying, Lee, & Tsai, 2007a) have explored depression of Chinese international students. Studies worldwide have identified international students as a high-vulnerability group for suffering poor psychological well-being given the massive challenges in the adaptation they encounter (Mori, 2000).

Through online surveys of 189 Chinese international students, Wei, Heppner, Mallen, Ku, Liao, and Wu (2007) explored whether there is a moderating effect of maladaptive perfectionism on the relationship between acculturative stress and psychological well-being, especially depression. Facing a culturally distant new environment, communicating with a second language, and new cultural values and norms, Chinese international students tend to struggle in maintaining the high standard academic practice that they used to in their home culture. These students tend to see

these challenges as personal failure, which exacerbated impact of acculturative stress on depression in a negative way and increased their vulnerability to depression (p.391). They suggested that acculturative stress, maladaptive perfectionism, and length of time stayed in the US had a three-way interaction to have a significant predictive effect on depression.

Their findings lent support to the Ying, Lee, and Tsai's (2007b) study, which showed that acculturative stress was correlated with depression of Taiwanese international students. Specifically, Ying et al. (2007) discovered a mediating effect of sense of coherence on the association between parent/peer attachment and depressive symptoms. The sense of coherence served as a partial mediator and moderator of the effect of university challenges on depressive symptoms. In a study of Taiwanese international students in the US, Dao, Lee, and Chang's (2007) study found that less-acculturated Taiwanese students were more likely to be at risk of depressive feelings. In a similar vein, Wang and Mallinckrodt's (2006) study revealed that acculturation to the host culture was negatively related to anxiety.

To investigate the emotional health and well-being of postgraduate students from mainland China (n = 400) at Hong Kong, Pan (2008) focused on a resilience model of acculturation. With a cross-sectional research design, she employed a range of measurements including 1) *Stress Appraisal Measure*; 2) *Chinese Personal Meaning Profile*; 3) *Acculturative Hassles Scale for Chinese Students* (AHSCS)；and 4) *Chinese Making Sense of Adversity Scale* (CMSAS) in her study. Hierarchical regression analyses showed that positive predictors included positive sense-making coping and meaning in life on Chinese international students' emotional health and

well-being; whereas for negative emotions, the significant predictors included acculturative hassles of academic work, cultural difference, and negative coping styles.

With regard to the depression and anxiety symptoms prevalence in the sample of Chinese international students, Yale University (Han et al, 2013) conducted an anonymous on-line questionnaire with 130 Chinese international students. Forty-five percent of the participants reported depression symptoms. For the anxiety symptoms, twenty-nine participants reported experiencing anxiety in the past month. Several factors were identified for the Chinese international students' depression and anxiety prevalence in the prestigious US universities, including a low level of self-rated health status and a poor relationship with one's academic supervisors. The depressive illness increased sharply in China since the early 1980s when the "Open-Door Policy" was implemented in China. Worthy of note, it is almost the same time when "One Child Policy" officially implemented. Growing up as the only child in the family, this generation of Chinese international students are called "little emperors", who are the centre or the focus in the whole family, not only in the nuclear family but also in the extended family. They have been growing up "over-protected" and as the "little emperors" of the family, this may lead to their vulnerability to loneliness and independent life.

With 508 Chinese international students in the US, Zhang and Goodson (2011 b) examined mechanisms through which psychosocial adjustment was influenced by acculturation of Chinese international students in the US, utilising a bilinear acculturation model. Results from regression analyses on the web-based survey showed the importance of social connectedness with US locals having a mediating

effect on the association between acculturative stress and psychosocial health (i.e., depression), that is to say acculturative stress has an impact on psychological health partially through their social connectedness. Social connectedness with Americans has a moderating effect on the association between adherences to the home culture and psychological health (e.g. depression). The finding highlighted the importance of social support and social connectedness in maintaining the health and well-being of international students and reducing negative emotions as well as acquiring sociocultural communication skills. Through the moderation model, this study's innovative finding is the positive and protective role of adherence to home culture, especially for the group of Chinese international students who have limited interaction with Americans. Another significant contribution of this study is that international students who simultaneously detached the home culture of Chinese and host culture of US reported the highest level of depression. This has not been reported in the previous literature (Cemalcilar, Falbo, 2008; Wang & Mallinckrodt, 2006). This lends support to Berry's model of acculturation on the "marginalization" attitudes of rejecting both the host and native cultures in the new environment, which has been associated with most difficulty in the acculturation (Birma & Simon, 2014; Ward, Bochner, & Furnham, 2005). It was believed that these differences could not be captured with a unilinear model (Berry, 1997). Their findings indicated that "social connectedness with Americans holds potential as an important factor in the psychosocial adjustment of Chinese international students and deserves further careful study" (Zhang & Goodson, 2011 a, p. 614).

Different voices were also raised regarding the psychological distress of Chinese international students especially during their initial cultural transition to the US. The

findings from Spencer-Oatey and Xiong (2006) appeared to challenge Berry's (1997) model by underscoring the importance of pre-arrival personality and dispositional coping variables in predicting acculturative stress. Some Chinese international students may not experience severe psychological distress before their arrival in the US. Spencer-Oatey and Xiong (2006) reported an empirical study with Chinese international students participating in a UK university foundation course. Findings from interview-based qualitative data showed that the majority of students experienced few psychological or sociocultural adjustment difficulties, and that the valuables of age and lengths of stay in the UK were significantly correlated with Chinese international students' adaptation.

These studies suggested that study abroad tends to heighten the risk of depression and increase the likelihood of poor psychological adaptation of Chinese international students (Han, Han, Luo, Jacobs & Jean-Baptiste, 2013; Zhang & Goodson, 2011a). However, the findings from the study of Wang, Heppner, Fu, Zhao, Li and Chuang (2012) generated from four groups of Chinese international students indicated that the psychological adaptation of Chinese international students was not uniform, but diverse across individuals. With respect to psychological adaptation, it is interesting to notice the contradiction between Spencer - Oatey, et al.'s (2006) findings and that of Han et al. (2013) in Yale, which found a high prevalence rate (45%) of depression among Chinese international students. Viewed thus, it seems that whether Chinese international students run into psychological adaptation difficulty during their study abroad remains an unanswered question.

As becomes clear, the acculturation models aforementioned provide a range of key concepts and predictor variables for further acculturative stress studies in an intercultural context. Yet these models tend to focus on social-psychological processes (e.g. adaptation and adjustment) for research and training purposes. They need to be treated with caution as they may not fully capture the complexities of the mobility experiences of international students. Acculturative stress and cultural adjustment difficulties prove to be complex and challenging issues, which is worthy of an in-depth study.

3.3.3 Sociocultural adjustment of international students

Sociocultural adjustment is conceptualized as the "ability to fit in and to negotiate interactive aspects of the new culture" (Searle & Ward, 1990, p.450). Wang and Mallinckcrodt (2006, p.431) suggested that good sociocultural adjustment is related with a close contact with host nationals, involvement in extracurricular activities, good language skills, and less perceived discrimination and longer periods of stay. It was associated with social learning, the behavioural and cognitive response, especially performing effectively during the intercultural transition (Ward & Greeraert, 2016).

According to Demes and Geeraert (2014), sociocultural adjustment involved 1) Climate (temperature, rainfall, humidity); 2) Natural environment (plants and animals, pollution, scenery); 3) Social environment (size of the community, pace of life, noise); 4) Living (hygiene, sleeping practices, how safe you feel); 5) Practicalities (getting around, using public transport, shopping); 6) Food and eating (what food is eaten, how food is eaten, time of meals); 7) Family life (how close family members are, how much time family spend together); 8) Social norms (how to behave in public, style of clothes, what people think is funny); 9) Values and beliefs (what people think about

religion and politics, what people think is right or wrong); 10) People (how friendly people are, how stressed or relaxed people are, attitudes toward foreigners); 11) Friends (making friends, amount of social interaction, what people do to have fun and relax); and 12) Language (learning the language, understanding people, making yourself understood).

With a photo-voice research project in Belgium, Wang and Hannes (2014) invited international students to capture the challenges related to their intercultural adjustment. They probed the sociocultural adjustment of Asian international students in the Western culture. It was found that contact with local communities facilitated the international students to understand the lifestyle, religious beliefs, values and customs of the host society. Friendship with host nationals tends to reduce feelings of homesickness and loneliness, thus enhancing life satisfaction.

International students' sociocultural experience and feeling of loneliness have been qualitatively investigated in Australia (Sawir, Marginson, Deumert, Nyland & Ramia; 2008). In their study with 200 international students in Australia, over a hundred and thirty of participants reported experiencing loneliness or isolation in Australia, especially at the initial stage of transition. During their study abroad, international students need to seek and build a new social support network. However, developing friendship with the local students proved to be difficult mainly due to three reasons: the limited English language proficiency, and the reluctance to form new deep level and meaningful friendships with international students or local Australian students (Hendrickson, Rosen, & Aune, 2011, p.283). It seems that the forming of the friendships depends on factors of personality, such as attachment style, being

extrovert and some certain trait-anxiety, thus affecting their sociocultural adjustment (Lee & Zhou, 2014; Titzmann, 2014).

The homesickness faced by international students was echoed by Maundeni (2001), a majority of international students yearned to have more physical contact with family members back home and felt homesick. International students were reported to be in frequent struggle with stress from homesickness (Mikkonen, Elo, Kuivila, Tuomikoski & Kääriäinen, 2016). Homesickness was found to influence international students' physical/ mental health, and self-esteem (Tognoli, 2003). Facing the daily tasks such as house renting, food shopping, health care systems accessing, leaving the comfort zone in the home country and established social support system, international students have to manage everything on their own (Tran, 2016). These issues could be time consuming and the lack an adequate knowledge of social and cultural traditions could also consume international students' energy (Cao, Zhu, & Meng, 2016).

By investigating the university students' sociocultural adaptation in France, Brisset, Safdar, Lewis, and Sabatier (2010) investigated international students' anxiety, psychological distress, social support satisfaction and cultural identification, especially the challenges and difficulties. A moderating effect of psychological distress was identified on the association of attachment intimacy and trait-anxiety on the experience of international students' adaptation. In other words, attachment intimacy and trait-anxiety are interrelated, psychological distress can modify to what degree attachment intimacy can affect trait-anxiety. That suggests that the more international students seek intimacy, the more distress they experience, the desire for intimacy and psychological distress are emphasised in this study.

59

Concerning the predictors of sociocultural adaptation of international students, Swami (2009) conducted a comparative study in the UK with 81 Malay and 110 Chinese students through a questionnaire with regard to various aspects of sociocultural adjustments. Chinese international students reported better sociocultural adjustment in comparison with their Malay counterparts. Chinese international students also reported more social interactions with peers of same ethnics and with UK students. The results of regression analyses showed that, for Chinese participants, English language proficiency was deemed to be the strongest predictor contributing to their sociocultural adjustment (54%), followed by the factor of participants' expectations of life in Britain (18%). However, the participants' sex, age, and length of stay in the UK did not demonstrate significant predictive effect on Chinese international students' adaptation. Highlighting the importance of socioeconomic status in the sociocultural adaptation, this study suggested that the majority of Chinese international students in the UK tend to be family-funded, which implies that their family are economically more advantaged; whereas Malaysian international students in the UK are more likely to be on government scholarship, and their families may not be equally strong in finance. The advanced socioeconomic status is suggested to ease the sociocultural adaptation process.

Interestingly, regarding forming friendship with Asian international students, different views were reported from the US and New Zealand. Lee and Ciftci (2014) found that social support including friendship with US local students has no direct impact on international students' sociocultural adaptation, as US students' attitude towards friendship with Asian international students was regarded as superficial (Chen, 2002).

However, Zhang and Brunton (2007) emphasised the importance of friendship with New Zealand locals and opportunities to interact with homestay students for fostering intercultural communication. The deeper level interpretation of this phenomenon is attributed to the difference of collectivism culture in the East which values relationships and connectedness and individualism culture in the West which values assertiveness and self-sufficiency. International students from Asia may have desire to establish more friendships with peers from similar cultural background sharing home sociocultural behaviours and values, while the expectations from the host university students may be assimilation or integration attitudes from international students. With 140 Chinese international students as participants in Auckland, Zhang and Brunton's (2007a) study showed that attentions to international students' sociocultural factors rather than academic stressors can be more beneficial for both Chinese international students and the host university in New Zealand. The results suggested that participants were reporting fewer opportunities to make friends and interact with local New Zealand friends than they expected. It is reported that language capacity directly influenced both their educational and sociocultural adaptation, and it also affected their building quality relationships with host nationals.

Liberman's (1994) study showed that most Asian participants were critical of American social customs, and they felt emotionally deprived in the host country due to the lack of support networks. Compared to their European counterparts, Asian international students are more likely to encounter difficulties in making friends with host students (Liberman, 1994; Mori, 2000; Yeh & Inman, Kim & Okubo, 2006). Apparently, international students tend to feel difficult or frustrated in their sociocultural adjustment when living away from their home culture.

3.3.4 Social support in an intercultural context

The loss of immediate help from family or disruption of already established social support networks from the home culture were perceived as vital factors in the intercultural adaptation of international students (Khallad & Jabr, 2015; Ra, 2016; Thomas & Sumathi, 2016). In the acculturation process, international students were faced with challenges of cultural adjustment, which were associated with seeking new social support networks to ameliorate stressors (Andrade, 2006; Lin, 2006). The risk of acculturative stress and depression tends to increase when the support from family and friends decreases (Chae, Park & Kang, 2014; Hamamura & Laird, 2014; Raffaelli, Andrade, Wiley, Sanchez-Armass, Edwards, & Aradillas-Garcia, 2013; Rueger, Malecki, Pym, Aycock, & Coyle; 2016). Namely, Chinese international students with greater social support tend to have fewer psychological symptoms.

The findings from Khallad and Jabr's (2015) study indicated that social support received by the students could reduce their academic stress and psychological distress to a greater extent when they are studying abroad than their domestic counterparts. This study was conducted with 172 students and highlighted the positive role of social support from their families, friends, and significant others. The study endorsed the significance of supportive programmes and suggested that the social support enabled international students to cope with the multiple stresses in the new environment.

On the contrary, an Australian study (Mulder & Cashin, 2015) explored the health profile of students with high levels of psychological distress. The study found that the students ranked their preference of social support source from family and friends

utilisation the lowest. They favoured help from the internet as the most preferred way of seeking help.

With 164 Korean international students enrolled in US universities, Ra (2016) investigated social support variables and their acculturative stress. Only the presence of new friends in the US was significantly and negatively correlated with acculturative stress. Literature (e.g., Hostinar & Gunnar, 2015; Lin, 2006; Sarason, 2013) has demonstrated that building a social network with new friends in the US is beneficial for international students, in that the students can rely on their new friends to help them cope with their acculturative stress. Support from friends in the US would be helpful for international students because this support can provide useful resources and effective advice for cultural and psychological adjustment. The result, however, was not consistent with the findings that social support such as support from family and friends in home countries that could reduce international students' acculturative stress (Misra, Crist, & Burant, 2003).

In the literature reviewed, Yeh and Inose (2003) concluded that, with over three hundred international students in a US university, international students who were socially associated and satisfied with their established networks reported lower level of stress in the process of adaptation with over three hundred international students in a US university. Their findings appeared to be in line with the findings of Berry (2006), Ward (2001) and Safdar, Lay, and Struthers (2003) in that social support can reduce acculturative stress and enhance sociocultural adaptation. Social support seems not only to enhance international students' intercultural adaptation, but also help with their academic adaptation (Cura & Işık, 2016). With 298 international students from

four universities in Turkey, Cura and Işık (2016), identified that acculturative stress and perceived social support both demonstrated to be significant predictors of international students' academic adjustment. With their academic adjustment and performance as the dependent variable, the researchers suggest that either reducing international students' acculturative stress or enhancing their social support level would help with their academic adjustment.

An Australian study on international students (Sawir, Marginson et al., 2008) found that nearly ninety percent of the international students turned to social networks for solutions when they were experiencing loneliness. In terms of sources of social support, friends in Australia were more prioritised than family and relatives back home. Consistent with previous studies, their findings exhibited a negative correlation between satisfaction with social support and loneliness, depression and other psychological problems (Lee, Chung, & Park, 2016; Rheeder, Van, Seafer, & Westaway, 2015; Siedlecki, Salthouse, Oishi, & Jeswani, 2014) and a positive link with psychological well-being (Tennant, Demaray Malecki, Terry, Clary, & Elzinga, 2015).

Likewise, another study from Australia on Asian international students' acculturation (Kashima & Loh, 2006) found that their acculturation experience was significantly influenced by personal ties with local Australian students, conational and other international students. There was strong positive correlation between the cross-cultural social networks the students have developed and their psychological adjustment. It appeared that social connections and support with locals or co-nationals may have a moderating role (or buffering effect to be more specific) to reduce psychological stress

and enhance sociocultural adjustment experience (Ditzen & Heinriches, 2014; Hostinar & Gunnar, 2015; Kashima & Loh, 2006; Mossakowski & Zhang, 2014; Sarason, 2013).

Through the perspective of communication, Chen and Yang (2015) explored how effective the online social support has been for Chinese international students and cross-cultural adaptation in Singapore based on social support theory. With an online social support group called "Living in Singapore", they created a sub-forum in 2000 for Chinese international students, offering essential and practical social support information for this group of students. This forum generated over thousand messages from July 2012 to February 2013. The content analysis revealed that informational, emotional, instrumental, and network support exchange effectively meet the needs of new arrivals and eased their initial adaptation. This finding lends support to the social support theory in its positive effect on individuals' psychological well-being, overall health status, optimal mental health, and positive youth development (Adelman, 1988; Park, 2004).

Yeh and Inose (2003) posited that more social support is aligned with more positive adaptation experience of international students and less acculturative stress. Although online social support is categorised as a "weak tie" in the framework of "weak tie theory" (Granovetter, 1973, 1983), it did serve the important function of offering students practical information and emotion sharing. A similar experience shows greater strength in supporting the groups of international students than strong ties such as relationship with parents, siblings who do not share the experience (Wright, Rains, & Banas, 2010). Thus, this study echoes the finding of Ye (2006 a) in that online

social support could play an effective role in enhancing international students' adaptation.

3.3.5 Academic stress hidden in a different culture

Academic stress among international students in a new educational setting was frequently mentioned as a risk factor that is likely to be intensified in the currently reviewed literature (Misra, Crist, & Burant, 2003). Poyrazli and Kavanaugh (2006) reported that academic low achievers among US international students exhibited lower English level and greater stress in the adjustment process. Socially, low English language proficiency is deemed as a barrier to international students' interaction with the host society and other cultures (Park, Song, & Lee, 2014; Zheng & Warschauer, 2015). Academically, English language barriers tend to hamper their understanding of lectures, communicating views and asking questions in class (ibid.).

With a photovoice method, a Belgium study (Wang & Hannes, 2014) explored the academic and sociocultural adjustment of Asian international students including Chinese international students. The issues they identified include academic activities, academic resources, language barriers and time management. More specifically, the extensive reading requirement coupled with their limited language proficiency hindered international students' pursuit of academic excellence. The academic resources available to them could be overwhelming, which challenged their skill of being selective in their abundant facilities for self-study. Balance of the life and study is also difficult to reach as both academic work and household chores are time consuming.

Due to the requirement of using second language to acquire knowledge and complete assignment as well as facing a new academic environment, international students tend to experience feeling of loss and disappointment for a mismatch in their academic expectations to the realities of university life. As noted in the studies of Chen (1999) and Mori (2000), international students may expect themselves to achieve good grade academically, if not better than what they used to get in the home university. If their academic performance was below their expectations, they were likely to experience decreased confidence in their study abroad. Additionally, pressure of expectation from their family or the sponsoring university may lead to psychological distress and maladaptation (Yamada, Klugar, Ivanova, & Oborna, 2014).

Using the *Academic Expectations Stress Inventory* (AESI) (Ang & Huan, 2006) to measure *Expectations of Parents and Teachers* and *Expectations of Self* as sources of academic stress in Singapore, Tan and Yates (2011) found that the AESI measured the student trait range adequately, with the inventory affirmed as a valid measure of academic stress for Asian students from a Confucius heritage culture (CHC). Importantly, the AESI formed a robust unidimensional scale of academic stress and helped to better understand academic stressors of Asian students, coupled with the role of parents, teachers and self-expectations in a CHC context.

Findings from the qualitative study of Huang (2011) disclosed the fact that Chinese doctoral students in the US were experiencing high levels of academic anxiety which produced considerable impact on their academic performance and well-being. Arguably, Chinese doctoral students specialising in education, political studies, and religious studies tend to experience more academic stress than those specialising in

mathematics, biology, and chemistry. The major sources of high levels of academic anxiety were attributed to language barriers, cultural differences, financial difficulties, and isolation from family and friends.

Of some interest, academic stress was perceived as pertinent to different teaching styles (Heng, 2016) in the East and the West (Hsu & Wu, 2015; Huang & Klinger, 2006; Huang & Rinoldo, 2009). For example, Confucius (551-479 B.C.), as an Eastern exemplar, appreciated effortful and pragmatic attainment of necessary knowledge (Huang & Grove, 2012). By contrast, Socrates (469-399 B.C.), as a Western exemplar, valued self-generated knowledge, critical thinking, questioning of one's own and others' beliefs, e.g. teaching and learning by establishing doubts. As such, learning can be described as "overt and private questioning, expression of personal hypotheses, and a desire for self-directed tasks" (Tweed & Lehman, 2002, p. 93). The difference between the Confucian style and the Socratic style learning tends to lead to academic stress for Chinese international students in the Western world.

Tweed and Lehman (2002) argued that academic learning differed depending on the cultural context, and they placed an emphasis on learning within a cultural context. In their view, the Confucian approach may provide advantages in the case of acquiring, re-expressing, and applying foundational knowledge to familiar and new situations. Given that "a task requires willingness to question authorities" (p.97), a Socratic orientation may provide advantages. Hence, students were expected to flex their learning approach in response to cues in the academic environment and become academically bicultural.

Heng (2016) stated that Chinese international students in the US face the challenge of relearning new language skills and communication styles, thinking in a "Westerner" way, understanding new classroom expectations and sociocultural context and finding the balance of work and play. Against the stereotype of Chinese students are "rote learner" (Watkins , Reghi, & Astilla, 1991) and passive needy students (Cooper, 2004), he argued that Chinese students possess capabilities as evident in the responses to challenges faced and changes in the behaviours, and that being different is not necessarily being deficient.

3.3.6 English proficiency as pertinent to psychological health

English proficiency is another issue confronting Chinese international students, which may cause psychological distress for Chinese international students. Eight studies (Bishop, Lim, Leydon & Lewith, 2009; Dao, et al, 2007; Liao & Wei, 2014; Lin & Betz, 2009; Sullivan, 2008; Wang & Mallinckrodt, 2006; Wei et al., 2012; Ying & Han, 2006) explored the link between the perceived English proficiency of Chinese international students (including Taiwanese students) and their well-being. All eight studies point to the fact that lack of English proficiency is a fundamental problem facing Chinese international students while they are in the West. This factor not only affects their academic performance, but also increases their academic stress, which may lead to negative mental health outcomes.

Specifically, Dao, et al (2007) investigated the perceived English proficiency of Taiwanese students with the *Self-reported Fluency of English Scale* (SRFES), showing a correlation between a low perception of fluency in English and depression. They examined the relationship between acculturation, perceived English fluency,

social support, and depression among 112 graduate Taiwanese international students. The results indicated that individuals at risk of developing depressive feelings were more likely to be those with low perceived English fluency. An examination of potential mediating variables suggests that perceived English fluency mediates the effects of acculturation level on depression for both males and female students.

In other studies (Sullivan, 2008; Yang, McCandliss, Shu, & Zevin, 2009), perceived English proficiency is considered to produce a serious impact on social networking. Poor English proficiency may give rise to low self-confidence, communication problems, and undesirable psychological adjustment (Kashima & Low, 2006; Sullivan, 2008; Yang, et al, 2009). The inability to communicate with the host university staff and other local people effectively has been identified as a critical factor influencing the health and well-being of Chinese international students (Mori, 2000; Yeh, et al, 2006).

Sullivan (2008) focused attention on the problem of Taiwanese students' cross-culture adaptation in Australian universities. This study probed the connections between perceived English fluency, disempowerment, well-being, and friendships between international and local students. She discovered that Chinese international students' self-assessment and self-esteem were lower in their interactions with local Australian students compared with their interactions with non-native speaking students. To be specific, Chinese international students expressed a strong desire to communicate more with the local Australian students, but tended to have higher level of tension when talking to Australian students. By contrast, those students displayed a positive outlook towards their English proficiency when interacting with other international

students. As the sample was fairly small (n = 21 Taiwanese students), her findings should be taken with some caution.

In the study of Yang, McCandliss, Shu and Zevin (2009), perceived English deficiency was found to be likely to produce a serious impact on social networking. English deficiency tended to give rise to low self-confidence and communication problems (Kashima & Loh, 2006). The inability to communicate with the host university staff and other population effectively was perceived as a critical factor affecting the well-being of Chinese international students (Mori, 2000; Yeh, et al, 2006).

In the assessment of Chinese international students' self-reported English proficiency rather than their scores on IELTS - International English Language Testing System, study or TOFEL - the Test of English as a Foreign Language, Wang and Mallinckrodt's (2006) study revealed that English proficiency was a significant negative predictor of international students' sociocultural adjustment difficulties. English proficiency also demonstrated significant negative correlation with Chinese international students' psychological adjustment.

There was accumulating evidence in the literature suggesting that English deficiency may cause psychological distress for Chinese international students. Further examination of path analysis suggested self-rated English proficiency has a mediating effect on the association between acculturative stress and depression for both genders among international students.

Using the measurement scale of *Perceived Level of English Mastery* (Barratt & Huba, 1994) Lin and Betz (2009) investigated the impact of English proficiency on the pressure of acculturation process, and found that English language proficiency was negatively correlated with the pressures of acculturation process. Inadequate English accounted for some of their experienced psychological distress on the ground that Chinese international students tend to spend more time on assigned readings from teachers, understanding problems in English lectures, and overcoming barriers in English communication. It seemed that Chinese international students with low English proficiency encountered more acculturative difficulties than those with high English proficiency.

3.3.7 Access to psychological counselling and TCM services

In the literature review, very limited studies were available on the access to psychological counselling services by Chinese international students and the utilisation of TCM health services. Only three studies (Ellis-Bosold & Thornton-Orr, 2013; Lu, Dear, Johnston, Wootton, & Titov, 2014; Tang, Reilly, & Dickson, 2012) examined Chinese international students' health needs and attitudes towards psychological counselling service and one study (Bishop, Lim, Leydon, & Lewith, 2009) investigated Chinese international students' use of TCM.

Focusing on the Chinese international students' attitudes towards psychological counselling in a UK university, Tang (Tang, Reilly, & Dickson, 2012) collected questionnaires from 323 participants, assessing their attitudes toward utilising psychological services in terms of recognition of need for professional counselling help, cultural stigma, interpersonal openness, and confidence in the counselling

service practitioners. Their results suggested that a significant cross group difference lies in the interpersonal openness with Chinese international students being less open than their British counterparts. Surprisingly, this study failed to identify any other significant group differences in their attitudes towards counselling services (i.e. recognition of need for psychological help, confidence in mental health practitioners or stigma tolerance). Less confidence in the counselling service practitioners and recognition of the need for psychological help were reported from the British student group. This study made a contribution to examining the cultural attitudes of Chinese international students towards utilising Western counselling services and its attempt to draw comparison between students' health choice and engagement with psychological services in UK universities.

Psychological distress and help-seeking history of Australian Chinese international students and their perceived barriers for utilising the treatment were reported by Lu (Lu, Dear, Johnston, Wootton, & Titov, 2014). With Kessler-10 (K-10) Item scale measuring their psychological distress, 54% reported high psychological distress among the 144 respondents, which is a similar rate when compared to the Yale report (Han, et al. 2013). However, the access and utilisation of counselling and health services were at a very low rate, especially for the group who were highly distressed. Less than 10% of those had sought health services regarding their psychological and emotional status in the past year, while the majority indicated their preference for help from informal social networks. Common barriers to accessing psychological and mental health services were grouped into two categories by Wang (2014) namely practical barriers and cultural barriers. The former included cost of treatment, time constraints, knowledge and access to available counselling services, and language

deficiency; while the latter consists of trust in the service provider, credibility of treatment, recognition of need, and sociocultural stigma, e.g. moral burdens and fear of losing face. Studies have demonstrated the importance of pragmatic considerations of ethnic Chinese. In a novel attempt, Kung (2004) examined the link between students' perception and their actual health choice with regard to psychological counselling service use. The practical barrier factors demonstrated significant predictive effect for the utilisation of counselling service use, meanwhile, cultural barriers failed to attain significance (Kung, 2004). This study confirmed that ethnic Chinese international students are a vulnerable group for psychological distress, yet for practical and cultural reasons, they tend to underuse psychological health services.

Nottingham University (2011) reported their research into the health needs of international students, particularly Chinese and Malaysian international students with regard to psychological service support. This research is invaluable in that it identified a range of issues experienced by Chinese international students in the UK through the data collected from stakeholders, students from UK, Malaysia and China as well as mixed group students. The psychological health services offered on campus in China, Malaysia and Britain were also compared. Their findings suggested that compared with local UK students, the Chinese international students reported greater support needs. Significant barriers to accessing psychological health service were found among students from mainland China when compared with Malaysian and home students. Contradictory to the finding of Kung (2004), the barriers come from cultural stigma rather than a pragmatic range of issues.

Rather than utilising the free counselling service offered by the universities, the tutor and academic staff were perceived as the first points of contact source of help. This study highlighted the importance of cultural beliefs and awareness of culturally sensitive services for practitioners involved in psychological counselling of international students. Loneliness and isolation together with anxiety, depression and feeling stressed were reported as the most commonly raised psychological issues among Chinese international students. The contributing factors were language deficiency, cross-cultural adaptation, lack of a social support network. The unique stressors for Chinese international students were the high expectations of family or parents. Apart from the Confucius teaching on the importance of academic excellence, the more recent "One Child Policy" also exerted an impact. It is of interest to notice the high prevalence of obsessive-compulsive disorders in China (Cameron, Erkal, Gangadharan, & Meng, 2013; Settles, Sheng, Zang, & Zhao, 2013) was not reported in the Nottingham study.

By examining the unique health needs of the Chinese international students in the US, Ellis-Bosold and Thornton-Orr (2013) conducted a study trying to identify potential barriers in their utilization of the available services and figure out the reasons for their low access to healthcare on campus, they found that the students from mainland China and Taiwan lack responsibility for their own healthcare needs and failed to seek medical attention with perceived need. Similarly, in Australia, under-utilized health and counselling services by Chinese international students were also reported (Rosenthal, Russell, & Thomson, 2008), with 6,828 international students of which 22.9% were Chinese. Reported reasons for not using health services included lack of information about health services, not seeing the issue as important enough to use

professional services, location, appointment procedures and economic concerns. Cultural differences and challenges included the stigma, the concern about not being understood, and doubt that the service would be able to help them (p. 68). "…being a student from People's Republic of China was a significant predictor of not acting on a perceived need for help from the health services" (p. 72).

The only study which investigated Chinese international students' use of TCM was conducted in the UK (Bishop, Lim, Leydon, & Lewith, 2009). They developed a questionnaire and implemented it to assess the core determinant of health services use, and 170 ethnic Chinese participants completed the questionnaire (presented in English and Chinese). The questionnaire covered the participants' health status, attitudes towards, and use of TCM and WM. The findings showed that the majority of the participants preferred to use WM over TCM when they were in the UK. The statistical predictors such as demographic characteristics, health status, past behaviour, and attitudes showed crucial proportions of the variance in use of TCM (29%) and WM (37%). The exploratory study warranted further research on the attitudes towards TCM therapy for the health and well-being of Chinese international students. Another review paper on Chinese people's health practice in the UK (Long, Byrne, Gabbbay, Firth, & Fletcher, 2015) stated that Chinese are negotiating multiple healthcare systems - public and private - within the UK and beyond for desired treatment and health outcomes.

3.3.8 Cultural health beliefs in relation to diet and weather

Upon arrival to a new country, international students tend to face differences including the change of diet and the adjustment to local weather, and the local

people's health practice may challenge their cultural health beliefs etc. Most of the literature regarding the Chinese cultural health beliefs has been conducted on immigrants' population, especially among the elderly (Kong & Hsieh, 2012; Lai & Surood, 2009; Yap, Thirumoorthy, & Kwan, 2016) and women (Green, Bradby, Chan, & Lee, 2006) regarding infant feeding (Lee & Brann, 2015); breast cancer (Lee-Lin, Menon, Pett, Nail, Lee, & Mooney, 2007), cervical cancer (Lee-Lin, et al., 2007), mental health (Tieu & Konnert, 2014; Wong, Lam, & Poon, 2010; Wong & Li, 2014), e.g. schizophrenia (Furnham & Wong, 2007) and oral health (Butani, Weintraub & Barker, 2008; Hilton, Stephen, Barker, & Weintraub, 2007). The studies that have investigated Chinese international students' cultural health beliefs were mainly on their diet choice in the acculturation (Almohanna, Conforti, Eigel, & Barbeau, 2015; Lu, 2015; Mustafa, 2016; Peng, 2005; Wu & Smith, 2016) and the comparison between Chinese international students' cultural health beliefs with those of Indian and US students (Rothstein & Rajapaksa, 2003).

Study abroad means to adapt to a new culture, possibly including the change of diet. Applying the Risk Information Seeking and Processing (RISP) model, Lu (2015) investigated Chinese international students' information seeking and processing of potential health risks from eating American-style food during their dietary acculturation process in the United States. Lu (2015) showed his concern about eating those high calories and low nutrition foods in the US because those international students who were not well-informed about the hazards of consuming such foods were highly likely to "become a more vulnerable group than those who were born and socialized into the American food marketing environment" (Lu, 2015, p.11).

Significant differences exist between groups in health concept and health causation, who believed and utilized health ways which were identified between groups of Chinese in Canada (Zheng & Berry, 1991). The groups consist of Chinese international students and visiting scholars from China, Chinese immigrants and Chinese-Canadian students, as well as non-Chinese Canadian. Their investigation found that among these groups, Chinese sojourners reported lowest level of health status, especially psychological well-being after-arrival than pre-departure. One of the most significant predictor of Chinese sojourners including Chinese international students is health beliefs and they claimed more health related problems after coming to Canada. However, this group has been found to keep utilising health service at the minimal level. A further study is needed to explore the reasons and rational for these seemingly contradicting phenomena.

Compared with US-born college students, China-born students have been found to retain some of traditional health beliefs when studying in the US (Rothstein & Rajapaksa, 2003) and they seem to share some common health beliefs in preventive and therapeutic practice with India-born international students. From the perspective of two sociological theories, namely socioeconomic status and cultural values, they analysed parents' education level of Chinese international students and found the majority of parents had obtained university degrees or professional certificates and grew up in big cities, suggesting China-born and India-born students were highly atypical of their fellow countrymen. They confirmed the hypothesis that each of the three groups of students in this study has its own distinctive pattern of health beliefs. China-born students will also accept many aspects of WM because they are being educated in America and come from families that are more educated and Westernized

than the general population in their home countries. However, each group also retains some aspects of its traditional health beliefs. This finding clashed with the socioeconomic status theories explaining differences in health attitudes and health status between native-born and international populations in developed countries.

To investigate the dietary acculturation changes of Chinese students (n = 105) at American universities, Peng (2005) distributed a survey questionnaire and conducted quantitative data analyses. Correlation and regression tests were carried out between gender and the other variables. At the $p < .01$ significance level, gender was significantly related to the "skipping lunch" and "snack after lunch" dietary habits. The study indicated that female Chinese international students were more likely to develop Western acculturated food habits than their male counterparts, i.e. dietary acculturation may be influenced by gender. It seems that Chinese international students need guidance on how to maintain healthy traditions from their home culture, especially when selecting from the wide variety of foods in the US.

From an interpretational point of view, Mustafa (2016) investigated the food acculturation of new international students in the UK. Through a series of qualitative approaches including focus group discussion, she explored international students' exposure, experience, and perception of new food choice in the UK. She examined their food acculturation process when adjusting to a new environment and managing food provisioning practice at the early stage of transition. It was found that Muslim international students showed their concerns over the authenticity of halal foods. Additionally, a food acculturation process was emphasised, together with the

importance of self-efficacy, food provisioning skills, and competencies for a positive food adjustment in an intercultural context.

With respect to diet, Jovchelovitch and Gervais (1999) in England conducted a qualitative study to explore Chinese food beliefs as the right use of food was viewed as the major source of health prevention. In the personal interviews with the informants, "the food used, the way of cooking, the time and ritual of eating" mattered on the ground that "the whole concept of cooking and eating a 'nice meal' contained the elements that can preserve good health" (Jovchelovitch & Gervais, 1999, p.252). Health was conceived as the product of a sufficient and adequate flow of energy through the body. As an important source of energy, Chinese international students believed that Chinese food was helpful to maintain good health and to prevent or cure illness (Jovchelovitch & Gervais, 1999).

To assess dietary changes in international students, Cahill and Stavrianeas (2013) examined the perceived barriers to healthy eating in an American context, and found that moving from home culture to live in an American university, international students have to adjust to the new dietary culture, which might lead to negative effects from factors such as high alcohol intake, altered dietary practices, and an increase in Body Mass Index. The lack of appropriate religious dietary options seemed to disrupt a number of international students' sociocultural adjustment. It was found that perceived barriers to healthy eating included the shortage of information on healthy food choices, the lack of will power, and the perception of healthy foods as boring. Considering that the lack of dietary and nutritional information was detrimental to the health of students, it appeared to be necessary to provide information to international

students who failed to meet the minimum dietary and physical activity guidelines in the US. Without the information and guidelines, international students may be placed at a disadvantage in developing a healthy lifestyle in their dietary acculturation.

According to Wang (2011) and Ma (2013), Chinese culture placed an emphasis on "eating in accordance with the change of season" (四季饮食, *si ji yin shi*) and "a good match of hot and cold food" (食性搭配 *shi xing da pei*) "the union of man and heaven" (天人合一 *tian ren he yi*) These beliefs come from Daoism, an indigenous philosophical thinking exerting considerable influence on the Chinese way of maintaining good health and preventing illness. According to Chen (1996, p.17), "Daoism dominates concepts of health and illness in traditional Chinese thoughts" (Chen 1996, p.17). From the perspective of Daoism, two opposite forces i.e. *Yin* and *Yang* exist in the human body. Good health is viewed as a harmony or balance between *Yin* and *Yang*. When the harmony is broken, illness will occur (Chen, 1996). Apparently, balanced dietary choices were considered vital to human health and illness treatment (Naidoo & Wills, 2016).

Apart from a balanced diet between *Yin* and *Yang*, the effect of weather on human health was highlighted in the literature reviewed. Li and Chan (2000) explored the application of a weather stress index for the public in Hong Kong, arguing that "climate and weather play important roles in the well-being of mankind" (Li & Chan 2000, p.369). Of the various meteorological factors directly or indirectly affecting human health, extreme heat and cold conditions proved to be the most significant indicators of human morbidity and mortality. To be specific, prolonged exposure to hot and cold weather may cause illnesses ranging from depression, hypotension,

fatigue, hypothermia, and tachycardia to fatal conditions such as asthma, respiratory infections, stroke, heart failure and even frostbite (Li & Chan 2000, p.369).

Although cultural beliefs about diet and weather in relation to health were widely recognized, little research was conducted to probe the cultural beliefs of Chinese international students during their study abroad. An in-depth study was deemed to be necessary especially when Chinese international students moved from the continental weather (China) to the ocean weather (e.g. the UK).

3.4 Possible research gaps

As can be seen from the literature review, there is a lack of qualitative research into the acculturation attitudes and agency of international students (Smith & Khawaja, 2011). Due to "the substantial differences in communication and social norms" (Zhang & Goodson, 2011 a, p.615) between Western culture and Eastern culture, international students from Asia tend to experience more psychological distress, more sociocultural difficulties, or social stress than students from other countries (Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Zhang & Goodson, 2011a). It seems to be imperative to delve into the changes that international students experience in their intercultural contacts especially those students from non-mainstream populations.

Additionally, the term 'Chinese international student' is loosely defined despite a high frequency of use in the literature reviewed. For some researchers, the term refers to overseas-born Chinese speaking university students of Chinese ancestry (Lu, Dear, Johnston, Wootton, & Titov, 2014). On some occasions, Chinese international students may include first and second generation of Chinese heritage students (Hsu &

Alden, 2008); From time to time, Chinese international students involve undergraduates, postgraduate students, postdoctoral fellows, and visiting scholars (Zheng, Sang, & Wang, 2004). In the study of Bishop, Lim, Leydon, and Lewith (2009), all ethnic Chinese international students were involved, either born or educated in China, Taiwan, Hong Kong, Singapore or Malaysia. As such, a question arises as for whether they are "Dragons" or "Snakes" (Long, Byrne, Gabbay, & Fletcher, 2015, p.107)? Grouping of various Chinese sub-groups of different countries of origin under the same ethnic label may obscure potential differences between them, and run the risk of failing to "address the complexities of researching Chinese populations" (Long et al., 2015, p.120). Provided that Chinese international students are treated as "a homogeneous group", the validity and reliability of the related studies may be affected.

Thirdly, little attention was paid to the underutilisation of psychological/health services for international students in comparison with host culture students. Chinese international students tend to deny depression or emotional distress, and they tend to express the mental problems somatically, e.g. having headache or loss of sleep (Parker, Gladstone, & Chee, 2001; Ryder, Yang, Zhu, Yao, Heine, & Bagby, 2008). This may have an impact on Chinese international students' health experiences when communicating psychological or emotional issues for diagnosis and treatment. To facilitate the acculturation process for international students and prevent psychological stress (Mori, 2000; Nilsson & Anderson, 2004), it appears to be helpful to conduct face-to-face interviews with Chinese international students to find out why they are reluctant to have access to the psychological/health services in the UK.

Equally important, most of the reviewed studies investigating international students' sociocultural and psychological adaptation have adopted self-reported questionnaires to quantify their acculturative adaptation. It seems that a mixed methodology with quantitative and qualitative approach may prove to be more effective than a single method. In view of this, further investigation with a qualitative approach may help to dig out their experience with study abroad, including positive effect and negative effect (e.g., Diener, 2000; Kahneman, Diener, & Schwarz, 1999).

Most of all, culture specific beliefs in relation to health and well-being were recognized, yet little research was conducted regarding the cultural health beliefs of Chinese international students during their study abroad. Hence, an in-depth study is considered necessary when Chinese international students move from the continental weather (China) to the ocean weather (e.g. UK). Their cultural beliefs in relation to health and well-being, especially their voices in their own terms warrant an exploratory study.

3.5 Chapter summary

This chapter has provided a literature review concerning the qualitative and quantitative studies about the health beliefs, health and well-being practice of international students through scrutinizing English-language and Chinese-language peer-reviewed journal articles, books and theses currently available. The most frequently-reported factors involved acculturative stress, academic stress, psychological adaptation, sociocultural adjustment, social support and attitudes towards access to psychological counselling service/health service (TCM or WM), coupled with cultural health beliefs and well-being practice of international students.

Furthermore, some gaps in the research were highlighted: 1) a lack of qualitative research into the acculturation attitudes and agency of international students; 2) a vague definition of the term for Chinese international students; 3) a shortage of studies on the underutilisation of psychological/health services of Chinese international students; 4) mixed research methods are in need to the exploration of international students' sociocultural and psychological adaptation; and 5) culture specific beliefs in relation to health and well-being, especially their voices in their own terms. These studies were taken as representative of the current knowledge about the health and well-being of Chinese international students. The literature review was expected to pave the way for formulating a number of hypotheses and raising some research questions for future research in the context of UK higher education.

Based on the finding of literature review, the following chapter will justify the design of the current research using mixed methods. The qualitative interview are conducted first due to a dearth of study in this area, the interview data will be exploratory in nature. The main findings emerged from the qualitative data will inform the design of the questionnaire for the quantitative study by offering the item pools. Details of participants' recruitment and sampling methods as well as the research instruments are also introduced in the Chapter 4.

CHAPTER FOUR
RESEARCH METHODOLOGY

This chapter concentrates on the research methodology of the current study, ranging from research design, justification of using mixed methods (both qualitative and quantitative) and the recruitment of the participants, to the research instruments (personal interviews and questionnaire surveys), data collection procedures and the use of Interpretative Phenomenological Analysis (IPA) in qualitative data analysis. Furthermore, methods for qualitative and quantitative data analyses are briefly described. At the end of the chapter, validity, reliability, triangulation of the findings, the confidentiality and other ethical issues are reported.

4.1 Research design

The investigation of Chinese international students' health and well-being was a largely exploratory study in the context of UK universities. To address the research questions raised (see section 1.5), both qualitative and quantitative methods were adopted. A qualitative method was used to provide Chinese international students with the opportunity to have their voices heard concerning their health and well-being while studying in UK universities. To further confirm and test the findings, the main factors identified in the qualitative findings were used as item pools for the self-developed instruments – the *Chinese International Students' Well-being Survey* (CISWS). In other words, the statements in the questionnaire were developed via semi-structured in-depth interviews as well as the literature review. The newly developed quantitative instrument: *the Chinese International Students' Well-being Survey* (CISWS) was used to conduct regress analysis to assess the predicting effect of

theoretically related factors on well-being, including sociocultural adaptation, academic stress and social support. Correlation, multiple regression, especially hierarchical regression as well as t–test were conducted to test the relationship among different variables of Chinese international students' health and well-being. A pilot study was carried out to ensure the questionnaire was comprehensible and easy to understand for the data collection. Through mixed methods, this study aimed to deepen our understanding of the health and well-being of Chinese international students during their study abroad. Details of the study methodology were described in the following sections.

4.2 Justification of mixed methods of qualitative and quantitative methods

In order to address the research questions, the key strategy for this study is to use mixed methods with both qualitative and quantitative data collection and analysis techniques. Although a combination of quantitative and qualitative approaches is widely used, there is still considerable scope for confusion due to the complex ontological and epistemological issues involved. The main reason that the mixed methods approach is adopted is that utilizing both approaches for data collection and analysis techniques would most appropriately facilitate the exploration of the research questions in this study.

4.2.1 Epistemology

This study takes a critical realism stance, which offers an alternative to the established paradigms of positivism and interpretivism (Houston, 2001; McEvoy & Richards, 2006). Positivistic research aims to identify generalizable laws that are based on the identification of statistical relationships between dependent and independent variables

(Ackroyd, 2004). Whereas the interpretivist paradigm places more emphasis upon the way in which the world is socially constructed and understood (Blaikie, 2009). Critical realism considers it is impossible to fully apprehend reality, as perceptions are shaped by theoretical resources and investigative interests. The knowledge of the world is always mediated by the discourses available to us, but we can get empirical feedback from those aspects of the world that are accessible (Sayer, 2004).

Critical realists distinguish between three different ontological domains or modes of reality (Bhaskar, 2013). These are: the empirical (those aspects of reality that can be experienced either directly or indirectly); the actual (those aspects of reality that occur, but may not necessarily be experienced); and the real or 'deep' structures and mechanisms that generate phenomena (McEvoy & Richards, 2006). These causal mechanisms, though not open to observation directly, can be apprehended through a combination of empirical investigation and theoretical construction. The critical realism accommodates the views that there exists both a subjective world as well as an objective world. Thus, critical realism offers a pragmatic way to the opposing notions of positivism and interpretivism. Tashakkori and Teddlie (2010) argued that researchers should use whatever methods that are needed to obtain the optimum results, even if this involves 'switching between alternative paradigms' (Johnson & Onwuegbuzie, 2004). The logic is that neither quantitative nor qualitative methods alone are sufficient to develop a complete analysis. As a consequence, they need to be used in combination, so that they can complement each other (Creswell, Fetters, & Ivankova, 2004).

4.2.2 A mixed research method

To investigate the health and well-being of Chinese international students, adopting appropriate research methods are of paramount importance to achieve the research aims (Schutt & Chambliss, 2006). In this section, the rationale of adopting in-depth interviews to gain personal insights, based on which to design the questionnaire will be discussed.

In an exploratory study, qualitative inquiry using semi-structured interviews may dig out the participants' inner world views in their own words, and allow themes to emerge that could not be anticipated by the researchers prior to the research. Qualitative methods can help to capture the rich meaning of complicated concepts from the participants' own view and enlightening narration of the participants' perspectives of their health and well-being.

As such, perceptions or views on health and well-being of Chinese international students may be investigated through qualitative data (e.g. individual interviews). Special attention is given to the perceptions, experiences, and feelings of the Chinese international students. In brief, the qualitative approach was chosen to capture Chinese international students' own voices, and expose the richness and diversity of experiences based on the reality of participants' life experience, thus answering the research questions.

According to Bryman (2006), the two methods are not mutually exclusive due to the fact that different methods demonstrate superiority in answering different questions. Some questions can be investigated by means of a quantitative method while others

may be better answered by a qualitative approach (Punch & Oancea，2014). In terms of testing a hypothesis, quantitative research is valid for testing certain relationships between independent variables and dependent variables. Comparatively, qualitative research is deemed to be more sensitive to in-depth and holistic understanding of the research issues and conducive to comprehending the complexity of social life.

Mixed methods are emphasised in a sociocultural or psychological enquiry to "lessen the tendency to develop answers about the social world from ego-based commitments, excessive devotion to tradition, and unquestioning respect for authority" (Schutt & Chambliss, 2006, p.9).

As becomes obvious, mixed approaches are needed in that a qualitative method enjoys the advantage of "producing a more realistic picture of reality and reveal more complexities" and a quantitative demonstrated superiority of "providing a succinct and parsimonious pattern" (Mertens, 2014). With the strengths and weakness of the two approaches, mixed methods can be used for 1) triangulating findings: qualitative data can be validated against the quantitative data, and the other way round; 2) validating the researcher's perspective (quantitative) and participants' voice (qualitative); and 3) bridging the gap between macro (quantitative large scale study) and micro levels (individual) behavioural aspects (Bryman, 2006).

It has been suggested that "a combination of qualitative and quantitative designs might bring out the best of both approaches while neutralizing the shortcomings and biases inherent in each paradigm" (Dörnyei, 2001; p.242). Based on the discussion above, the use of a mixed method in the current study was justified. For the qualitative part,

in-depth personal interviews are conducted to obtain data concerning the health and well-being of Chinese international students. For the quantitative part, the participants are provided with questionnaires to generate data in relation to correlation, multiple regression and mediating effect. The two research paradigms are complementary to enhance the validity and reliability of the present study, and therefore the findings can complete and confirm each other to answer the research questions raised.

4.3 Sampling and participants

After obtaining the ethical approval letter from the University Ethics Committee (The Reference number of the ethical approval letter is FHMREC15063), participants were recruited in the northwest of UK for the qualitative study through various ways including social media, emails and word-of-mouth in two universities. The quantitative study targeted Chinese international students in universities across the UK. Information about the survey was distributed via email, *Wechat* and Facebook with QR code (Note3), which link to the questionnaire electronically.

Chinese international students were invited to participate in the university-approved project through advertisements placed on the home page of the Chinese Students and Scholars Association (CSSA) website and the researcher's contacts in the social media. The advertisement included a letter explaining the nature of research, the length of the interview/ questionnaire, a statement about confidentiality, an invitation to students interested in being interviewed and surveyed, and the contact address of the researcher, either through e-mail, or click on the link of electronic version of the questionnaire to leave messages.

4.3.1 Participants for individual interviews

The recruitment of the sample was criteria based and purposively selected, which offered the researcher a degree of control over the sample composition. With this method, the researcher deliberately sought to ensure that the participants were: from two different universities; in different schools and courses, balanced between genders. The method of criteria-based selection was used to recruit participants (n = 20). Inclusion criteria were: 1) Chinese international students learning at a UK university for an academic degree, coming from mainland China, Hong Kong or Taiwan; 2) 18 years of age or above; 3) agreement to participate in the study; 4) ability to give informed consent; and 5) able to speak Mandarin Chinese or English. Regarding the number of participants, the most widely accepted principle is saturation (Morse, 2015). A recent study (Hennink, Kaiser, & Marconi, 2016) on code saturation and meaning saturation suggests that code saturation was reached at nine interviews, and meaning saturation is gained between 16 to 24 interviews. The reasoning behind the sample size selection was also on heterogeneity, the greater the heterogeneity, the larger the sample that must be selected. Given that the students sample all meet the above criteria, 20 in-depth interpersonal interviews were considered as an appropriate number to conduct in the current study.

Ten female students and ten male students took part in the personal interviews, with ages ranging from 19 to 30, and their length of residence in the UK ranging from six months to seven years. Most of the participants were single at the time of being interviewed except for two. One doctoral student lived with his wife in the UK. His wife was pregnant and went back to China at the time he was interviewed. Another

one was a female student. She had a husband with a different ethnic background in the UK.

The 20 interviewees were from a wide range of divergent courses and programmes: electric electronic engineering, business management, chemistry engineering, medicine, law, computer science, mechanical engineering, linguistic studies, materials science/engineering and environmental studies as well as cosmos physics. Regarding their academic status, there were six BA students, seven master students and seven doctoral students, so as to ensure that different disciplinary voices were heard.

4.3.2 Participants for questionnaire survey
Sample size

The general rule for choosing the size of the sample is to use the largest sample necessary (Gorard, 2010). Concerning the size of the sample, heterogeneity of the participants was a key factor. In terms of the heterogeneity of the population in the current study, the main criterion was that participants were all Chinese international students studying in the UK. The pilot study showed that the participants were homogeneous in demographic characteristics.

A sample size of 30 should be the minimum for statistical analysis (Cohen, Manion, & Morrison, 2013). Kline (1998) recommended that in a path analysis 5-10 participants are needed for each parameter to be estimated. In the present study, a total of 6 free parameters were to be estimated, resulting in a sample size of 60 to complete the survey. To better understand the health and well-being experiences of Chinese international students, 302 participants were recruited throughout the UK. Regarding

sample size, the confidence interval approach was adopted to determine the sample size in the survey. The minimal sample size of the current study was calculated according to the following formula (Chow, Wang, & Shao, 2007).

$$n = z^2 \, (pq)/ \, e^2$$

where: n = sample size

z = standard error associated with the chosen level of confidence

p = estimated variability in the population

q = 100 − p

e = acceptable error

The confidence interval was identified as 95%, with a corresponding z score of 1.96. The acceptable error was assumed to be +/-5%, which implies 95% accuracy in estimating the total population by this sample. Accordingly, the theoretical sample size of the study was calculated to be 113, which was used to guide the amount of the data collected in the current study. The final sample consisted of 302 participants and exceeded the number as advised above. As such, the sample size for this study was sufficient.

A total of 302 electronic responses were received for data analysis. Details of the demographic characteristics of the participants are presented in Table 4.1. 42.4% of the students reported as male and 57.6% of the participants as female. The average age of the participants was 24.7 (SD = 3.13).

Table 4.1 Basic demographic information of participants for quantitative data collection

Characteristics	n	%
Gender	302	
Male	128	42.4
Female	174	57.6
Length of residence in the UK (year)		
$\leqq 1$	84	27.8
$1-2$	98	32.5
$2-3$	38	12.6
>3	82	27.1
Age (year)		
$\leqq 23$	105	34.8
$24-30$	185	61.3
$31-35$	11	3.64
$36-40$	1	0.33
$\geqq 41$	0	0
Health Status (self-assessed)		
Very healthy	91	30.1
Healthy	152	50.3
Average health	53	17.5
Unhealthy	6	2.1
Very unhealthy	0	0
English oral communication		
$<=4$	29	9.6
$5-7$	273	90.4
English academic writing		
$<=4$	136	45
$5-7$	166	55

4.4 Research instruments

To explore the health and well-being of Chinese international students, two research instruments were adopted: personal interviews and a questionnaire (CISWS) comprised a number of statements raised from the personal interviews and literature reviews to assess Chinese international students' perceptions and practice of health

and well-being related issues (please see Appendix VI). On the basis of carefully worded prompts, the semi-structured interview was used to probe Chinese international students' perceptions on their health and well-being. The participants were asked to circle out to what extent they agree or disagree with each statement on a 5-point Likert scale for the questionnaire of *Chinese International Students' Well-being Survey* (CISWS). These research instruments were constructed to elicit data (qualitatively and quantitatively) to answer the research questions and the related sub-research questions (see section 1.5). In the following sections, the justification of using the two research instruments is presented.

4.4.1 Semi-structured interviews

Given the scarcity of research on Chinese international students' experiences on health and well-being in the UK, and considering the complexity of the issues involved, semi-structured interviews were used for answering the first research question. This is because in-depth personal interviews may provide opportunities for the participants to express their ideas and opinions in their own words (Berg, Lune, & Lune, 2004). Through personal contact, the investigator was to stay in touch with Chinese international students, and establish a sense of rapport, eliciting qualitative data with respect to health beliefs and well-being practice. In this way, the chance of obtaining first hand data and investigating Chinese international students' health and well-being in an UK HE context was maximised.

The semi-structured interview demonstrated the advantage of "add detail and depth" (Denscombe, 2014) to the data. Through semi-structured interviews, voices of Chinese international students with different health experiences could be heard. The individual interviews were employed to identify differences in participants' health

beliefs and well-being practices as well as shared common perceptions regarding maintaining health. They were utilised to help the investigator to go beyond mere fact and surface appearances, discovering how Chinese international students think and act, unfolding their different views on their health-related experiences. The rich description and detailed explanation of their rationale of certain health related behaviours offered the researcher with opportunity to be well-informed about their daily practice and their understanding of this current issue. The personal interviews also made it possible for Chinese international students to have their stories heard, and enable the researcher to interact with the participants to further explore beyond their immediate answers (Bates, 2005). Seemingly, semi-structured interviews are an effective way to invite participants to share deeper understandings of the researched topic.

An interview schedule was designed, which begins with more general questions on their daily life experience and then focused on their health and well-being experiences, such as seeing a doctor and doing physical exercises. Questions concerning Chinese international students' perception on well-being and TCM were asked during the course of personal interviews. The interviews sought to access Chinese international students' own concepts with their own understanding or voices, and avoided the use of western terms. The interviews were conducted mainly in Mandarin Chinese, which was the preferred language of the participants. In this study, the researcher used her knowledge of Chinese culture, TCM and well-being to enter into a dialogue with the interviewees. Although personal interviews were time-consuming, Chinese international students' insights into their health and well-being experiences could be obtained, which otherwise were inaccessible to an outsider observer (Richards, 2003).

To sum up, semi-structured interviews were used to explore Chinese international students' health and well-being related experiences. The personal interviews enabled the researcher to explore the Chinese international students' health and well-being related practices with great depth and made it possible to compare this group' opinions with the literature and quantitative data for triangulation, thus the validity of this research is enhanced.

4.4.2 Questionnaire on Chinese international students' well-being

The questionnaire was deemed to be a cost effective option for data collection, especially for collecting quantitative data (Schutt & Chambliss, 2006). It has the advantage of obtaining a considerable amount of data in a convenient way with a relatively short time. Participants for the questionnaire study may be provided with standardised answers that "fit into a range of options offered by the researcher" (Descombe, 2014, p.105). In this way, the researcher can have access to "a quick collection and analysis of data" (Wen, 2001, p.112). For the participants, their task is to pick one or more answers, which are spelt out for them. To answer the research questions in relation to what factors drive Chinese international students' well-being, the questionnaires named the *Chinese International Students' Well-being Survey* (CISWS) were designed and implemented in the present study.

The *Likert* scale was chosen to investigate Chinese international students' well-being in the context of UK universities. Although the Likert scale has been criticised for "lack of reproducibility" (Oppenheim, 2000), *Likert* scales have many distinctive advantages: 1) the responses are easily quantifiable and subject to computation of

some mathematical analysis. 2) it allows participants to respond in a degree of agreement, instead of "yes" or "no"; 3) *Likert* surveys are also quick, efficient and inexpensive methods for data collection as they have high versatility and can be sent out through mail, over the internet, or given in person (Sullivan & Artino Jr, 2013). In the current study, five point scales were used as the response format: ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

The survey tool was designed with the aim of collecting data from the Chinese international students. Well-being is the main outcome dependent variable. The independent variables include cultural health beliefs about TCM and WM, sociocultural adaptation, psychological adaptation, academic stress and social support. In the following sections, the structure and the content of the questionnaire, coupled with the source of the questionnaire items are reported.

4.4.2.1 Structure of the questionnaire

The questionnaire named the *Chinese International Students' Well-being Survey* (CISWS) consisted of seven parts. The first part covered the demographic information concerning the gender, age, self-rated health status of the participants. Additionally, participants were asked to self-report their English competency in oral communication and English academic writing, using a 7–point Likert-type scale that ranged from 1 (poor) to 7 (excellent). The second part consisted of 9 statements about well-being beliefs, including competence, engagement, meaning, optimism, positive relationships, and resilience. The third part of the questionnaire comprised 6 statements about Chinese international students' cultural health beliefs, including their perceptions of TCM and WM. The fourth part of the questionnaire, containing 7 items, asked about

students' perceptions of their psychological adaptation. The items were concerned with Chinese international students' excitement about coming to the UK, homesickness, curiosity about the cultural difference, and loneliness of being abroad. The fifth part concentrated on the sociocultural adaptation of Chinese international students, with 6 statements on understanding the value, humour, and friendliness of the local people. The sixth part focused on Chinese international students' academically related stress: e.g. meeting the expectation of supervisor, coping with the workload, and participating in group work with 7 items. The seventh section included 5 items concerning the Chinese international students' social support from family, friends and university service.

There were forty-six statements in total and the participants were asked to respond on a 5-point response scale ranging from strongly disagree (1) to strongly agree (5). Table 4.2 presented the structure of the questionnaire on Chinese international students' well-being, together with the number of items for each section.

Table 4.2 Structure of the questionnaire of CISWS

Part	Content	Number of items
Part 1	Demographic characteristic: gender, age, self-rated English oral communication, self-rated English academic writing and self-rated health status.	6 items
Part 2	Well-being	9 statements
Part 3	Cultural health beliefs	6 statements
Part 4	Psychological adaptation	7 statements
Part 5	Sociocultural adaptation	6 statements
Part 6	Academic-related Stress	7 statements
Part 7	Social support	5 statements

4.4.2.2 Content of the questionnaire

The questionnaire was on Chinese international students' health and well-being in relation to their adaptation in the UK. Below is a brief description of the content of the

questionnaire items, ranging from sociocultural adaptation, psychological adaptation, academic stress, social support to cultural health beliefs (for details, see Appendices VI).

Well-being:

A nine-item well-being questionnaire were derived from *Well-being Questionnaire* (Huppert & So, 2013) to measure Chinese international students' competence, engagements, meaning, optimism, positive emotion, positive relationships, resilience, self-esteem and vitality. The questionnaire items included the following statements:

Competence: Most days I feel a sense of accomplishment from what I do.

Engagement: I love learning new things.

Meaning: I generally feel that what I do in my life is valuable and worthwhile.

Optimism: I am always optimistic about my future.

Positive relationships: There are people in my life who really care about me.

Resilience: When things go wrong in my life it generally takes me a long time to get back to normal.

Self-esteem: In general, I feel very positive about myself.

Vitality: I have a lot of energy.

Positive emotion: Taking all things together, I am very happy.

Cultural health beliefs

Six statements revolved around the issue of the cultural health beliefs of Chinese international students, including their perceptions and attitudes towards using TCM and WM. The cultural health belief scale was used to measure the preference of health service choice by Chinese international students in the UK. The following items were generated from in-depth personal interviews.

TCM cures the root of diseases, while WM only cures the symptoms.

TCM is more effective in treating chronic diseases than WM.

The use of WM has more drug side effects than TCM.

WM will be used in treating severe diseases, while TCM for minor diseases.

WM is more scientific-based than TCM.

TCM maintains health through *Yin-Yang* balance.

These items were constructed because Chinese international students' well-being might be supported or affected by their cultural health beliefs.

Psychological adaptation

The psychological adaptation was measured by *Brief Psychological Adaptation Scale* (BPAS), which was designed to assess how well/ poor that someone has adapted to the new environment psychologically. The items for the psychological adaptation scale were culture specific. A high total score indicated a high level of psychological adaptation. The following items were used to assess the psychological adaptation:

I am excited about being in the UK.

I find it difficult to fit into UK culture.

I am nervous about how to behave in certain situations.

I feel lonely without Chinese family and friends around.

I am curious about things that are different in the UK.

I feel homesick when I think of China.

I feel happy with my day-to-day life in the UK.

Sociocultural adaptation

Sociocultural adaptation was measured by *Brief Sociocultural Adaptation Scale* (BSAS) (Demes & Geeraert, 2014). *Sociocultural Adaptation Scale* included six items, measuring climate, natural environment, social environment, living, practicalities, food and eating, family life, social norms, values and beliefs, people, friends and language. Example items were given below:

Values and beliefs: I can understand local people's values and beliefs (e.g. What people think about religion and politics, what is right or wrong).

People: People are friendly to international students.

Friends: I find it difficult to make friends or have social interactions with local people.

Language: My language learning enables me to understand lectures and make myself understood.

Living: I feel satisfied while living and learning in the UK.

Humour: I can understand the humour of local people.

Academic stress

The academic stress was measured by a seven-item scale, and the items were generated from in-depth personal interviews exploring Chinese international students' perceptions of the peer pressure, supervisor expectation, group work experience and workload. Example items were demonstrated as follows:

I am not accustomed to the English way of thinking (e.g. critical/analytical thinking).

It is difficult for me to reach my supervisor's expectation.

I am worried whether I can graduate as scheduled.

I feel pressured when making comparison with peers.

I could not follow the English instruction for assignments.

I like group work in the UK university.

Handling the academic workload is challenging for me.

Although most studies used grades as an indication of academic performance, the current research did not, due to the fact that it was the students' own perception of and satisfaction with their academic work that the researcher wanted to measure.

Social support

The *Social Support Scale* was used to assess the perceived availability of social support from friends, family, university and significant others. Following are related

statements: "Someone will give me good advice about a problem or crisis", "I can get the emotional support from my family", "I consider the university support service helpful", "My friend's support is important when I need some help", and "I have someone to console me when I feel very upset".

4.4.2.3 Source of the questionnaire items

This study drew on a range of constructs from previous studies in relation to well-being, cultural health beliefs, psychological adaptation, sociocultural adaptation, academic stress, and social support. The questionnaire items concerning the well-being of Chinese international students were constructed partly from the *Well-being Questionnaire* of Huppert and So (2013). Huppert and So (2013) proposed a conceptual framework, with well-being seen as lying at the opposite end of a spectrum to the common mental disorders (e.g. depression, anxiety). The nine identified features of positive well-being were incorporated into the CISWS: competence, engagement, meaning, optimism, positive relationships, resilience, self-esteem, vitality and positive emotion.

Regarding cultural health beliefs in the CISWS, six items were derived from the literature reviewed and in-depth interviews, specifically 1) *Overseas Chinese students in the UK: Patterns and Correlates of their Use of Western and Traditional Chinese Medicine* (Bishop, et. al., 2009) and *An Examination of British Chinese Health Care Practice and Beliefs: Investigating the Theory of Planned Behaviour, Health-related Quality of Life, and Chinese Medicine Treatment for Psoriasis* (Lee, 2001). On the basis of these studies, the researcher developed six items to measure the perceptions of and attitudes towards using TCM and WM among Chinese international students.

The items in the questionnaire concerning sociocultural adaptation and psychological adaptation were derived from the *Brief Sociocultural Adaptation Scale* (BSAS) and the *Brief Psychological Adaptation Scale* (BPAS) (Demes & Geeraert, 2014). Following good scale reliability in initial samples, the English scales were translated into different languages, including Chinese. The translated scales demonstrated good reliability and adequate structural equivalence across languages (Demes & Geeraert, 2014). In the light of Searle and Ward (1990), the questionnaire distinguished between sociocultural adaptation (the more practical and behavioural aspects of adapting to a new culture) and psychological adaptation (how comfortable and happy a person feels with respect to being in the new culture, or anxious and out of place). With regard to reliability, Cronbach's alpha was computed for BSAS and BPAS in the Chinese version, with the value of .84 and .87 respectively.

The parameters of academic stress were used to explore Chinese international students' perception of their peer pressure, supervisor expectation, group work experience and workload. The academic related stress was measured by a seven-item scale that the researcher developed based on the idea of Yumba (2010), to measure the academic stress experienced by Chinese international students in the UK host universities. Some of the items were generated from in-depth interviews and tested in the pilot study.

The parameters of social support were five-items selected from a self-report inventory: *The Multidimensional Scale of Perceived Social Support* (Zimet, Dahlem, Zimet & Farley, 1988). For this study, the researcher changed some statements which might confuse Chinese international students. For example, the statement about family

support was changed from "*I can get the emotional help and support I need from my family*" to "*I can get the emotional support from my family*". As such, the statement became concise and accurate for non-native speakers of English. The response choices were in the form of a 5-point Likert scale, ranging from very poorly supported (1) to very well supported (5), with a higher score indicating a higher perceived social support. In the current study, the researcher added the items measuring perceived social support from university resources (e.g., university services such as international students services and international students organizations), as the context for the current study is UK universities. For example: I consider the university support service helpful.

4.4.2.4 Translation of the questionnaire

At the initial stage, the first draft of the questionnaire was translated from English into Chinese by the researcher (a native speaker of Chinese), and then a back translation (Chen & Boore, 2010) was done in this study. After discussing the English version of the questionnaire with the supervisor, the researcher translated the questionnaire into Chinese again. An independent translation from Chinese to English was conducted subsequently by a translator, who was a native speaker of Chinese and doing her PhD in translation at the University of Lancaster. After that, a comparison of the questionnaires was carried out. Any ambiguities and discrepancies in meanings were discussed, clarified or removed. Based on the work above, the English and Chinese versions were sent to two Chinese academics. Modification and amendment of the questionnaire was carried out according to their suggestions and feedbacks after discussion. After several rounds of revising and refining, the questionnaire was scrutinised. The translated questionnaire was sent to a Chinese language tutor for the

check of clarity of expression and wordings. The full version of *Chinese International Students' Well-being Survey* (CISWS) is in Appendix VI.

4.5 Pilot study

A pilot study is viewed as essential in a high quality study, though it does not guarantee success in the main study, yet it does increase the likelihood (Duncan & Fiske, 2015; Punch & Oancea, 2014). According to Duncan and Fiske (2015), a pilot study is "a small-scale replica and a rehearsal of the main study" (Riazi, 1999, p.198). Two different functions have been suggested of a pilot study: to test the feasibility of the study by trialling the administrative and organisational procedures related to the whole study and the participants or to test if there is any mechanical problem of particular research instruments (Hubbard, O'Carroll, Munro, Mutrie, Haw, Mason, & Treweek, 2016).

For qualitative data collection，the pilot individual interviews invited six Chinese international student participants from different schools in the two universities in the northwest of UK. The semi-structured interviews were carried out to test the interview schedule, wording and timing. The pilot interviews yielded useful feedback for rephrasing interview schedule (see Appendix III). For example, the first draft of the interview schedule included Chinese international students' perception of health and illness; the differences and similarities between traditional Chinese and Western biomedical systems; what they do for illness prevention and for treatment to grasp the key terms and notions from their understanding of health and well-being. In terms of health and life style, cultural value role in prevention and treatment were probed. Health service provision and adequacy of health service were also investigated in the

interviews; especially emotional or psychological health and well-being, e.g. Chinese patterns in seeking medical help (voicing of demands, self-restraint, and trust in biomedical system, combination or segregation of health services self-medication). After the pilot interviews, student life in the UK was added to the interview schedule. Also participants constantly referred to their stress arising from academic work and communication with academic staff. Following the information they gave for stress in academic work and illness, questions like "Who is the first contact point if you get any health concern?" "Whom can you really count on to distract you from your worries when you feel under stress?" were followed. This led to the editing of sections on academic stress and social support. At the same time, the pilot study intended to assess the appropriateness of these statements and gauge the length of time to be taken.

For the quantitative data collection, a small-scale pilot study can be helpful for identifying potential errors or pitfalls in the real questionnaire data collection. In the autumn semester of 2016, a pilot study was conducted at two universities in the northwest of the UK for assessing the feasibility and reliability of CISWS. The pilot study attempted to make sure that the questionnaire's clarity and suitability for Chinese international students. More importantly, the pilot study was used to check the administering process, the level of question response, the difficulties of understanding particular questions, the sensitivity of the questions, and to identify and resolve any other procedural bugs that may come out of expectation.

The pilot study for the quantitative data collection in this study was carried out in two stages; the first was a small-scale pilot study with the fully drafted questionnaire in Chinese and English which was conducted with 20 Chinese international students in

four different universities in the UK, studying pharmacy, English linguistics, civil engineering and human resource etc. Following Fowler's (2013) the suggestions, the researcher observed the participants in the pilot study completing the questionnaire, and interviewed them afterwards. Upon the completion of the initial well-being measure, informal group meetings were conducted with the pilot study participants to qualitatively assess the presence and accuracy of the items presented in the questionnaire. The questionnaire filling was observed and participants' confusion was noted. The pilot study attempted to make sure that the questionnaire was clear in its purposes and suitable for Chinese international students. Important comments and several suggestions regarding the layout, wording, and format were obtained. The first stage of the pilot study helped refine the ordering of questionnaire and to prune the questionnaire to a manageable length.

The pilot test of the questionnaires yielded useful information on the administration process, question response and unexpected bugs. Thus the questionnaire was modified to make the intended meaning more specific and explicit. The piloting of the questionnaire task indicated that the participants found the questionnaire took too long to respond to, and some of the wording seemed ambiguous and unclear to them. For example, in the first section of the questionnaire, when asked about "length in the UK", participants had different interpretations. Some consider it as asking "how long is their course, which means how long they will be in the UK, whereas some others consider it as "how long have you been in the UK". To make it more explicit, the question was finalised as "how long have you been in the UK". The participants exhibited diverse perceptions on their health practice and preference between TCM and WM. In terms of language inadequacy, the original questionnaire in the

psychological adaptation part, the original statement was: "Out of place, like you don't fit into the UK culture." Participants enquired about how to interpret "out of place", thus the final version of the statement was "difficult to fit into UK culture". The second section of the CISWS measures Chinese international students' well-being in terms of competence, engagements, meaning, optimism, positive emotion, positive relationships, resilience, self-esteem and vitality. In the present study, the item measuring emotional stability was removed, which was "in the past week, I felt calm and peaceful", as in the pilot stage, the majority of the participants felt irrelevant.

In the second stage of the pilot study, a sample of 106 Chinese international students tested the feasibility and reliability of the questionnaire of CISWS. Through a convenient sample, the researcher contacted the potential participants through *Wechat,* and asked them to fill in the questionnaire. Their academic fields are: computer science, education, sociology, literature, pharmacy, chemistry engineering, material sciences, event management and physics. They were current students at UK universities. The researcher is aware that the convenient sampling may result in a biased response, but their answers were taken into consideration to finalise the questionnaire.

The wording/phrasing in the questionnaire was considered important, and the following guidelines were observed: 1) Use simple, direct and familiar language, and avoid jargon, abbreviations and technical terms (Oppenheim, 2000); 2) Keep the questions short and comprehensible so as not to affect the content, aim and meaning of each question (Malhotra & Birks, 2003); 3) Keep away from double-barrelled

questions and double-negative questions (Easterby-Smith, & Thorpe, 2002; Sekaran, 2003).

In this study, the CISWS questionnaire was drafted, revised, elaborated, modified, and refined many times. To take the cover page of the questionnaire as an example, it was required to design with the University logo so as to motivate the respondents to take a part, confirm its academic purpose, and make it possible for the participants to respond quickly.

4.6 Data collection procedures

4.6.1 Procedures for collecting qualitative data

For the purpose of collecting qualitative data, personal interviews were conducted with participants between December 2014 and February 2015. A semi-structured interview schedule was used to guide the personal interview and encourage participants to reflect on their health related experiences, and all the interviews were digitally recorded.

There were twenty sessions of individual interviews in the study, with about 45 to 60 minutes assigned to each session. Twenty informants (for details see Table 5.2) from two universities in the northwest of the England were invited to attend individual interviews. The individual interviews were carried at a researcher's office in the university to ensure the quietness during the interview process.

The individual interviews started with ice breaking questions such as "what do you study" "how long have you been studying here". Based on the individual interview

schedule, the interview explored how the participants conceptualised and made sense of their health experience and how they felt about their well-being in the UK higher educational context. The participants were encouraged to describe their doctor visiting experience, including barriers or difficulties in their clinical communication with the health service providers. Their reflections and retrospections constituted a part of the participants' knowledge about themselves, their health experience and their coping strategies.

4.6.2 Procedures for collecting quantitative data

For collecting quantitative data, the participants from the quantitative study were recruited through advertisements placed on the Chinese Students and Scholars Association (CSSA) website and the researcher's personal contacts through social media such as Facebook, *Wechat* and *QQ*. The advertisement was composed of a letter explaining the nature of research, the length of the questionnaire, a statement about confidentiality, and an invitation to students who were interested in being surveyed to contact the researcher either by e-mail or click on the link of the electronic version of the questionnaire link. Alternatively, potential participants could scan the QR code for accessing the questionnaire electronically.

The questionnaire survey was conducted from October to December in 2016 with 302 Chinese international students. The well-being questionnaire for Chinese international students (see Appendix VI) was distributed across UK universities. These participants demonstrated a wide range of demographic background, in terms of their length of residence in the UK (for details see table 4.1): 27.8% had been in the UK for less than one year, 32.5% for one to two years, 12.6% for two to three years, and 27.1% for

more than three years. The majority consider themselves as healthy (50.3%) or very healthy (30.1%).

4.7 Methods for data analysis

In this exploratory study, data analysis proceeded from qualitative data analysis to quantitative data analysis. Complementary rather than contradictory, both qualitative data analysis and quantitative data analysis work together to triangulate and confirm each other, thus answering the research questions raised, and enhancing the validity and reliability of the present study.

4.7.1 Qualitative Data Analysis

For qualitative data analysis, Interpretative Phenomenological Analysis (IPA) was employed to explore the health and well-being of Chinese international students. Smith, Flower and Larkin (2009) elucidated that IPA pays respectful attention to a person's direct experiences by encouraging participants to tell their own story in their own words. IPA involves the detailed examination of the "lifeworld" of the participants, coupled with their experiences of a particular phenomenon. According to Todres, Galvin and Dahberg (2007), lifeworld allows to better understand human experiences in relation to temporality, spatiality, intersubjectivity, embodiment, and mood. Lifeworld may "act as a benchmark for understanding health and illness" (Todres, Galvin, & Dahberg, 2007, p.60) as it provides "the holistic context for understanding quality of life" (ibid. 2007, p.59).

Firmly anchored to key phenomenological understandings of live experiences, IPA researchers are urged to "adopt a sensitive and responsive approach to data analysis"

(Larkin, Watts, & Clifton, 2006, p.108). The experiences of participants are viewed as context-dependent and contingent upon social, historical and cultural perspectives (Eatough, Smith, & Shaw, 2008; Smith, Flower, & Larkin, 2009). Personal stories are not only individually situated, but also living in a social and cultural context with active social interactions (Eatough, Smith, & Shaw, 2008). Motivated by humanisation, IPA researchers put a high value on narrative truth. Grounded in qualitative experiences of people, "a perspective can be opened up and pursued through intense curiosity about the descriptions of others' experiences" (Todres, et al. 2007, p.59).

As such, IPA is an approach to qualitative research concerned with exploring and understanding the lived experience of a specified phenomenon (Smith, 2004). IPA acknowledges that the researcher's role of interpretation and engagement and through a careful and explicit interpretative work, it becomes possible to gain an access to an individual's cognitive inner world. Different from discourse analysis (DA) which emphasizes the role of language and the related interactions (Smith, Jarman, & Osborn, 1999), IPA allows an exploration of idiographic subjective experience and more specifically, social cognitions (Biggerstaff & Thompson, 2008). The key is to make sense of these experiences, and attach meanings to them (Smith, 2015).

With respect to data analysis, IPA revolves around thorough familiarity with the text through reading and repeatedly re-reading (Smith, Jarman, & Osborn, 1999). Notes and reflections from the researcher were noted in the reading and re-reading process on the transcripts.   Though the transcriptions of interviews were read by the researcher several times, each time has a different aim. For example, the first round of reading aimed at having an overall picture of their stories without labelling the

content. The second round of reading of the transcription was conducted while the researcher attempted to label and highlights the key component. After further reading in the third round, the researcher assigned labels on the recurring main themes and started coding. The following seven steps were used to code and analyse the qualitative data collected.

Step 1: Listen to the recordings repeatedly and achieve a better understanding of the interviewees' intentions (Hammersley, 2010; Qu & Dumay, 2011; Tessier, 2012). While reading the text, the researcher attempts to suspend presuppositions and judgments so as to focus on what is actually presented in the transcript data (Biggerstaff & Thompson 2008).

Step 2: Transcribe the interviews verbatim and code the transcripts with identifiers (Smith, 2004) such as 'academic stress', 'friends support', 'dietary change', 'weather adaptation', 'language deficiency' and 'university service'. Initial notes were marked on the transcript. Then put a transcript aside and continue to code another one. If the identifier is similar to (or the same as) others, the researcher grouped them together.

Step 3: Develop broader descriptive categories such as sociocultural adaptation, psychological adaptation, and social support. Sort the categories identified into central categories (Willis, Jost, & Nilakanta 2007). The researcher reflected on her past and current experiences so as to keep the meaning of her own personal experiences separate from those revealed by the participants (Fischer, 2009).

Step 4: Code, sort and scrutinise data and reduce the number of categories by topical headings (Braun & Clarke, 2006). At this stage, the researcher needs a suspense of

critical judgment and a temporary refusal of critical engagement which would bring in the researcher's own assumptions and experiences (Tufford & Newman, 2012).

Step 5: Select a topical heading to represent the main theme and develop a systematic analysis of the data, exploring meanings embedded within the personal interviews (Richards, 2003).

Step 6: Describe, interpret and theorise the data. Ask expert-researchers to inspect them and then double-check the similarities and differences (Guest & Bunce, & Johnson, 2006; Willis, Jost, & Nilakanta, 2007).

Step 7: Check for consistency in the findings, probing the possible reasons for health and well-being service/choice, and identifying any particular features/patterns in the qualitative data analysis and reporting.

Data coding was used as "a means to generate concepts" and "taken as part of the process of analysis" (Gough & Scott, 2000, p.339). Qualitative data was broken down into discrete parts as the researcher goes through the data. At this stage, rich amount of qualitative data was segmented into analysable units. Through coding and categorising each interview transcript, the qualitative data from the semi-structured interviews were transformed into an appropriate form for qualitative data analyses.

While reading the text, the researcher attempts to suspend presuppositions and judgments in order to focus on what is actually presented in the transcript data. This involves the practice of "bracketing" (Hamill & Sinclair 2010), which refers to the

'laying aside' of the researchers' reflecting on their past and current experiences so as to keep the meaning of their own personal experiences separate from those revealed by the participants (Fischer 2009). As a Chinese international student, the researcher had the past seven years studying as a BA, MSc and Doctoral candidate in the UK universities, and this experience enables the researcher to interpret the data as an 'insider'. However, the researcher is also aware of the individual differences in terms of experiences and interpretation of this experience, to ensure the data analysis is based on the participants' words rather than from the researcher. What this involves is the suspension of critical judgment and a temporary refusal of critical engagement which would bring in the researcher's own assumptions and experiences (Joshi, Pandey, & Han, 2009). As IPA acknowledges a role for interpretation, the concept of bracketing is somewhat controversial and in any event gives way to a more interpretative process as analysis proceeds.

Data reduction was achieved gradually through constantly comparing the meanings in the labels, themes and sub-themes. Each interview was transcribed by the researcher verbally to ensure the transcription fully captured the meaning conveyed in the interviews. Transcription was basically conducted immediately after each interview, usually within one week. All interviews were conducted mainly in the Mandarin Chinese language, and interviews were transcribed in simplified Chinese (For more details see Chapter 5).

4.7.2 Quantitative data analysis

For quantitative data analysis, the statistical package for the social science (IBM Corp, 2012), Version 22 was used to analyse the data from the questionnaires concerning the

health and well-being of Chinese international students. Cronbach's alpha tests, multiple regression tests and hierarchical regressions, coupled with Pearson's product moment correlation tests were carried out. Furthermore, issues of mediations (such as sociocultural adaptation mediating the association between health status and well-being) and moderations (such as academic stress moderating the relationship between social support and well-being) were investigated. For more specifics, please see chapter 6.

Reliability and validity

Reliability was viewed as "a prerequisite for measurement validity" (Schutt & Chambliss, 2006, p.121). In the present study, reliability was emphasised because it entailed 'the consistency and replicability over time, over instruction, and over groups of respondents' (Cohen, Cohen, West, & Aiken, 2013, p.117). DeVellis (1991) proposed a guideline used to find out the satisfactory level of reliability, when there are more than 100 samples, the level of reliability can be deduced based on the following: 1) above 0.90 is considered as strongly reliable; 2) between 0.80 and 0.90 is considered as highly acceptable; 3) between 0.70 and 0.80 is considered as acceptable; 4) between 0.65 and 0.70 is considered as minimally acceptable; 5) between 0.60 and 0.65 is considered as undesirable; and 6) below 0.60 is considered as unacceptable.

In the present study, the Cronbach's Alpha formula utilizing the SPSS package was used as a measure of the internal reliability coefficient for the research questionnaire. To determine the internal consistency of various measuring instruments in the questionnaire, the Cronbach's Alpha was run, showing that the reliability of the

overall questionnaire was .91, which was considered as strongly reliable. The Alpha value for measuring items related to well-being (dependent variable) was .77 (Section 2 of the questionnaire). For the self-developed questionnaire on cultural health belief, the Alpha value was .73. With regard to the psychological adaptation questionnaire, the Alpha value was .67. Regarding sociocultural adaptation questionnaire, the Alpha value was .73. For academic stress and social support, the Alpha value was .78 and .76, respectively.

Validity is viewed as an important aspect of research standards especially for quantitative studies (Bryman & Bell, 2007) which includes content validity and construct validity (Snape & Spencer, 2003). As it determines if the data collection tool or method is measuring what it meant to measure (Mack, Woodsong, MacQueen Guest, & Namey, 2005). However, the validity of mixed research is still in the stage of infancy, as it combines strengths and weakness of quantitative and qualitative research, assessing the validity of findings is "particularly complex" (Onwuegbuzie & Johnson, 2006, p.48). Although the framework for assessing legitimation in mixed research is incomplete yet, certain strategies haven been adopted in the current study to ensure the precision in which the findings accurately reflect the data. First of all, the researcher is aware of the multiple realities, potential bias from samples and the researcher's interpretation has been addressed. Participant's excerpts were presented in Chapter 5 with sample coding available in the Appendix VI, to ensure the participants' views are clearly and accurately presented, thus truth value are ensured. Consistency and applicability of the data are further reached by the triangulation.

4.8 Triangulation of the data

Triangulation is conceptualised as "using several different research methods to test the same findings" (Babbie, 2015, p.123). Data triangulation means to use multiple data sources in the same study for validation purposes. These types of data triangulation come as the result of the idea that the robustness of data may vary with time (Kothari, 2004). Different from single-method approach, triangulation involves two or more methods of data collection, seeking to explain the complexity of human behaviour (Cohen, Manion, & Morrison, 2013).

The lifeworld of Chinese international students is rich, diverse and complex. To better understand the richness, diversity and complexity, both qualitative and quantitative data were collected and analysed. Data from the personal interviews were used to achieve a more in-depth understanding of the lifeworld experiences of Chinese international students who exist with others in an understanding way and they have their own perceptions, views, and voices; whereas the quantitative data from the questionnaire survey were utilized to examine the pattern, to be specific, similarities or variations of human behaviours. For example, multiple regression tests and hierarchical regression, coupled with Pearson's product moment correlation tests may show the inferential relationship between the independent and dependent variables, identifying a significant predictor of well-being and the mediating relationship between key variables (e.g. social support mediates the association between sociocultural adaptation and well-being). To avoid potential bias in either quantitative method or qualitative approach, triangulation was deemed to be necessary. In the current study, personal interviews were conducted to provide some insight into the

diversity and complexity of Chinese international students' lifeworld. Yet qualitative findings alone seem far from enough because too much reliance on a method may distort the picture of reality being investigated. At the same time, questionnaire survey was conducted for methodological triangulation, thus achieving the balance of narrative truth and statistical truth (Todres, Galvin, & Dahlberg, 2007). In view of this, triangulation seems to be helpful to corroborate findings, and enhance the validity of the study. Although triangulation is associated with positivism (Silverman, 2000), it was used to check consistency, reduce bias, and increase validity in the present study.

4.9 Ethical consideration

The qualitative and quantitative studies have both received independent ethical approval letters from the Lancaster University's Research Ethics Committee. The Reference number of the ethical approval letter given by The Faculty of Health and Medicine Research Ethics Committee (FHMREC) is FHMREC15063. Great attention has been paid to the ethical issues.

Posters with a short message introducing the study and an invitation to the study were used on campus to recruit participants. Also relevant societies (e.g. CSSA-Chinese Student Scholar Association) were approached. Those who have shown interest by responding to the university email address given on the poster was further contacted via email with subsequent participant invitation letters and information sheet and the consent forms (see Appendix V). The Chinese international students who have given their consent and permission were contacted about their possible involvement of in-

depth recorded interview about well-being. The researcher also reassured their understanding and got the forms signed before conducting the interviews.

All interviews were digitally recorded and uploaded to the researcher's password protected H drive. The data were then transcribed, and stored on the university H drive, and that all data analysis were conducted on the H drive i.e. at no time will any data be downloaded onto memory sticks, university or personal computers. All the relevant paper resource, such as consent forms were stored in the locked drawer at the researchers' university office and will be destroyed after the research. Anonymity and confidentiality were maintained at all times. Participants' names would not appear in the report and the information about them will be confined to the researcher only. All of the identifiable data, including recordings of participants' voices, were deleted from the recorder as soon as it has been transferred to a password protected PC, and in the meantime the recorder were stored securely. The transcript data were stored in a locked drawer (kept secure) at the researcher's university office and will be destroyed after the viva. The electronic versions of the anonymous transcripts will be kept in the Lancaster University for 5 years, and the researcher's supervisors: Dr Ian Fletcher and Professor Carol Thomas will destroy all the data.

The information given by the participants was kept in strictly confidential and anonymous manner unless it is thought that there is a risk of harm to the participants or others, in which case the researcher would need to share this information with her supervisors and report to university services if appropriate. This research is purely for academic purposes.

University email address was used to contact the potential participants. All participants for the interviews were adult students (no old people or children involved). The researcher only conducted interviews on campus during university office hours, and the researcher's supervisors were informed of the times/dates of the interviews. The researcher did not reveal her home address, or contact details (other than university email) to any participants. Hence, the risks to the researcher are believed to be minimal.

4.10 Chapter summary

This chapter has presented the research methodology, including research design, justification of mixed research methods, and recruitment of the participants, research instruments, data collection procedures and methods for qualitative and quantitative data analyses. At the end of the chapter, validity, reliability, triangulation, and the related ethical issues were discussed. The researcher has made every effort to reduce subjectivity, and enhance the validity of the study. The chapter also gives rationale of conducting interviews before questionnaires as the item pools are generated from the qualitative interviews. The next chapter will report on the main findings from personal interviews with Chinese international students and chapter six will test the hypotheses informed by the literature review in chapter three and main findings from chapter five.

CHAPTER FIVE
QUALITATIVE STUDY RESULTS

This chapter presents the findings from qualitative analyses of the data collected from 20 in-depth semi-structured interviews with Chinese international students. Seven main themes were identified regarding their health and well-being while studying in UK universities (see table 5.1), including: 1) Cultural health beliefs and well-being practice of Chinese international students; 2) Sociocultural adaptation of Chinese international students; 3) Academic stress arising from study abroad; 4) Psychological adaptation during study abroad; 5) Different views on social support; 6) Dilemmas regarding health service: TCM or WM; and 7) Health concerns of female students. In the following sections, the emerging themes are illustrated with a range of excerpts from individual interviews. Focusing on the qualitative data from semi-structured interviews, the chapter probed Chinese international students' perception of well-being and health practices in the UK.

Table 5.1 Central themes of Chinese international students' health and well-being

	Main Themes
1.	Cultural health beliefs and well-being practice of Chinese international students
2.	Sociocultural adaptation of Chinese international students
3.	Academic stress arising from study abroad
4.	Psychological adaptation during study abroad
5.	Different views on social support
6.	Dilemmas regarding health service: TCM or WM
7.	Health concerns of female students

To help understand the excerpts from the participants of the qualitative interview study, a table summarising the key background information of the participants is given

below. The background of the informants includes their pseudonym, length of time they have already stayed in the UK, their gender, age, degrees, whether they are undergraduate students, master students or doctoral students, what subjects they study as well as where they originally came from. Their host universities in the UK were differentiated by either L or M.

Table 5.2 Informants of semi - structured interviews

No	Name	Length in the UK	Sex	Age	Degree level	Degree subjects	Place of birth	Uni
1	Yu Pan	6 Ms	M	19	BA	Statistics	Xiamen	L
2	Yu Wen	1 Y	F	24	MA	Management	Xi'an	M
3	Yu Ting	5 Ys	F	30	PhD	Economics	Beijing	L
4	Chris	6 Ms	M	19	BA	Chemistry Engineering	Shenzhen	M
5	Juan	2 Ys	F	25	MSc	Electronic Engineering	Tai'an	L
6	Ming Ze	3 Ys	M	27	PhD	Computer Science	Qing'an	M
7	Yue Qing	6 Ys	F	26	MA	Economics	Changchun	M
8	Cui Ling	4 Ys	F	22	BA	Chemistry	Hong Kong	L
9	Chen Wei	4 Ys	M	29	PhD	Environment	Wuhan	M
10	Xu Meng	2 Ys	F	24	MSc	Materials Science	Tangshan	M
11	Miao Li	7 Ys	F	30	MA	Civil Engineering	Ji'nan	M
12	Wan En	3 Ys	F	21	BA	Law	Taibei	M
13	Liu Wei	1 Y	M	27	PhD	Electronic Engineering	Beijing	L
14	Xiang Fei	3 Ys	M	23	BA	Statistic	Taiyuan	L
15	Huang Fa	1 Y	M	25	MA	Management	Fuzhou	L
16	Han Jing	3 Ys	F	28	PhD	Applied Linguistics	Guangzhou	L
17	Qu Kai	2 Ys	M	25	MA	Business	Beijing	M
18	Xuan	7 Ys	M	21	BA	Medicine	Tianjin	M
19	Ling Fei	4 Ys	M	28	PhD	Cosmos Physics	Ji'nan	L
20	Li Yan	2Ys	M	27	PhD	Environment	Lanzhou	L

Note: Names are anonymized.

5.1 Cultural health beliefs and well-being practice of Chinese international students

Cultural health beliefs and well-being practice were mirrored in the personal interviews of Chinese international students. Study abroad means the change of

surrounding environment, and possibly the change of diet and weather as well. In Chinese culture, an essential approach to maintain health and well-being is to keep harmony between *Yin* and *Yang* by having a balanced diet. Certain foods, such as most of the green vegetables, fruits, green beans and duck meat are considered as "cold" food, which should be taken with "hot foods" such as red meat, black pepper and ginger to keep the balance (Chan, Cheung, Mok, Cheung, & Tong, 2006).

In the face-to-face interviews with Chinese international students, dietary management was frequently mentioned, and food selection was used to treat minor symptoms. Liu Wei, deep in the belief of dietary regulation, recalled that he boiled lotus root and Chinese yam to improve his health status. With a strong motivation to be the best in his field, he worked on the computer in the lab day and night. Consequently, his body showed some symptoms of sore eyes, dry throat, and bleeding nose. Following the advice of his parents, he used lotus root to stop nose bleeding, and ate Chinese yam to nourish his organs, especially for the benefit of lung and stomach. In his opinion, food serves as the best medicine, and there is a very vague line between food and Chinese medicine. As he stated, "food helps to maintain body balance and harmony, and unhealthy food may be the cause of all diseases".

Firmly in TCM beliefs, Yu Wen, a female student of management, chose to drink the mixture of chrysanthemum and boxthorn, known as '*juhua* plus *go qi* berry' in Chinese for improving her weak vision. Sweet, bitter and cool, chrysanthemum flowers have affinity for liver and lungs, nourishing the *yin* and *yang* balance. As sedative, the flowers are used to lower blood pressure and reduce liver problems; and '*go qi* berry' is used to reduce *yin* deficiencies, and combat against general weakness

in body and mind. Yu Wen remarked that "Drinking '*juhua* plus *goji* berry mixture' every evening, I can concentrate on my study until midnight. The result is magical: inappetence and indolence stopped giving me any trouble."

Chinese people in general appreciate the function of diet to their health, believing that diet plays a key role in maintaining well-being. Given the humid and rainy weather in the northwest of England, it is not surprising that the majority of interviewees shared their views on using diet to regulate the body in such weather. From the perspective of TCM, hot food such as red pepper and black pepper are helpful for removing humidity from the human body. Cui Ling remarked that people from the southwest of China, well-known for heavy dampness, enjoyed eating hot and spicy food more than people from the northeast and the northwest, where dry weather dominates the climate. For her, food selection was used to manipulate energy, promote health, prevent and cure disease.

Xiang Fei, a BA student considers UK food healthier and Chinese food rather tastier.

> *The food in China is very tasty, with much sauce and too much oil. It is easy to get body heat or sore throat. The food in the UK is healthy though a bit tasteless. I couldn't adapt to it at the beginning, but gradually I like it, like boiled broccoli, with a bit of soy sauce* (Xiang Fei, male, 23).

Seemingly, Ming Ze, a doctoral student agrees with Xiang. He showed his confidence in the food safety in the UK. Here is his remark:

> *In the UK, I take cereal and milk for breakfast. For lunch, I have sandwich with vegetable salad. My parents won't worry about my food being cooked by swill-cooked dirty oil any longer* (Ming Ze, male, 27).

In response to the question "what is your favourite food while studying abroad?" Han Jing from Guangzhou replied "Boiled beef soup and sweet corn-lotus-pork rib soup." She explained how soup of this sort benefited her health. "My body constitution is damp and hot. When I was in China, as soon as I took some spicy food with too much heat, some spots would appear on my face. This symptom indicates that I have too much body heat. To combat the unnecessary heat, I need some sweet-corn-lotus-pork-rib soup to help me out of the annoyance".

Wan En from Taibei, the capital city of Taiwan emphasized the importance of eating seasonal food:

> *There are lots of tropical fruits and vegetables in Taiwan, and the seasonal fruits and vegetables are much more affordable than the fruits in the UK* (Wan En, female, 21).

Wan En tried to avoid having bread in the UK, and believed that it contains too much carbohydrate. Compared with other pastries, she preferred French stick bread, which has low carbohydrate. Taiwan is famous for its brewed-meat in rice and brewed-chicken legs in rice, but Wan En only eats the chicken breast or chicken leg without any chicken skin. She maintained that for the roasted chicken, the chicken skin may produce cancer stimulating substance. Different from people from Guangdong, Wan En did not eat any "*mei gan cai*" (dried vegetables) or dried fish (kipper) to avoid damaging the kidneys.

Seemingly, not every Chinese international student was aware of the importance of food in their health and well-being. For example, Yue Qing, reflecting on her recent diet, said that she had been eating unhealthy food: instant noodles, spaghetti and pasta with little or no vegetable. In her eyes, she had a limited choice of vegetables in the

UK, with only onion, carrot, potato and tomato etc. What was worse, the high price stopped her from purchasing any green-leaf vegetables, hence leading to imbalance of nutrition. The remark from Yue Qing was rather revealing, "I often go without food. If I stay up late to catch up my lecture notes or to complete my homework, I would have some instant noodles. Because I go to bed late, I cannot wake up the next morning. Quite often, I go to university without breakfast" Seemingly, some Chinese undergraduate and postgraduate students did not show due care about their health and well-being whilst studying abroad.

Even more worrisome was cold food that caused tummy troubles. Yu Wen from the northwest of China drank cold milk and ate cold bread for breakfast when she first embarked on her overseas study. She recalled that in the early days, she suffered from diarrhoea, and had to change her diet in order to stay healthy and energetic. "To save time and money, I ate cold bread and drank cold milk for my breakfast (while in China, my mum usually cooked warm porridge and steamed dumplings for me). Unexpectedly, I became a victim of diarrhoea. I joked to my mother and said that "I found an effective way to keep slim". No one knows that she struggled to adjust her meals every day to avoid diarrhoea.

Regarding diet-health problems, several male informants reported taking more fast food, e.g. fried chicken and chips, and microwave half-cooked food; whereas female respondents preferred sweet food. Studying in the UK provided them with all different kinds of desserts, particularly English afternoon tea with cakes and biscuits. Too much high calorie food is thought to bring along problems. At the same time, many easy-

access foods in the UK are cold: sandwich, milk, fruit salad, vegetable salads, etc. At the same time, these foods were considered cold in nature after all.

Han Jing (a doctoral student) recalled the time when she first arrived in the UK in September. She put on a lot of weight, and her dress went up from size 6 to size 10.

> *When I first came to the UK, I did not realise, or maybe I just don't want to admit it, it is actually quite stressful. I don't know where to go, what to do in my spare time. I took a lot of high-calorie food. For example, the cupcake, I could easily take 6 of cupcakes at one go* (Han Jing, female, 28).

Stress seems to push some Chinese international students to take more sweet food and fast food. Interestingly, diet related health issues may become a controversial topic among Chinese international students with different geographical backgrounds. Xu Meng, (a female MSc student) from Hebei Province, China, took salad as healthy food: "I think salad is a very healthy choice for lunch. Full of fibres, with different vegetables and low calories, salad can keep me slim and energetic". Hovever, Cui Ling, a young lady from the south of China, took salad as "too cold" for the stomach and the digestive system. As she knew, cold foods such as vegetables, fruits and cold juices must be taken with hot foods such as meat, fried foods, ginger and alcohol in order to maintain harmony. When the harmony is broken, illness will occur.

In the personal interviews of Chinese international students, weather-related health beliefs are worthy of attention. The lack of sunshine was considered as affecting the mood and emotions of Chinese sojourning students. Shortly after having arrived in the UK, Miao Li (a female student) recalled that, "I've never imagined that study abroad means to experience a wet environment and long winter nights in the UK. I am not used to the short sunshine span and the long dark night. With little or no sunlight, I

felt less energetic." The lack of sunshine and long winter nights appeared to make some Chinese students feel emotionally depressed.

Cui Ling shared similar feelings,

> *Before I came to the UK, I was in Hong Kong, where most of the time, it is full of sunshine. In the UK, I often find it's wet and dark long nights. I was advised to buy a big blue lamp to light my room. I find it funny and not helpful at all* (Cui Ling, female, 22).

Aside from the normal natural phenomena such as lack of sunshine, frequent rainfall, humidity and dampness which often caused the psychological depression of international students, incidental weather change may affect the well-being of Chinese international students. Liu Wei, (a doctoral candidate) from Beijing was unable to forget his experience of a period of heavy rainfall in 2015, which forced him and other students to leave their accommodation and live on a basketball court on campus. With electricity cut off, ghost-like wind and pouring flood, Liu Wei, living in darkness, hungry and lonely, wanted to remind Chinese international students of the impact of the local weather on their health and well-being.

Adapting to continuous rainfall became another concern for Chinese international students as reflected in the remark of Yu Ting:

> *Study abroad is not as simple as many people envisioned. It may be a struggle to adapt to a new academic culture, or a struggle in an unexpected and continuous rainfall which I've never experienced before (*Yu Ting, female, 30)*.

According to Yoshino and Ryoji (2007), as early as Zhanguo Dynasty (475 B.C.–221 B.C.), ancient Chinese people showed their concern about the influence of weather on human health. Extreme weather such as heavy rainfall is perceived as "having serious

effects on human health and disease" (Yoshino & Ryoji, 2007, p.23). During the interviews, the effect of the local weather on their health became a serious concern among Chinese international students.

Wan En, (a female BA student) from the south of China found herself unaccustomed to the climate of northwest England, especially the clammy weather of late autumn. Every night, she felt her quilt was wet, like a frozen cave. From time to time, she could not fall asleep until 2 am the next morning. Sometimes, she had to get up and cook noodles to warm her up. Eventually, her irregular meals gave rise to a problem with her digestion system. In her view, study abroad brought her to a new weather condition, as well as to a new dietary habit.

Regarding the effect of local weather on their health, the perceptions or views of the interviewed informants were not consistent all the time, e.g. several informants claimed that they preferred the weather in the UK to that in China, providing the evidence that abundant moisture let them become healthier than before. Yue Qing (a MA student) from the northeast of China said:

> *Here in the UK, it is nice to see daffodil outdoor in early Feb, but I can see nothing but snow and ice in the northeast of China at that time. To make the matter worse, the severe coldness in the northeast of China gives me no opportunity to come closer to nature as my skin would be wounded while staying outdoors for more than ten minutes* (Yue Qing, female, 26).

In line with Yue Qing' view, Xiang Fei (a first-degree student) from Taiyuan, a northern city of China reported suffering from sultry weather/sauna weather (extremely hot, with a lack of air, which makes it hard to breathe) in China. He complained that "the heavy dust and smog frequently troubled people and forced them

to stay at home, because you could do almost nothing but complaining about the PM2.5 invasion far and wide". Especially in spring time, people easily suffer from coughing with such foggy and windy weather. In view of this, he asserted that the UK climate is beneficial for his physical health.

> *I find a lovely weather here. It's very humid and moistured. I used to have dental ulcer, and sore throat in China, since I came to this city, all these symptoms are gone. The campus offers me lots of fresh air to breathe in. I like the climate in the UK* (Xiang Fei, male, 23).

Essentially, the interviewed Chinese international students, regardless of their gender and academic status, showed their awareness and appreciation of the clean air of the natural environment in the UK. Geographically, Chinese international students from the north of China such as Changchun, Taiyuan appeared to be in favour of the local weather in northwest England; whereas Chinese international students from the south of China such as Guangzhou, Hong Kong, Shenzhen, were less positive about the local weather in the UK, exclaiming their emotional discomfort, depression or ailment in failing to acclimatize themselves to the wet climate in the UK. Despite different views on health problems in relation to the local climate in the UK, most of the informants considered that there is a close connection between their health and the weather conditions, i.e. the sunlight duration, volume of rainfall, and wet/cold weather were likely to cause their emotional discomfort, psychological depression and physical ailment.

5.2 Sociocultural adaptation of Chinese international students

Sociocultural adaptation involves adjusting oneself to the values and beliefs and observing the social norms of the targeted culture (Demes & Geeraert, 2014). Chinese

international students have reported experiencing interpersonal development while studying in the UK. Asked what impressed them most during their study abroad, a number of Chinese international students shared a common theme: football culture, pub culture and church culture. Chinese students have reported benefits from participating in religious or spiritual activities that support their meaning-making.

With respect to church culture, Chris (a first-degree student) remarked that:

> *Before study abroad, I have no religious beliefs. After I came to the UK, I was invited to attend church services in town. From attending the church fellowship, I was taught that the Bible is not just a book of stories, but that it contains life lessons, promises, help and advice. At first, I was listening to the people in the church reading the Bible as a training of my ear for English. Little by little, I found the stories and the interpretations interesting. I started to go to church regularly (every Sunday) and made some English friends. I have to say that the English people who go to church are nice and patient to talk to me. As a foreign student, I do appreciate their kindness. My life began to change* (Chris, male, 19).

He believed that church going was a key turning point in his life that changed him for the better, because he could put his worries and concerns aside and move positively forward with the help of the English church-goers.

Interestingly, church culture was shared by a number of interviewees who enjoyed going to church on weekends. In response to the question: what motivated you to attend church fellowship? Chen Wei (a PhD candidate) replied: "Almost every day, I struggle in the shadow of academic stress. I feel depressed and disappointed. At difficult times, God comes to comfort me, and tells me to live well." He added that "I've invested in myself with environment engineering, and want to be a real man to be respected. I've promised my family that I will bring them good life, so I must be a good testimony." Chen Wei insisted that when the route to success is full of darkness,

nobody but God expels the mist. With the guide of God, his spiritual loneliness or isolation was gone.

In a similar vein, Wan En maintained that "God stays with us, and guides us to pass safely through the most uneven road by his gracious hand." She continued:

> *My academic burdens are quite heavy, and I cannot release the burdens to my parents. When I feel overburdened and frustrated, I expect to connect myself to the fountain of power: God, who will give me strength and help me to walk through the bottom of depression or disappointment* (Wan En, female, 21).

By going to church, Cui Ling (a first-degree student) no longer felt marginalized or isolated. With religious faith, she believed that everything on earth was planned and controlled by God, and people need God to guide them to move forward. In places of darkness, God is the guiding light to let everyone see the path ahead, not afraid of the restlessness brought by helplessness or hopelessness. She said that "Today, my life is different. My emotions are under control. I am truly blessed and happy in my life."

Apart from church culture, pub culture left the students a deep impression. In China, pubs are few and far between and those who go to pubs are mainly Westerners. Instead of going to pubs, Chinese people go to restaurants, small inns or stalls on the street for food and drink. But in the UK, as the students observed, it was very common for people to go to pubs for a drink, for a laugh or for a quick meal. Chinese international students interviewed have shared some very positive experiences by engaging in interactions with culturally diverse students they meet in the pub, which has offered them a platform to meet people for informal interactions with diverse people and to have their desired intercultural communication.

To familiarise themselves with English culture, some Chinese international students went to a pub near the university, and they soon found that English students got involved in mixed company quickly. One group of female students came and another group of male students came along sitting next to the table and the two groups started to chat with each other, and pretty soon, they were mixed as old friends. But the Chinese international students still felt isolated and talked to themselves within their own group.

English students could talk for so long till even after midnight, but Chinese international students were always aware that they had to get up early next morning for lectures, so they chose to leave the pub very early. As Qu Kai (a master degree student) recalled,

> *I'd love to be involved with the English culture. I admire the English students who can make friends so easily, but I just don't know how to break the ice and what to say with them. Even though a few English friends tried to get me involved, but I could only guess what they were talking about, because I don't understand the humour in the conversation, which put me off* (Qu Kai, male, 25).

Most striking was the sports culture in the UK. It seemed that every student has one or more favourite sports, e.g. most of them were so excited talking about football, especially during the World Cup or European Premiers. Li Yan (a PhD candidate) commented that,

> *I wanted to join them to play football, but they were running quickly on the football ground that I could hardly get a chance. I grew up playing table-tennis, and my parents and grandparents all played table-tennis. But here very few English students play table-tennis, so most often I end up playing table-tennis with Chinese friends* (Li Yan, male, 27).

According to Smith & Khawaja (2011), low English proficiency is highly likely to give rise to depression of sojourning students. The data from individual interviews indicated that a lack of proficiency in English, to varying degrees, hindered Chinese international students from taking an active part in social interactions or developing their social networks in everyday life. In other words, language deficiency hampered their sociocultural adaptation.

Miao Li (a female, MSc student) reported experiencing frustration due to her inadequate English proficiency from the very beginning of studying abroad. During the interview, she revealed that prior to her study abroad she expected to become a mediator of two cultures. However, frustration arising from English communication inside the classroom upset her from time to time. She recalled that the teacher of civil engineering was ignorant of the needs of international students, which caused her to hesitate before she spoke in class. She felt inadequate to communicate or control in a multicultural context. Miao Li, described the following incident:

> *We had a course of water system engineering. Our teacher spoke English so quickly, like a machine gun. He knew we were international students, yet he persisted in speaking quickly and unclearly. I wanted to ask him to speak slowly, but I didn't want to appear dumb before the class. I wanted to play an active role in the classroom interactions, but I could not understand him. Present in body but absent in mind, I felt discouraged and dismayed* (Miao Li, female, 30).

Miao Li was left feeling intellectually inferior to her peers, though her knowledge in engineering was broad and solid.

On some occasions, the sociocultural adaptation went beyond English language in communication. For example, Han Jing, a doctorate student in Linguistics, found communicating with locals a bit challenging.

> *I joined a local drum troupe. During rehearsal break, we chatted together, when they were telling jokes, I really didn't understand them. What I can do is just to give a smile, and their jokes made me very sad* (Han Jing, female, 28).

Yu Pan (a first-degree student) added

> *When my roommates and their friends invited me for the Christmas party, I thought it could be a chance to experience the Christmas culture, and I went there. They laughed about jokes and humours, but I could only give a stone-face, as I had no idea what they were talking about, which made me look like an idiot* (Yu Pan, male, 19).

The personal interviews disclosed the fact that in the face of sociocultural adaptation, most Chinese international students exercised their personal agency to improve their English proficiency, as they came to realise that this is the key to opening the door of cutting-edge technology and intercultural communication.

In the individual interview, Xuan expressed a strong desire to have meaningful communication with native English speakers.

> *Interacting with native speakers of English is the most effective way to improve my English proficiency. When I communicated with a native speaker of English, I felt that my spoken English became better. I often seek the opportunity to communicate with native English speakers though I find it hard to do so outside the classroom* (Xuan, male, 21).

It is important to note that language deficiency hampered the academic adjustment and cultural adaptation of Chinese international students. At the same time, language barriers or low English proficiency tended to contribute to a sense of isolation or loneliness/alienation, giving birth to depression of Chinese international students.

> *Right at the beginning of the first year, I had to speak English all the time instead of my mother tongue – Chinese. When I got involved in English communication, I didn't know what the next word I was meant to say. I thought that sociocultural adaptation was a matter of struggle – struggle of getting*

used to it (Qu Kai, male, 25).

Encouragingly, most of the informants became aware of the language problem, and showed their willingness and readiness to communicate with native English speakers. Of particular interest, female students appeared to play an active role in the sociocultural adaptation and feel less stressed.

Han Jing felt much happier and healthier in the UK society:

> *I feel my attitudes towards life change, and I feel much better, more comfortable with myself. Chinese people's life is all about the social expectation. Like at certain age, you need to achieve certain things. The UK people tend to care more about their own individual life quality, their own dream and pursuit. Work is not the entire life. Some of my friends are engineers during 9 am-5 pm. At weekend, they may be a drummer, be a volunteer or be a teacher. Their lives are full of fun. I appreciate British way of life. In the UK I have become more open minded* (Han Jing, female, 28).

Yu Wen remarked that:

> *I feel good since I come to the UK. I feel an atmosphere of freedom. If I get an idea, I can have my voice heard, and exchange ideas with people around me. In China, if you don't strive to meet the social expectation, you will experience stress and pressure. In the UK, many people do really cool stuff. This makes me think that I can do things at my free will (Yuwen, female, 24).*

During the interview, Yu Wen said she was starting up a new business. It was still in the stage of preparation. She said "in the past, this seems really far beyond my reach, absolutely impossible, especially you are a girl. Here, if you have an idea, you can try." Yu Wen started to try out new things and to seek new experiences.

To recap, study abroad provides Chinese international students with opportunities to experience sociocultural adaptation in general, church culture, pub culture, sports cultures and campus culture in particular. Many Chinese international students

reported benefitting from the contact and communication with local people. They came to recognise that sociocultural adaptation is challenging, complex and rewarding, though sometimes frustrating.

5.3 Academic stress arising from study abroad

Chinese international students come to the UK with a primary purpose of intellectual and academic pursuit. Most of the Chinese international students appreciated the opportunity to study in a prestigious UK university. However, inadequate English proficiency made it difficult for Chinese international students to understand academic lectures, interact with native speakers of English, and meet academic expectations, which in return caused their loneliness and anxiety.

Inadequate English made it hard for Chinese international students to understand academic lectures. Doing research in Applied Linguistics, Han Jing planned to investigate the English writing performance of three groups with different English proficiency. When she attended the statistic lecture, Han Jing failed to understand the academic lecture about ANCOVA. She could not distinguish between ANOVA and ANCOVA, feeling puzzled for how to calculate the relative progress of the three groups and confused about the technical term 'covariate' (dealing with initial difference). She felt anxious and frustrated for a couple of weeks.

The perceived shortage of linguistic resources distressed Xu Meng. Due to limited linguistic resources to organize academic discourse, she felt academic stress. "In my English writing, I often find myself short of resources such as logical connectives. Quite often, with the exception of *'firstly', 'secondly'* and *'at last',* I was at a loss what

to follow and how to link one idea to another". She added that "Sometimes I overuse the expressions *"in my opinion"*, or *"as far as I am concerned"* etc. I guess the shortage of my linguistic resources to show a clear logic development of ideas affected the quality of my English writing".

Clearly, English deficiency tends to make Chinese international students become anxious, and anxiety led to an ill mood, thus affecting their academic performance as evidenced in the following quote.

> *I find it hard to express my ideas exactly in English presentation and group discussion. I feel myself inferior to others. This ill mood is detrimental to my academic performance. Unable to understand others fully, I often run into confusion in the classroom* (Huang Fa, male, 29).

Anxiety arising from language deficiency seems to distress not only master students but also doctoral candidates as shown in the case of Ming Ze (a PhD candidate) who had been studying for three years in the UK for his doctoral degree. He had written a research paper and submitted it to an international journal. Two months later, he received feedback from the editor, informing him that his paper had been conditionally accepted but he needed to polish his English. He was asked to edit the final version carefully, as papers with less than excellent English will not be published even if technically perfect. It was recommended that he had to submit the revision within 30 days. Due to his language deficiency, he suffered from insomnia. He blamed himself for being unable to produce perfect English. Ming Ze said that his poor English proficiency impeded him from playing an active part in intercultural communication. At the time of writing, he was troubled by self-blame, which affected his overall well-being.

From time to time, Chinese international students find it uneasy to interact with native speakers of English.

> *I felt stressful while communicating with professors and peers in the classroom. Being a non-English speaker, I felt less confident in communicating and competing with other international students. I felt anxious about giving oral presentations and participating in classroom discussions, which are widely practiced and encouraged in UK classrooms* (Qu Kai, male, 25).

In the UK, the teacher functioned as a guide, and encouraged students to discuss and discover in the learning process. Such a teaching style was perceived as unfamiliar. Xuan said that "in China, the teacher was telling students the key points and the standard answers to the central questions. Learning means to know or memorise what the teacher stated, and the teacher is regarded as authority. By contrast, in the UK, a student can interrupt the teacher and ask questions". It seemed that in China, cognition is stressed in the learning process, whereas in the UK, cognition alone is far from enough, and knowledge construction is highly valued. Teaching appears to be a dynamic intellectual game, which challenges individual efforts of the teacher and students alike.

> *Understanding the lecture is difficult. On some occasions, I couldn't follow and understand the teacher in class. Reading through the PPT prior to the class helps me a lot. Fortunately, the teacher put the PPT on the Blackboards which facilitated my self–directed learning* (Juan, female, 25).

It seems that in the UK classroom, teacher is not the centre, but knowledge construction is. Although Chinese international students appreciated the British teaching style: learning by discussing, by doing, and by extending, yet they felt like acting as a passive or slow learner, experiencing anxiety and frustration. To become an active and productive learner, Chinese international students have a long way to go.

Apart from English deficiency, requirement for publication prove to be a major academic stressor for Chinese doctoral students. On a joint doctoral training programme, Liu Wei (a PhD candidate) felt a bit stressed for publication in referred journals.

> *I need to have a publication for my project，which is the requirement from China's side; otherwise, I cannot get my doctoral degree. That is very stressful for me. To graduate successfully, I have to work hard day and night, with my breakfast ignored* (Liu Wei, male, 27).

To meet the expectation of their supervisors and keep up with the research schedule, Chinese international students reported experiencing academic stress. Li Yan is on his second year of doctoral study, but the research has progressed slowly, which proves to be a very frustrating experience for him.

> *The seeds for my experiment need to be imported from Germany, and I have to wait for another 3 months. The growing of the particular crop was extremely slow and the success rate was also low. My supervisor told me I need to wait another year for observation* (Li Yan, male, 27).

Li Yan became upset in that he could not complete his research as scheduled. He got insomnia and developed a habit of taking a walk at midnight. He was afraid that he might develop psychological problems.

As noted in the above narratives, Chinese international students shared similar views about their academic stress arising from study abroad: Inadequate English proficiency may prevent them from fully understanding academic lectures, interacting with native speakers of English, or meeting academic expectations, ultimately affecting their study abroad experiences.

5.4 Psychological adaptation during study abroad

Study abroad is understood to be a drift away from close family members and friends, and hopefully the best way to make life meaningful (Qiang, 2015). Yet learning and living overseas may give rise to the problem of psychological adaptation among Chinese international students (Wei, Liao, et al., 2012). In personal interviews, more than half of the informants reported experiencing stress associated with adjusting to the new learning environment, and communicating in non-native language English.

Strongly motivated, a number of Chinese international students reported feeling very excited about their study abroad in the first three months. After that, more than half of them found it difficult to adjust to British culture. Yue Qing, a young lady specialized in economics revealed that

> *For me, it was the first time for me to leave my country. I have never lived in an English speaking culture before. Learning in UK, I've experienced different emotional states. At the beginning, I felt amazed with the new culture, and the local people. But two months later, I felt shocked by the cultural difference: meeting my peers only at class time. As a result, I could not receive the proper amount of loving affirmation, through communication, patient listening, or emotional support (Yue Qing, Female, 26).*

She reflected that the shortage of a basic emotion support led to erratic and irrational behaviour in her daily life. For example, Yue Qing no longer considered herself to be a calm and gentle girl. Every morning, she acted as a 'fighting tiger'... swallowing her breakfast quickly, and walking in a hurry to her lab. In the evening, she behaved like an 'owl', studying and staying up until 3 am. Exhausted in body and mind, she felt that she was tortured by loneliness and isolation whilst studying abroad.

Frustrated in academic performance, Yu Pan, a BA student, has lost lots of hair in his first three month abroad. Reflecting on this phenomenon, Yu Pan made a particular note:

> *Many Chinese international students complained about losing hair, and attributed to the local drinking water. But I guess psychological stress is the root cause of my hair losing* (Yu Pan, male, 19).

Struggling for her academic achievement, Xu Meng expressed her strong desire for being valued and cared for. She recalled that before her departure from China, she was taught to develop a global mind-set by seizing vibrant opportunities to communicate with native speakers of English and gained a high profile of international experience in UK higher education. When attending the freshman orientation session, she found no British students in her class. She felt that her dream to improve her English ended, and even worse, no one cared about her feelings. The following remark mirrored her disappointment:

> *I am happy to enrich my world knowledge as well as word knowledge in UK higher education, but I could not experience intercultural exposure as I could not communicate with a native English speaker in my class (Xu Meng, female, 24).*

Moreover, failure to participate in meaningful classroom communication thrust some Chinese international students to anguish. Chen Wei experienced emotional discomfort when trying to communicate ideas in a multicultural context. He enjoyed learning with all international students in his class as they formed a discourse community of new scientists across cultures. However, when doing presentations or attending seminars, he found himself unable to understand the questions and answers from others. His awkward English prevented him from articulating his thoughts fully.

He felt embarrassed that he had spent more than ten years learning English, but could not have his voice heard for academic purposes. He said that

> *I have my youth capitalised in my study abroad, and if I could not take part in a real life English conversation, I am playing a losing game. The reality is that I sat at the back of the classroom and uttered a weak voice like a cat. What a shame* (Chen Wei, male, 29).

Similarly, Wan En was dismal due to her incapability to communicate in English. In the classroom, discussion was often used to open the door to many answers. Different voices, especially the English speakers with strong accents, made her feel stupid. Unable to understand others, she had no better choice but to bury her head in note-taking. Reticent, Wan En was annoyed that she exercised a strong self-control in the classroom, and thought that she was probably autistic. In order to maintain harmony and not trouble others, Wan En endured her distress, resulting in her alienation and psychological discomfort.

When asked about his progress and problems in his academic pursuit, Qu Kai sighed with tiredness and hopelessness. On the one hand, he was proud that he had finished two five-thousand word assignments; on the other hand, the comments and feedback from his teachers upset him: too much 'knowledge telling' instead of 'knowledge transforming', and lack of critical thinking. Qu Kai complained that:

> *In the classroom, no one tells me how to demonstrate knowledge transforming; but the assignments require me to show I have talent and can do anything without being taught* (Qu Kai, male, 25).

Thinking of another two 3500 word assignments, Qu Kai felt that his tolerance was put to the test, and he was experiencing demoralisation.

Personal interviews suggested from time to time the academic demands in UK universities made Chinese international students feel too busy to take care of their physical health and emotional well-being. Yu Pan (a first year BA student) stated that:

> *As a student, I usually have a lot of work to do. It is quite stressful. It is common to have class from 11am to 3 pm, and then 4pm to 7pm. During the break, the time is just enough for you to have a piece of bread. Coping with all that in English, basically I have no time for gym or sports, not to mention the time to relax* (Yu Pan, male, 19).

Leaving the home culture and studying in an unfamiliar environment, many Chinese international students came to the UK for their intellectual pursuits before they had not learnt how to take care of themselves. More than ten informants reported suffering from sleep disorders, indigestion, headaches, dizziness, countless muscle and skeleton pains. High expectation for academic achievements, inadequacy in English, management of financial problems deprived Chinese international students of the opportunity to live a normal and peaceful life. Staying up late tends to lead Chinese international students to sleep problems. Most of the Chinese international students revealed that it was very difficult to fall asleep before 12pm.

In the face of adversity, some informants displayed their self-efficacy beliefs. 'Self-efficacy' (Bandura, 1994, p.122) refers to 'beliefs in one's ability to accomplish a task' (Graham, 2006, p.294). Self-efficacy involves a self-appraisal of one's ability to complete a task and one's confidence in one's skills to perform that task. It is valued because social realities are full of impediments, adversities and setbacks. People need to "have a robust sense of personal efficacy to sustain the perseverant effort needed to

succeed" (Bandura, 1994, p.76). During the interviews, some informants showed their self-efficacy, as evidenced in the following excerpt:

> *I've successfully passed IELTS. So, I think my English is good. Now I can use English to acquire new knowledge and do a better job in my research work* (Liu Wei, male, 27).

Self-efficacy theory (Bandura, 1994) shows that people with a robust sense of self-efficacy treat difficult tasks as challenges (to be mastered) rather than as threats (to be avoided). Such high assurance in human capabilities enables people to set challenging goals and maintain strong commitment to whatever they are doing.

Taken as a whole, Chinese international students showed their willingness to be immerged in the host culture, yet they encountered different psychological problems and emotional challenges in their academic pursuits, ranging from adjusting to a new academic culture, meeting the rigorous academic demands, to communicating in a non-native language. Without psychological adaptation, Chinese international students tend to feel worrisome about the prospect of study in the UK. Although emotional issues of Chinese international students were not fully articulated, their health and well-being issues warrant an in-depth study, as a growing number of educational programmes are due to be implemented in the Golden Era for British-Sino economic and educational cooperation.

5.5 Different views on social support

Although study abroad is highly valued, the loss of immediate social networks at home could sometimes lead to depression, negative emotional well-being and the challenge to rebuild or re-establish social networks. As such, re-creating social

networks was particularly important for international students. Chinese international students, to varying degrees, sought social support from their families, friends or co-nationals when running into trouble in their academic pursuits, though the majority of them perceived their study abroad in a positive light.

Almost every informant in the individual interview admitted that they tend to resort to family support whilst studying abroad. As Xuan stated, "everyone needs support of some sort. It can be as simple as eyeglasses to correct your poor vision." In the case of occasional medical problems such as bitter taste in the mouth or insomnia, "I often contact my mother first to exchange ideas with her. Without my family support, I would get lost and waste a lot of time". In view of this, Xuan believed that study abroad does not mean one has to break with the social support from his or her home culture.

Due to the high academic expectation of the families, Chinese international students were subject to incredible psychological pressure. Xiang Fei and Ling Fei recalled that they worked hard to glorify their families, yet their hardworking was not appreciated by their parents, who always demanded them to do better with more smart work. The high expectation of their families, coupled with the lack of social support, threatened the strong ethic of Xiang Fei and Ling Fei.

Ling Fei said that

> *Getting up early and staying up late was my normal routine now. Failure to meet the expectation of my parents upset me so much that I could not have a normal life but to concentrate on my study with nothing else* (Ling Fei, male, 28).

At the difficult time, Xiang Fei and Ling Fei expected some kind of support, but no one knew what they needed. As such, the sense of helplessness and loneliness tended to shatter their emotional well-being due to the lack of social support.

The interview data revealed that many informants longed for family support at their difficult times though they claimed that they treated adversity as an opportunity for personal growth, Xu Meng saw difficulties as inevitable in her study abroad. She admitted that social support was of paramount importance in her life. Without social support, she felt the worst things were likely to happen. She is on a "2+2" cooperation programme (see Note 3), which means she has known her course mates for two years before going to the UK together. She explained that:

> *Leaving my family and learning in a new culture means to experience a huge challenge. When I encounter difficult problems e.g. failing to make myself understood in English or finding it hard to adjust to the unfamiliar culture, I would contact my family or friends for advice, which could produce considerable calming effect on my mood. If not, I would run into emotional disorder like anxiety or depression* (Xu Meng, female, 24).

On some occasions, the self-esteem and self-worth of Chinese international students may hinder them from seeking help from their families. For example, Cui Ling (a first-degree student) dislikes telling her family the problems arising from her coursework. She admitted that disclosing her failure to solve problems meant a great loss of face. "I will not forgive myself for spending a huge amount of money (my whole family's savings for years) to achieve nothing for study abroad." Among Chinese international students, fear of losing face seemed to impede them from communicating with their families, thus making their emotional well-being from bad to worse.

It is intriguing to note that due to the fear of losing face before their family members in China, some Chinese international students preferred to seek the support from their friends in the UK. Li Yan (a PhD candidate) explained that "Prior to my departure from China, I was overconfident to achieve success in study abroad as I enjoyed a moderate success at high school. Now I could not work to my advantage, and have a losing battle in my term paper writing. What a shame". When feeling stressful, Li Yan turned to his friends for advice and attempted to alleviate his emotional discomfort. To resolve the problem of establishing a mathematic model, he contacted his friends in the department and exchanged ideas with them, thus his stress was reduced.

It should be noted that, for some sojourning students, their reluctance to tell their families about the 'losing battle' may make their emotional well-being worse one way or another. For instance, Chen Wei (a PhD candidate student in his fourth year) said that "my family is proud of me as I'm nearly accomplishing my doctoral study in the UK. However, they know little about my worries as my supervisors were not happy with my progress in that I could hardly meet the deadline of writing a paper on *wastewater treatments to remove the pharmaceuticals and personal care products (PPCPs) efficiently*". Anxiety, despair and shame, constituted a crippling confusion, and Chen Wei could not control his inner worries. In the struggle between chaos and order, he doubled his efforts to search for solutions, but achieved little progress. His life was shadowed with dissatisfaction, coupled with apathy and fear of loss.

Most striking is that nearly half of the informants believed they were living in an isolated society. Two in three would like to live closer to their families, though study

abroad forced them to live further apart. As a result, homesickness arose as evidenced in the following quote:

> *I came to the UK for my doctoral study with my salary suspended in China, and expected to speed up the process of my PhD, accomplishing my thesis writing ahead of schedule. Yet I could not see my supervisor regularly as he told me that he was so busy to give me a tutorial. In this case, I prefer to stay at home* (Ling Fei, male, 28).

Self-evident, Ling Fei was dismayed in that lacking a tutorial was more damaging than it sounded. It meant fewer opportunities to broaden his vision and an increase in the uncertainties of his study. In the eyes of Ling Fei, the supervisor was his "social capital" in the scientific community. He believed that self-directed learning was important for a doctoral student, yet regular tutorials were necessary as some strengths were revealed only when combined with those of other people. The joint efforts of the supervisor and the doctoral student may work wonders: accomplishing a goal that would otherwise be impossible for either person. Doubtless, the insufficient tutorial disappointed Ling Fei, leading to his anxiety, despair and homesickness.

In the semi-structured interviews, the informants tended to share a common belief that they studied in a 'technology-rich but human contact poor' learning environment. To lessen their isolation and loneliness, they were fond of using mobile phones, Facetime, emails, and Facebook to keep in touch with their families and friends. Sometimes, to develop their social networks and friendships, they contacted others via new mobile app *Wechat*. The personal interviews showed that the majority of informants valued *Wechat* highly. Wireless telecommunication was used to combat loneliness and isolation for Chinese international students during their study abroad.

Different from others, Fa (a Master student) enjoyed communicating with native English speakers via e-mail. Fa had an American teacher, who is now working in the University of M. Fa wrote a personal statement for doctoral study. To write a good quality personal statement, he sent a first draft to the American teacher (K) for corrections as he recognized that an applicant has to convince the admission committee that he is suitable for this post. Through emails, K advised Fa to revise sentences that were vague in meaning, remove odd expressions, and add some specifics. Having communicated with a native speaker of English, Fa learned to express himself in some proper English and created the opportunity to gain some social support from a native speaker of English.

Several informants considered virtual English communication far from enough to resolve their problems of loneliness and isolation, and they showed their interest in real life English communication. Although they showed their readiness and willingness to communicate with native English speakers, they soon found that their low English proficiency appeared to hinder them from doing so. Yu Wen said that she wanted to develop a good relationship with her tutor, yet she could not fully understand her tutor in English.

> *To participate in academic exchange in English, I need face-to-face English communication. But people seemed to take me as a piece of "wood furniture" which does not think. This feeling frustrated me and made me very sad* (Yu Wen, female, 24).

It seems almost certain that Chinese international students suffered from the lack of social support whilst studying abroad. The shortage of social support from home culture or the host culture was considered to cause a decline of emotional well-being and health problems such as anxiety, depression, and somatic symptoms. It was a

153

paradox: on the one hand, a lack of social support tended to give rise to homesickness, isolation, loneliness, or alienation, decreasing the work efficiency of Chinese international students and thwarting their efforts to hone the strengths necessary to break into a field; on the other hand, strong family bond ties may weaken Chinese international students' efforts to become a new member of the targeted community. In other words, Chinese international students ran a risk of developing their own social support system at the cost of the development of an independent mind and personality.

5.6 Dilemma regarding health service: TCM or WM

The qualitative data from the interviews explored the reasons for the use and underuse of health services, and the answers cover a broad spectrum ranging from the underuse of WM to the increasing use of TCM. For urgent medical attention, Chinese international students reported they would go directly to hospital or A&E. When a minor problem arose, they would rely on the medicine they brought from China and consult their parents or friends for advice before consulting a GP.

The NHS is taken as the best option for the health and well-being of international students because the NHS aims to "provide a freely accessible and equitable service for a multicultural and multilingual population" and "an equal service available to all" (Darzi, 2008, p.16). However, Chinese patients were found to be under-represented in recent research (Ngo-Metzger, Massagli, Clarridge, Manocchia, Davis, Jezzoni, & Phillips, 2003). It is likely that different cultural beliefs between Chinese and Western healthcare and professionals may result in health problems being unrecognised or not dealt with in a satisfactory way. Given the language difficulties, the poor access to the NHS was found to be due to potentially conceptual differences in health and

154

expectation gaps. The personal interviews showed that Chinese international students tend to keep GP consultations to a minimum, and they had the least access to healthcare service among all other ethic international students (University of Nottingham, 2011). Reluctance to seek treatment for illness may threaten the health of individuals, groups and society as a whole. As Li (Li, Marbley, Bradley, & Lan, 2016), pointed out, "Treatment delay and avoidance can affect the outcome of illness" (p.66). The face-to-face interviews disclosed the true reasons for the underuse of health services, and covered a broad spectrum from the underuse of WM to the increasing use of TCM.

For the majority of Chinese international students, the NHS is convenient and available, but rather inadequate. In students' words "the service of her GP is far from good". Miao Li recalled that while doing her Master's degree, toothache troubled her for more than a month. Miao Li made an appointment with her GP in the spring term, yet the appointment was arranged in the autumn. She sought medical service from the local TCM for solution. Though expensive, TCM resolved her teeth problem promptly.

Sometimes, a cold welcome deterred Chinese international students from utilizing the NHS service. For nearly half a year, Ming Ze was annoyed by an aching thumb, to be specific, peritendinitis or tenosynovitis. Ming Ze waited for the medical service from the GP for over two hours, but his GP saw him for about two minutes, saying something like "Don't worry, you'll survive". His GP gave him the impression that due to a lack of knowledge or expertise, he could not provide an effective solution to the ailment. What the GP did was to leave the patient suffering from aching, both physically and psychologically. Ming Ze had no choice but TCM therapy, which used

infrared lamp heat treatment and acupuncture, helping him to obtain relief from the thumb aching.

Quite often, the lack of common language or language barriers impeded Chinese international students from accessing the NHS. For instance, Yu Wen was annoyed by her eye problem (stye/hordeolum) and she went to see her GP. Due to her inadequate English, she could not make herself understood. Her GP suggested that a biomedical therapy, say a small operation, may solve her eye problem. Yu Wen was frightened at the idea of an operation because, to her, operation means to cut her eyes with a knife, and any slight mistake can make her blind for the rest of her life. She declined the medical treatment immediately without any hesitation. She consulted her Chinese friends, who told her to take care of her hygiene such as washing her eyes after looking at the electronic screens for a while, looking far from time to time, and giving eyes a rest. More or less sceptical, she tried to look after her eyes herself. In the case of Yu Wen, her reluctance to accept her GP does not suggest that she distrusted WM treatment but rather that the awkward English communication hampered her medical treatment from the GP.

There was considerable evidence to show that some Chinese international students adopted a double channel approach to their medical treatment, using both WM and TCM resources. During the interview, Wan En reported suffering from irregular periods. She consulted her GP first, and her GP welcomed her nicely, but the treatment was perceived as nothing but pain-killer tablets. Then, following the advice of her friends, she sought an alternative solution from TCM, and the TCM practitioners suggested treating her *Qi* deficiency and blood circulation, with food

therapy of *huang qi* plus *dang gui* soup, beneficial to the blood nourishment and function enhancement of immune system. She did as the doctor suggested and recovered in a couple of months. Reflecting on the double channel treatment, Wan En said that "WM sounds more scientific-based, and TCM proves to be more practical and effective". In her eyes, the two medical treatments were different but complementary.

Seemingly, the use of two medical treatments was closely related to the lack of shared concepts concerning the causes and manifestations of health and illness. According to Hallenberg and Muzzin (Hallenberg & Muzzin 2010), the Western bio-medicine tends to "focus upon anatomic parts as separate entities". In contrast, Chinese treatment is holistic, and "every part of the body is integrated and connected" (Green et al., 2006, p.1506).

Occasionally, some Chinese international students showed their doubts about the effectiveness of WM treatment，especially in relation to some ailment such as muscle aching, dental ulcer or bitter taste in the mouth. For example, Chen Wei was subject to severe muscle aching as he was working in his lab. Unable to relieve himself from physical pains, he went to see his GP. As might be expected, a painkiller was the medical solution he got. Unsatisfied with the solution, he tried TCM, specifically *massage* and *Taiji,* which were used to strengthen his blood circulation, and enhance his body flexibility. As a result, Chen Wei felt better and more energetic, though not completely recovered. From his standpoint, the Western biomedical treatment was a possible solution to acute and severe disease such as appendicitis and heart disease but

less powerful therapy for minor symptoms such as muscle aching, teeth aching, dry throat with red tongue and yellow coating.

The lack of confidence in the NHS was strengthened by the painful experiences of several Chinese international students, who felt that some local GPs appeared to lack sufficient specialised knowledge, and be incapable of making the right diagnosis and giving an effective medical treatment as in the case of Huang Fa (a Masters student):

> *One day when I was running to catch a bus, I suddenly felt severe pain in my calf, and I struggled to see the local GP. The GP seemed to know nothing about it and told me to do more exercises for recovery. I did as he advised, and my calf pain became more severe than before. When the pain developed into an unbearable stage, I went to A&E for treatments. There, I was told to stay in bed doing nothing. Totally relaxed in bed for a couple of days, I was all right again and fully recovered. Thinking back, my GP pointed to me the complete opposite direction* (Huang Fa, male, 25).

Disappointed and frustrated with the experience of visiting a GP, Huang Fa felt that his GP knew little about what he was doing. Some of the Chinese international students felt that even the GP's attitudes were not that friendly towards them. "Oh, you've caught cold, have some lemsip", or "Oh, you've got a cough. OK, this is cough medicine". These were the words they heard from their GPs, which proved to be less helpful.

The shortage of confidence in their GPs was evidenced in Li Yan's comments:

> *I don't trust the staff here. Most of them are just BA graduates. Also they have far less opportunities to practice on patients. How can they help you in medical service? For Chinese doctors, they can carry out 6 operations continuously on a single a day. I don't think the GPs here can do better* (Li Yan, male, 27).

158

When students talked about their reluctance to use the NHS, they worry about low proficiency, long waiting, and ill treatment of by GPs.

To cope with the GP's unwillingness for examinations, Chinese students felt that they needed to describe their condition as being very serious, as if they are dying; Ming Ze suggested that "You must tell your GP that you are dying, otherwise he gives you little or no attention."

> *GPs are very nice, but not helpful at all. If you want a full body check, you definitely need to go back to China* (Han Jing, female, 28).

Many of Chinese international students felt that the GP's attitudes towards them were not that friendly, and that GPs did not show a genuine interest in asking about their illness or listening to their concerns. Most students alleged that GPs just wanted to get their job done as quickly as possible without considering the needs and wants of the international students.

As becomes obvious, the sojourning Chinese international students were faced with the dilemma in their medical treatment, uncertain about the use of WM or TCM. The main reasons for the poor access to the NHS were identified as follows: 1) the cold welcome of the GP towards Chinese international students; 2) poor communication between the Chinese international students and the local GP in the medical treatment; 3) different or culture-specific health beliefs; 4) the double channel approach to medical treatment, using both WM and TCM resources simultaneously, and 5) lack of confidence in the GP services. All the reasons aforementioned might, if not completely, but partially account for the low access of Chinese international students to the NHS in the UK.

5.7 Health concern of female students

While studying abroad in the UK, female Chinese international students seemed to be more sensitive to their healthcare than their male counterparts. In the individual interviews, several female informants shared a common belief that the local humidity annoyed them as it led them to suffer from ankle aching or knee pains, as shown in the following quote, "The humidity here erodes my health, giving rise to my ankle aching." Xu Meng loved doing her nano-material research at the university, and sometimes she did her experiment in the lab until 3 am, babysitting her precious nano-particle coating experiment. For her, hours did not matter; it was the experiment results that counted. When having a meaningful challenge, personal time meant very little to her. She was so occupied with her research that she was oblivious of heavy humidity, hurting her ankle. The aching ankle deprived her of good sleep day and night, and became her growing concern. At the moment of the current study, she was anxious to seek medical treatment which might help her.

Different from Xu Meng, Yue Qing (a female MA student) revealed in the individual interview that she has been tortured by her neck and shoulder pains. Conducting her research on micro-economy in the UK for her master degree, she felt pressure because she made slow progress in her literature review. In fact, she embarked on writing her literature review a year ago, it was revised, refined and modified at least 7 times, but her supervisor still urged her to do careful and critical analysis on what has been done to date. She was absorbed in her literature review so much that she sat in front of the computer day and night. As might be expected, she was stressed:

> *What am I doing here? I have no time to cook a proper meal, no time to sleep, and no time to relax. The time is passing by, but I am not getting anywhere, I*

> *feel depressed, unproductive and sad. I could not concentrate on my writing any more* (Yue Qing, female, 26).

At the critical moment, her neck and shoulder pains bothered her, hinting a message that she was incapable of doing anything. She got worried that she could not succeed in her career. Her physical pains plus her sense of achieving nothing during her study abroad appeared to make her frustrated and depressed.

'Frustrated' is a special word for a number of female informants who cherished a Chinese dream to obtain their master degree in the UK higher education. A good case in point is Juan. Although she came to study in the UK for two years now, she admitted that it was hard to accomplish the assignments as expected. The failure to meet the academic standards frustrated her so much that

> *I don't know what to do. I suffered from migraine. I had no appetite…I was haunted by nightmares* (Juan, female, 25).

Study abroad did not enhance her sense of health and well-being. Contrary to her expectation, her health status was getting worse with the greater ambition for academic success than she could handle.

The health concern of female Chinese international students may be mirrored in their frequent visit to TCM clinics. Han Jing was troubled by irregular periods. For three months, she suffered from severe abdomen pain during the menstruation. She visited a TCM clinic, and the TCM practitioner told her that her liver failed to smooth and disperse, and her blood flow became heavy. In Chinese medicine, irregular periods, especially the pain during period, may result from *Qi* deficiency or blood blockage. Possibly, the academic stress and English deficiency led to stagnation in her liver

meridian. Viewed in this way, the TCM practitioner resolved her problem by soothing the liver, cleaning away the heat, and cooling blood to regulate menstruation. A month later, she recovered, and her life came back to normal.

It is worth noting that while studying abroad some female Chinese international students were found to become victims of insomnia as their emotional well-being was disturbed one way or another. For example, Juan met an Indian student. She found herself falling into love with him after a couple of dates. She told the secret to her mother, who advised Juan to give up, as the Indian boyfriend was considered as not so reliable as Chinese boys. Deeply in love, Juan disagreed with her mother, showing her rebellious spirit. But her mother was persistent to persuade her to do as she said. Even worse, her mother's sister in China contacted Juan via *Wechat* and asked Juan to date with a Chinese boy in her company. As such, Juan regarded it as an "arranged date" which she could not accept. Now she could hardly concentrate on anything other than her inner conflicts. The unexpected love was so disturbing with family interference that Juan could not fall asleep at night, having a question in her mind whether to seize the love of the Indian boy or go as the family arranged.

Compared with Juan, Yu Ting experienced even more severe torture. She pursued her PhD study, and she was expected to graduate in four years' time. She found herself pregnant and expected to give birth when she was 30 (already late in her parents' opinion). Unfortunately, late in November, she had a miscarriage. Although her husband tried to comfort her by telling her to forget about it, she could not forgive herself as she blamed to be too old to have a baby. Her fear of miscarriage thrust her into a whirl of uneasiness, and her study lagged behind. Failure to make progress as

expected in her doctoral study seemed to worsen her emotional well-being. As reflected in the interview,

> *I feel I'm unproductive both academically and in life which made me unhappy. Given me another opportunity to choose, I would have a babe first, and then do my doctoral degree. How regrettable I am* (Yu Ting, female, 30).

Her miscarriage affected her emotional well-being whilst doing her doctoral study. Simply put, the personal interviews revealed that when exposed to a new academic culture, female Chinese international students tend to experience and express more in terms of their health and well-being than their male counterparts. The physical pains, psychological uncertainty and everyday struggle, coupled with the unexpected love, fear, and other emotions seemed to drive them to struggle hard (like fighting tiger or a lion). With their disappointment, confusion, and frustration, they experienced growth as "a wo-man hero" at the cost of their health and emotional well-being.

With regard to emotional well-being, Chinese international students, especially female students, seem to benefit from studying in the UK. Some female Chinese international students felt that they became 'free birds', instead of 'caged birds'. They felt less stressed, and increased their sense of well-being. For example, Miao Li was in her postgraduate study, and at the time of interview, she was approaching her 30th birthday. This seems to be a sensitive age for Chinese female students. Her family expected her to get married or have a stable relationship with a boyfriend at this stage. She felt that learning in the UK, away from family, is a big relief.

> *I feel good. No one pushes me to get married. I feel like a 'free bird', doing what I like to do, and working with people I admire most* (Miao Li, female, 30).

163

When in Rome do as the Romans do. Some Chinese international students wanted to keep shape during their study abroad. Xu Meng tried to lose weight:

I was on diet, and lost 20 kg in one semester. The cost is that I suffered from cold hands and feet, particularly muscular and skeletal pains (Xu Meng, female, 24).

In this case, either WM or TCM may provide medical solutions. But Xu Meng preferred TCM therapy as her past experience has convinced her that TCM is more suitable for treating such type of ailment arising from *Qi* deficiency or the stagnation of blood circulation.

In brief, female Chinese international students tend to have more health concerns than their male counterparts. Some of them appear to be sensitive to the local humidity, which proves to be detrimental to their physical health; others seemed to be affected by gynaecology related problems such as irregular period, and still others were bothered by emotion crisis. To cure their ailments, they tend to seek medical therapy from TCM.

5.8 Chapter summary

This chapter has given a fresh insight into Chinese international students' health and well-being, including 1) cultural health beliefs and well-being practice; 2) sociocultural adaptation say church going; 3) academic stress arising from study abroad; 4) psychological adaptation during study abroad; 5) different views on social support; 6) dilemmas regarding health service: TCM or WM; and 7) health concerns of female students.

Moreover, possible reasons for Chinese students' underuse of NHS health services and increasing use of TCM were explored: 1) the cold welcome of the GP towards Chinese international students; 2) poor communication between the Chinese international students and the local GPs; 3) different or culture-specific health beliefs; 4) pragmatic approach to medical treatment, using both WM and TCM resources simultaneously; and 5) lack of confidence in the GP services for certain symptoms.

Studying in a culturally distant country alone can be quite challenging. The opportunity of coming into contact with local people is hard. Certain situations and scenarios can be hideously awkward and embarrassing for the Chinese international students, especially when they have unrealistically high academic expectation from families. They need social support both from friends in the UK and family members in China. However, they reported low awareness of utilising the health and counselling services available on campus. More details of discussion on these issues will be presented in chapter seven, with comparison of quantitative findings from chapter six.

CHAPTER SIX
QUANTITATIVE STUDY RESULTS

The exploration of the factors affecting Chinese international students' health and well-being was both qualitative and quantitative. This chapter covers quantitative dada analysis and the related major findings. To develop a clear picture, quantitative analyses were organized around the research questions raised and hypotheses formulated (see section 6.1). The quantitative data analyses proceed from an explanation of the underlying assumptions on how to test them. At the end of the chapter, the results of statistical tests are summarised.

6.1 Hypothesis regarding well-being and adaptation of Chinese international students

In the light of the literature review (see chapter 3) and qualitative data analysis (see chapter 5), a range of hypotheses and sub-research questions were raised. Within the literature on intercultural adaptation, psychological and sociocultural adjustments have typically been viewed as distinct but related concepts, as in the Ward's theory (Searle & Ward, 1990; Ward & Kennedy, 1996). Several factors have been found to be predictors of sociocultural adaptation and psychological adaptation. However, the findings have been mixed. For example, age, gender, and length of stay in the host culture and English proficiency have been found to effect the rates of depression among international students (Dao, Lee, & Chang, 2007) and their sociocultural adaptation (Ataca & Berry, 2002; Lee & Ciftci, 2014). However, this finding did not apply to Chinese international students in the UK (Swami, 2009). It has been found that international students in the US reported a decline in physical health status after studying abroad in the US (Msengi, Msengi, Harris, & Hopson, 2011). The

differences between the genders in health experiences were reported from the study on international students' stressors in the US (Misra, Crist, & Burant, 2003). Female students reported better mental health than their male counterparts from Hong Kong (Wong, Lam, Yan, & Hung, 2004), and female students reported better social support (Ye, 2006 a, b). Regarding English proficiency, a significant effect of English proficiency on acculturation has been widely reported (Jia, Gottardo, Chen, Koh, & Pasquarella, 2016; Kwon, 2009). The effects of language proficiency on their choice of health service and access to healthcare services have also been explored (Hsiao et al., 2006; Lee, Goldstein, Brown, & Ballard-Barbash, 2010), but the effect of English proficiency on their well-being has not been investigated. Thus, how demographic factors such as age, gender, length of stay in the host country affect international students are raised as sub-research questions in the current research.

More importantly, academic stress has been suggested to affect international students' sociocultural adaptation (Wang & Hannes, 2013) and well-being (Mori, 2000), although a growing number of studies suggest that international students are coping well to maintain psychological well-being in spite of the considerable challenges and emotional turbulence (Lau, 2006; Lee & Chen, 2005; Rosenthal, Russell, & Thomson, 2008). Females reported higher academic stress than their male counterparts (Wester, Vogel, Pressly, & Heesacker, 2002). This contradicts a study on Chinese international students' acculturation and resilience experience that reported that male students had significantly higher academic stress than their female counterparts (Pan, 2008).

The buffering effect of social support has been identified in the resilience framework for successful sociocultural and psychological adaptation (Pan, Wong, Joubert, &

Chan, 2008; Smith & Khawaja, 2011; Takizawa, Kondo, Sakihara, Ariizumi, Watanable, & Oyama, 2006; Zhang, 2012). Basically, these studies are suggesting social support acted as a moderator on the association between adaptation stressors and acculturation outcomes.

The relationship between psychological adaptation and sociocultural adaptation has been investigated by a number of researchers (Brisset, Safdar, Lewis, & Sabatier, 2010; Cameron, 2016; Lefringhausen & Marshall, 2016), though consistency has not been reached. Studies stated that culture maintenance would be positively associated with psychological adaptation instead of sociocultural adaptation (Cameron, 2016; Lefringhausen & Marshall, 2016). Whether acculturation improves or dampens international students' health and well-being remain a paradox (Rudmin, 2009, p.107). Roysircar and Maestas (2002) in their review on acculturation and cultural variables stated that "both high and low acculturation can have either positive or negative mental health effects" (Roysircar & Maestas; 2002, p.62). Wu and Mak (2012) found that sociocultural adaptation has a mediating effect on the association between psychological adaptation and individual's stress level in the acculturation process with a longitudinal study. The moderating effect of social support has been identified in the association between acculturative stress and depression in Chinese international students only when students experienced a high level of acculturative stress (Zhang, 2012, p.60).

Given that some variables' effect on well-being is contradictory in the literature and that the direction of correlation among these variables is not conclusive, some sub-research questions were raised for exploratory test in this research, as follows:

Quantitative RQ1: how are demographic factors associated with well-being for Chinese international students in the UK (age, gender, self-rated health status and length of stay in the UK)?

- **H1** Academic stress is a significant negative predictor of well-being;
- **H2** Psychological adaptation is a significant positive predictor of well-being;
- **H3** Social support is a significant positive predictor of well-being;
- **H4** Sociocultural adaptation is a significant positive predictor of well-being;
- **H5** Cultural health belief is a significant positive predictor of well-being;
- **H6** Language proficiency is a significant positive predictor of well-being;
- **H7** Sociocultural adaptation is a significant positive predictor of psychological adaptation;
- **H8** Social support is a significant positive predictor of Chinese international students' sociocultural adaptation.
  Quantitative RQ2: Does sociocultural adaptation mediate the association between age and well-being?
- **H9:** Sociocultural adaptation mediates the association between health status and well-being.
- **H10:** Social support mediates the association between sociocultural adaptation and well-being.
- **H11:** Sociocultural adaptation mediates the association between psychological adaptation and well-being.
- **H12:** Sociocultural adaptation and psychological adaptation mediates the association between health status and well-being.
- **H13:** Social support moderates the relationship between academic stress and well-being.

6.2 Data analysis

All data are reported to two significant numbers. In the present study, *p* value was set at .05 when running a regression test, or correlation test, unless otherwise specified. All of the asterisks in the tables indicated the significant level, *** indicates $p < .001$, ** indicates $p = < .01$, * indicates $p = < .05$.

To answer the research questions "how are demographic factors associated with well-being for Chinese international students in the UK?" the following tests were performed: in terms of gender difference, an independent sample t-test was conducted.

With regard to the predicating effect of demographic variables, such as age, self-rated health status and length of stay in the UK on well-being, a multiple linear regression was conducted. To examine the associations, correlation tests of the dependent and independent variables were conducted concerning the relationship between well-being and sociocultural adaptation, psychological adaptation, academic stress, cultural health beliefs, English proficiency and social support. Regarding psychological adaptation, social support, sociocultural adaptation, cultural health beliefs, English proficiency and their predictive effect on Chinese international students' well-being, multiple regressions were conducted. With regard to the factors contributing to the psychological adaptation and sociocultural adaptation raised in the main research questions (see section 1.5), regression analyses were conducted separately. To explore the mediating effect of sociocultural adaptation in relation to psychological adaptation, health status and well-being, hierarchical regression tests were conducted. To test whether social support has a moderating effect in relation to academic stress and Chinese international students' well-being, all variables were transformed to be centre valued (Jose, 2003). As such, a multiple regression test was run to investigate whether social support has a moderating effect on the relationship between academic stress and well-being among Chinese international students.

For quantitative data analysis, the systematically collected data were processed by the SPSS version 22 (IBM Corp, 2012). To investigate the health and well-being of Chinese international students, Cronbach's alpha test was used to check the overall internal reliability of the questionnaire to be used (Walker & Almond, 2010), i.e. checking whether the constructs to be used are internally consistent. The electronic

questionnaire was set to ask participants to answer every question in sequence, so missing data were avoided.

To explore the relationship between demographic factors and Chinese international students' well-being, correlation tests are needed. If the dependent variables are normally distributed, Pearson's product-moment correlation test is run to assess the correlation relationship of the independent variables and the dependent variable. However, if the dependent variables are not normally distributed, a Spearman's test is run to assess the correlation relationship among independent and dependent variables (Scott & Mazhindu, 2014; Streiner, Norman, & Cairney 2014).

Before exploring the predictive effect of English language proficiency, psychological adaptation, sociocultural adaptation, academic stress, cultural-health beliefs, and social support on well-being, it is necessary to check normality. If the assumption of normality is violated, a transformation (log, square root, or reciprocal transformation) could be applied. With the assumption of normality met, Pearson's product-moment correlation test, independent t-tests, linear regression and multiple regression tests on well-being can be conducted. Below are the basic assumptions for multiple regression analysis:

1) Dependent variable should be measured at the continuous level. The independent variables (two or more), should be measured at the continuous or categorical level.

2) Evidence is given to support a causal relationship between the predictor variables and the outcome variable.

3) There is no evidence of multicollinearity between the independent variables, which means that the independent variables are not closely

correlated. The predictors should be independent of each other (unrelated), so the correlation between them must not be high (no more than 0.8).

4) There should be no significant outliers, high leverage points or highly influential points, which represent observations in the data set that are in some way unusual. These can have a very negative effect on the regression equation that is used to predict the value of the dependent variable based on the independent variables.

5) The residuals (errors) should be approximately normally distributed (Cohen, Cohen, West, & Aiken, 2013)

It must be pointed out that, before a multiple regression test is conducted, correlation tests are needed to avoid high inter-correlations as in the case of "collinearity" or "multicollinearity" (Cohen et al., 2013). Then, a multiple regression test can be run (MacKinnon, Fairchild, & Fritz, 2007), and mediation effect testing becomes possible as recommended by MacKinnon (MacKinnon, Krull, & Lockwood, 2000). The mediation test is used to illustrate the direction and magnitude of the relationships among three or more variables in terms of their influence (Holbert & Stephenson, 2003).

For the mediation effect test, the following prerequisites for mediation analysis must be met (Preacher& Hayes, 2004):

1. There must be a significant relationship between the independent variable and the dependent variable (Path c in figure 6.1A),

2. There must be a significant relationship between the mediating variable and the dependent variable (Path b in figure 6.1B), and

3. The mediator must be a significant predictor of the outcome variable in an equation including both the mediator and the independent variable.

Frazier, Tix and Barron (2004) further proposed to establish a mediation model: There must be a significant relationship between the independent variable and the mediator (Path a in Figure 6.1B). The relationship between independent and dependent variable

is reduced when the regression model includes the mediator (Path c' < Path c). If the

relation between the independent and dependent variable is zero (i.e. c' = 0) with the

mediator in the regression model, the mediation model is considered as a complete

mediation model. If the relationship between the independent and dependent variable

is reduced when the mediator is added in the equation (i.e. c' < c), the model is

considered as partial mediation (Pan, 2008).
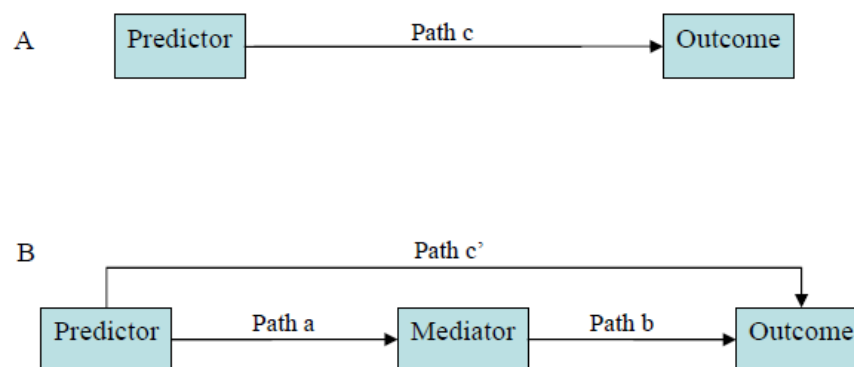
Figure 6.1 Illustration of Mediation (Pan, 2008)

Moderation analysis is used to estimate the direct and indirect pathways through

which a variable transmits its effects, as well as to model whether the size or sign of

the effect of some putative causal variable X on outcome Y depends in one way or

another on (i.e., interacts with) a moderator variable or variables (Hayes, 2013). A

moderator is a third variable that affects the direction and/ or strength of the

relationship between the independent and dependent variable (Hoyt, Leierer, &

Millington, 2006; Tabachnik & Fidell, 2007).
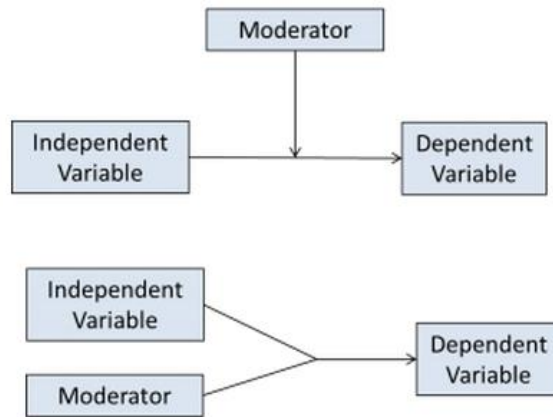
Figure 6.2 Illustration of moderation (Hayes, 2013)

6.3 Testing assumptions and selecting the appropriate analysis

The internal consistency of the questionnaire was tested with Cronbach's alpha, as Table 6.1 shows, the alpha coefficients for the six constructs of academic stress, social support, sociocultural adaptation, psychological adaptation, cultural health beliefs were all above .7, apart from psychological adaptation with an alpha value of .67, suggesting good internal reliability of those constructs used in the study. The first quantitative research question is "what demographic factors affect Chinese international students' well-being?" To show the relationship between demographic variables of age, length of stay in the UK, and self-rated health status and the independent variables of well-being, correlation tests were carried out. Thus, the total well-being and value of the cultural health beliefs, sociocultural adaptation, psychological adaptation, social support, academic stress and English proficiency were used to investigate well-being and cross-culture adaptation of Chinese international students.

The following assumptions were met for Pearson's product-moment correlation tests.

174

1) Variables are taken from the same sample.

2) Variables are measured using a continuous scale.

3) The data approximate to normal distribution and are spread across the full range of the scale.

4) The relationships between the variables are linear (Scott & Mazhindu, 2014, p.177).

Normality tests were carried out to check the assumptions for each variable for Hypothesis 1- Hypothesis 6. Table 6.1 displays the results in terms of normality of the distribution and internal reliability (Cronbach's Alpha). As can be seen from the table below, all the variables were normally distributed with the criteria suggested by West, Finch and Curran (1995) using the cut-offs of absolute value of Skewness value no more than 2.0 and Kurtosis value no more than 7.0 (West, Finch, & Curran, 1995). As illustrated in the Table 6.1 shows, the absolute value of Skewness is between .02 and .47, and the absolute value of Kurtosis value is between .19 and .47, both of which are well within the cut-off value suggested by the literature.

Table 6.1 Tests of assumptions for distribution normality of well-being, cultural health beliefs, psychological adaptation, sociocultural adaptation, academic stress, social support.

Assumption				
Dependent variable	Normally distributed	Skewness	Kurtosis	Reliability (Cronbach's Alpha)
1.Well-being	Yes	-.38	.47	.77
2.Cultural health	Yes	-.47	.47	.73
3.Psychological adaptation	Yes	-.02	.21	.67
4.Sociocultural adaptation	Yes	-.31	1.25	.73
5.Academic stress	Yes	.40	.19	.78
6.Social Support	Yes	-.12	-.37	.76

Regarding collinearity or multicollinearity, Pearson's product-moment correlation tests were performed among independent variables. Table 6.2 showed that all *r*'s

absolute value ranges from .03 (correlation between length of stay and psychological adaptation) to .63 (correlation between psychological adaptation and sociocultural adaptation), the absolute values were no higher than .8, and collinearity or multicollinearity was avoided in the current study.

Table 6.2 Test of assumptions for multicollinearity

Variable	1	2	3	4	5	6	7	8	9	10
1. Age	-									
2. English oral	.08	---								
3. English writing	.11	.58**	-----							
4. Length of stay in the UK	.24**	.18**	.21**	-----						
5. Health status	.04	.10	.13*	-.08	-----					
6. Cultural health belief	.13*	.18**	.16*	.06	.21**	-----				
7. Psychological adaptation	.12*	.31**	.27**	-.03	.23**	.30**	-----			
8. Sociocultural adaptation	.16**	.32**	.34**	.04	.26**	.27**	.63**	-----		
9. Academic stress	-.19**	-.27**	-.31**	-.16**	-.27**	-.27**	-.45**	-.54**	-----	
10. Social support	.09	.22**	.28**	.06	.22**	.23**	.52**	.60**	-.50**	-----

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

6.4 Exploration of the relationship between demographic factors and well-being

As quantitative research questions involves the exploration of the relationship between Chinese international students' well-being and their demographic characteristics: e.g. gender age, length of stay in the UK, and self-rated health status, correlation tests and regression tests were conducted to answer the research question: what demographic factors affect Chinese international students' well-being?

To test whether there is a gender difference in Chinese international students' well-being, the independent sample t-test was conducted to compare well-being of male and female students. There was no significant difference in the well-being for male group ($M_1 = 37.65$, $SD_1 = 5.57$) and female group ($M_2 = 37.34$, $SD_2 = 5.32$), t (300) = .49, p = .63. This suggests that gender is not a significant factor affecting Chinese international students' well-being. Therefore, in the following regression tests, gender was excluded as an independent variable.

Table 6.3 Summary data for participants' well-being and demographic information

Variable	M	SD	2	3	4
1.Well-being	37.47	5.42	.18**	-.05	.33**
2. Age (Year)	24.76	2.99	___	.24**	.04
3. Length of stay (Month)	25.90	21.70		___	-.08
4. Health status	4.09	.74			___

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The mean well-being value was 37.47, which correlates to a good level of well-being, given the range of well-being value is from 9 to 50. The average range for length of stay is approximately 2 years, the participants' length of stay ranges from 1 month to 8

years, with a standard deviation of 21.7 months, which is nearly 2 years. Health status with a value of 4.09 is considered as a good level given the range is from 1 to 5.

As shown in Table 6.3, age, and self-rated health status were positively correlated with well-being. The correlations were significant at the $p < .01$ level. Only length of stay in the UK was not statistically significant, thus in the following regression tests, length of stay in the UK was not included.

To further explore the question "how are demographic factors associated with well-being for Chinese international students in the UK?" especially with regard to the predictive effect of age, and self-rated health status, a multiple linear regression was conducted to predict well-being in relation to demographic information. In terms of the predicting effect of age, self-rated health status on well-being, a significant regression equation was established (F (1, 301) = 23.06, $p < .001$) with an R² of .13, age and health status explained 13% of the well-being. Health status is the most significant predictor in this model. Age demonstrated a significant positive predictive effect on well-being, β = .17, t = 3.09, $p < .01$. Health status had a significant effect to predict well-being, β = .32, t = 5.91, $p < .001$. As a result, health status and age as positive predictor of Chinese international students' well-being was confirmed as shown in Table 6.4.

Table 6.4 Multiple regression of demographic information on well-being

Predictors	β	R²	ΔR²	p
Final model		0.13	0.13	.000
Age	0.17			.007
Health status	0.32			.000

* $p < .05$, ** $p < .01$, *** $p < .001$; Δ R² = adjusted R² ; p of F change

In sum, to answer the quantitative RQ1, among the demographic factors, age, health status were positive predictors of well-being; gender or length of staying in the UK were not significant predictors of Chinese international students' well-being.

6.5 Relationship between well-being and academic stress, sociocultural adaptation, psychological adaptation, English proficiency, cultural health beliefs and social support

H1 to H8 are to test the relationship between the dependent variable (well-being) and independent variables (academic stress, sociocultural adaptation, psychological adaptation, cultural health beliefs, English proficiency and social support) with correlation and multiple regression tests.

Table 6.5 Correlations of well-being and academic stress, sociocultural adaptation, psychological adaptation, English proficiency, cultural health beliefs and social support

Variable	M	SD	2	3	4	5	6	7	8
1.Well-being	37.47	5.41	.44**	.64**	.62**	-.61**	.62**	.26**	.26**
2.Cultural health beliefs	22.75	3.54	___	.30**	.27**	.27**	.23**	.18**	.16**
3.Psychological adaptation	27.61	2.96		___	.63**	-.45**	.52**	.31**	.27**
4.Sociocultural adaptation	13.30	7.70			___	-.544**	.60**	.32**	.34**
5.Academic stress	23.28	3.37				___	-.50**	-.289**	-.31**
6.Social support	18.73	3.10					___	.25**	.25**
7.English oral communication	5.75	.99						___	.58**
8.English academic writing	4.46	1.16							___

** Correlation is significant at the 0.01 level (2-tailed)

The initial correlation test results revealed psychological adaptation (.64), sociocultural adaptation (.62), social support (.62), cultural health beliefs (.44),

180

English oral communication (.26) and English academic writing (.26) are significantly positively correlated with well-being. Meanwhile, well-being was significantly negatively correlated with academic stress (-.61). Given all the above variables were significantly correlated with the dependent variable of well-being, multiple regression tests can be performed to test the following hypotheses:

- **H1** Academic stress is a significant negative predictor of well-being;
- **H2** Psychological adaptation is a significant positive predictor of well-being;
- **H3** Social support is a significant positive predictor of well-being;
- **H4** Sociocultural adaptation is a significant positive predictor of well-being;
- **H5** Cultural health belief is a significant positive predictor of well-being;
- **H6** Language proficiency is a significant positive predictor of well-being.
- **H7** Sociocultural adaptation is a significant positive predictor of psychological adaptation.
- **H8** Social support is a significant positive predictor of Chinese international students' sociocultural adaptation.

6.6 Predictors of well-being, sociocultural and psychological adaptation of Chinese international students

To answer the research question (see Chapter 1, section 1.5), and determine what factors may predict their well-being, psychological and sociocultural adaptation, correlation tests and regression tests were conducted. For Chinese international students' well-being regression predictors included age, self-rated health status, English oral communication, English academic writing, cultural health beliefs, social support and academic stress, psychological adaptation and sociocultural adaptation. On the basis of the findings of the initial model, $R^2 = .63$, suggesting this model explains 63% of the variance in participants' well-being.

Table 6.6 Results of multiple regression of well-being

Predictors	β	R²	ΔR²	F change	P
		.63	.63	102.69	.000***
Psychological Adaptation	.26				.000***
Academic stress	- .25				.000***
Social support	.23				.000***
Cultural health beliefs	.21				.000***
Sociocultural adaptation	.13				.010*

*$p < .05$, ** $p < .01$, *** $p < .001$; ΔR^2 = adjusted R^2; p of F change

With respect to their relationships between well-being and predictors of self-rated health status, psychological adaptation and sociocultural adaptation, cultural health beliefs, social support, academic stress and English proficiency: academic stress proved to be a significant negative predictor of well-being (see Hypothesis 1); psychological adaptation a significant positive predictor of well-being (see Hypothesis 2); social support is a significant positive predictor of well-being (see Hypothesis 3); sociocultural adaptation is a significant positive predictor of well-being (see Hypothesis 4); and cultural health beliefs is a significant positive predictor of well-being (see Hypothesis 5). Language proficiency is not significant predictor of well-being (see Hypothesis 6).

Regarding psychological adaptation (see table 6.7), multiple regression tests revealed that sociocultural adaptation, English oral communication, social support and cultural health beliefs as well as length of stay in the UK were significant predictors of psychological adaptation. However, health status and academic stress were not significant predictors of the psychological adaptation of Chinese international students. Worthy of note, length of time in the UK is negatively related with the Chinese international students' psychological adaptation, although it was only significant at $p < .05$ level. In this way, that H7 Sociocultural adaptation as a significant predictor of psychological adaptation was confirmed.

Table 6.7 Results of multiple regression of psychological adaptation

Predictors	β	R²	ΔR²	F$_{change}$	p
		.46	.45	49.86	.000***
Sociocultural adaptation	.48				.006**
English oral communication	.46				.000***
Social support	.25				.000***
Cultural health beliefs	.11				.012*
Length of stay in the UK	-.02				.035*

* $p < .05$, ** $p < .01$, *** $p < .001$; ΔR^2 = adjusted R^2; p of F change

In regard to sociocultural adaptation (see table 6.8), multiple regression tests indicated that psychological adaptation, social support and academic stress were significant positive predictors of Chinese international students' sociocultural adaptation. That is to say, **H8** Social support is a significant predictor of Chinese international students' sociocultural adaptation was also confirmed.

Table 6.8 Results of multiple regression of sociocultural adaptation

Predictors	β	R²	ΔR²	F$_{change}$	p
		.73	.53	111.31	.000***
Psychological adaptation	.39				.000***
Social support	.29				.000***
Academic stress	-.16				.000***

* $p < .05$, ** $p < .01$, *** $p < .001$; ΔR^2 = adjusted R^2; p of F change

6.7 Mediating effect of sociocultural adaptation

To have a clear picture about the mediating effect of each variable, a mediation effect test was used to determine the role of a third variable in the above tested significant correlation relationship. Multiple regressions were performed to test the mediating effect (MacKinnon, Krull, & Lockwood, 2000) in relation to H 9, H10, H11, H12 and H13 and Quantitative RQ 2.

Table 6.9 Results of mediating effects of sociocultural adaptation on the association between age and well-being (dependent variables are underlined)

Dependent variables and predictors	ΔR^2	F	β
Well-being	.04	13.15**	
Age			.21***
Sociocultural adaptation	.02	8.42***	
Age			.17***
Well-being	.39	96.79***	
Age			.07
Sociocultural adaptation			.61***

$* \ p < .05, ** \ p < .01, *** \ p < .001; \Delta R^2 = $ adjusted R^2; p of F change
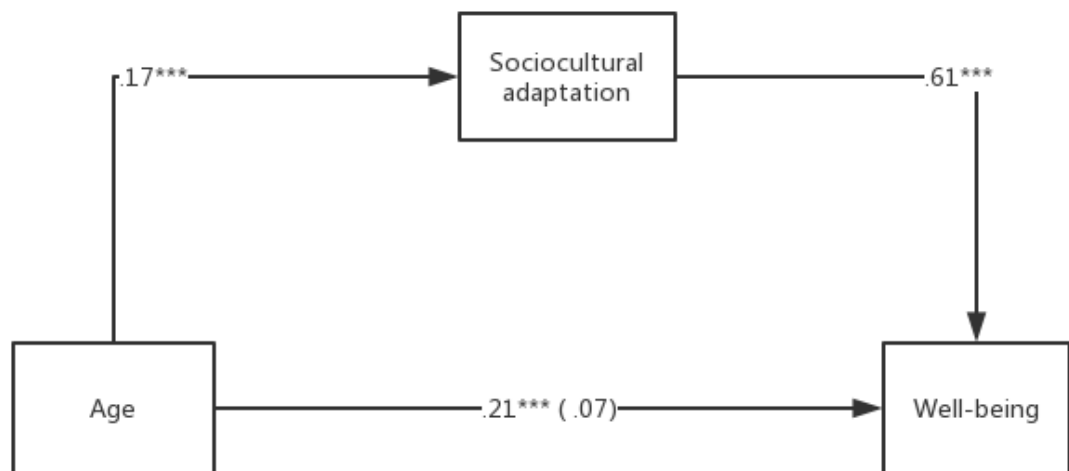
Figure 6.3 sociocultural adaptation mediates the association between age and well-being.

As depicted in Figure 6.3, age alone is a significant positive predictor of well-being with a beta weight of .21*** ($p < .001$), suggesting the more mature the students are, the better their well-being would be. Age could explain 21% of Chinese international

students' well-being. When sociocultural adaptation was added to the model, the predicting effect of age on well-being was reduced to .07 ($p > .05$). That is to say, age is no longer a significant predictor of well-being. These results meet the four criteria of complete mediation proposed by Frazier, Tix and Barron (2004), suggesting that sociocultural adaptation fully mediated the association between age and well-being. To explain the model in detail, age was positively related to sociocultural adaptation: the more mature the participants were, the better their sociocultural adaptation was. Therefore, greater age was related to a higher level of sociocultural adaptation. The direct effect of age on well-being was .21, and the indirect effect through sociocultural adaptation was .07. The model explained 2% sociocultural adaptation total variance and 39% of the well-being total variance. In view of this, quantitative RQ2 were answered that, sociocultural adaptation fully mediated the association between age and well-being.

Table 6.10 Results of mediating effects of sociocultural adaptation on the association between self- rated health status and well-being (dependent variables are underlined)

Dependent variables and predictors	ΔR^2	F	β
Well-being	.10	35.57***	
Health status			.33***
Sociocultural adaptation	.07	21.87***	
Health status			.26***
Well-being	.41	107.03***	
Health status			.18***
Sociocultural adaptation			.59***

$* p < .05, ** p < .01, *** p < .001; \Delta R^2 =$ adjusted R^2; p of F change
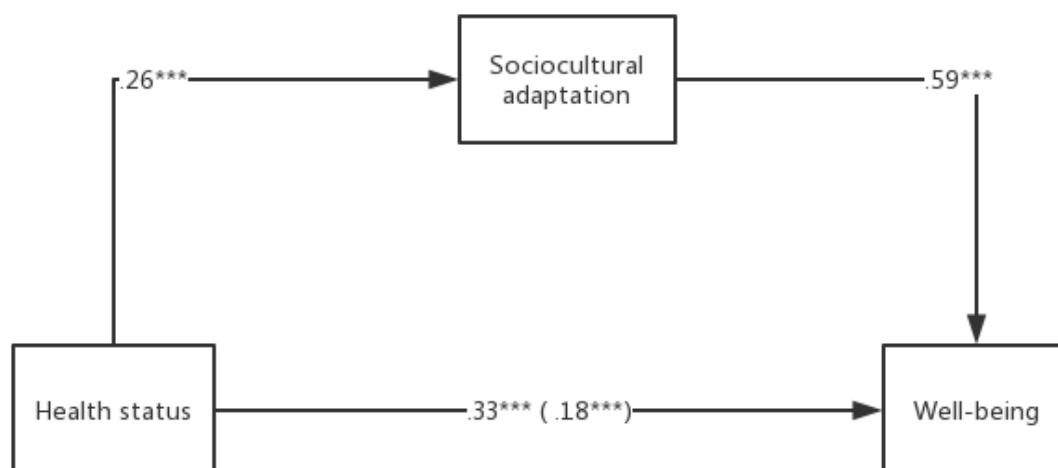
Figure 6.4 Mediating effect sociocultural adaptations in relation to health status and well-being.

Figure 6.4 showed that health status is a significant positive predictor of well-being either alone (.33 ***) or together with sociocultural adaptation (.18 ***). Clearly, when sociocultural adaptation was added to the model, the strength of the relationship between health status and well-being was reduced. This suggested that sociocultural adaptation played the role of partial mediator on the relationship between health status and well-being. Examined in details, health status was a significant positive predictor of sociocultural adaptation and well-being: better self- rated health status was contributing to greater sociocultural adaptation and a higher level of well-being. Sociocultural adaptation was also significantly contributing to better well-being. The direct effect of health status on well-being was .33 *** explaining 10% of well-being, when sociocultural adaptation was included in the model, self-rated health status had an indirect effect on well-being with a weight of .18***, this new model explained 41% of well-being total variance. Therefore, a higher level of well-being was achieved through sociocultural adaptation. Hence, H9 was confirmed, that sociocultural

adaptation partially mediated the association between self- rated health status and well-being.

Table 6.11 exhibits that social support mediates the association between sociocultural adaptation and well-being.

Table 6.11 Results of mediating effects of social support in relation to sociocultural adaptations and well-being (dependent variables are underlined)

Dependent variables and predictors	ΔR^2	F	β
<u>Well-being</u>	.39	190.76***	
Sociocultural adaptation			.62***
<u>Social support</u>	.35	164.38***	
Sociocultural adaptation			.60***
<u>Well-being</u>	.48	138.78***	
Sociocultural adaptation			.40 ***
Social support			.38***

* $p < .05$, ** $p < .01$, *** $p < .001$; ΔR^2 = adjusted R^2; p of F change
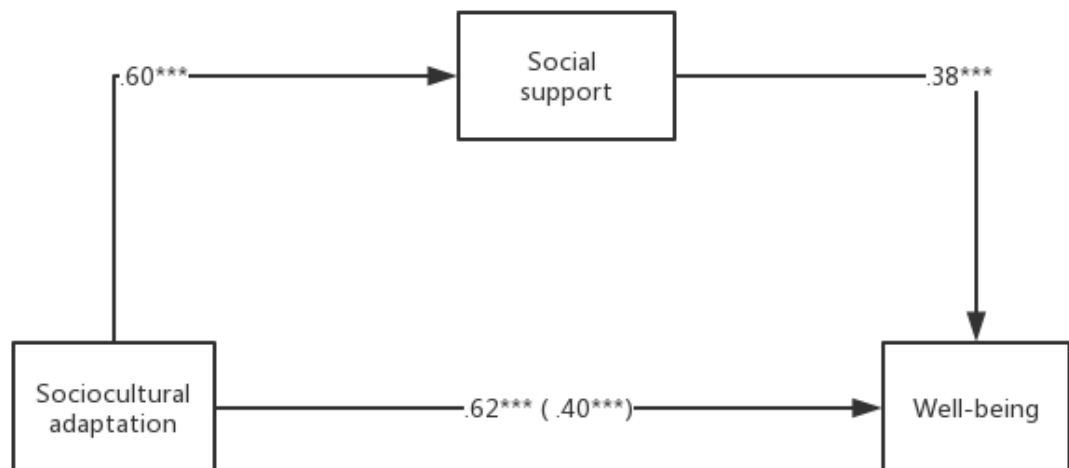
Figure 6.5 Mediating effect of social support in relation to sociocultural adaptations and well-being.

As demonstrated in Figure 6.5, sociocultural adaptation contributed to well-being significantly and positively in regression tests on well-being and sociocultural adaptation alone. That is to say that sociocultural adaptation had a significant positive predicting effect on well-being. When well-being was regressed on sociocultural adaptation alone, the beta value was .62 ($p < .001$). When social support was added to the model, the beta value was reduced to .40 ($p < .001$), but still at a significant level of .001, which suggested that the relationship between sociocultural adaptation and well-being was partially mediated by the social support they received. Sociocultural adaptation and social support were both significant positive predictors of well-being. Furthermore, a higher level of sociocultural adaptation was associated with a higher level of well-being. Therefore, an increase of social support was related to a higher level of well-being. The direct effect of sociocultural adaptation on well-being was .62, and the indirect effect through sociocultural adaptation was .40. The model explained 35% of the social support total variance and 48% of well-being variance. In this way, that H10: social support partially mediated the association between sociocultural adaptation and well- being was confirmed.

Table 6.12 Mediating effect of sociocultural adaptations and psychological adaptation on well-being (Underlined were dependent variables).

Dependent variables and predictors	ΔR^2	F	β
<u>Well-being</u>	.40	203.258***	
Psychological adaptation			.64***
<u>Sociocultural adaptation</u>	.39	19.876***	
Psychological adaptation			.64***
<u>Well-being</u>	.49	142.503***	
Psychological adaptation			.40 ***
Sociocultural adaptation			.37 ***

* $p < .05$, ** $p < .01$, *** $p < .001$ $p < .001$; ΔR^2 = adjusted R^2
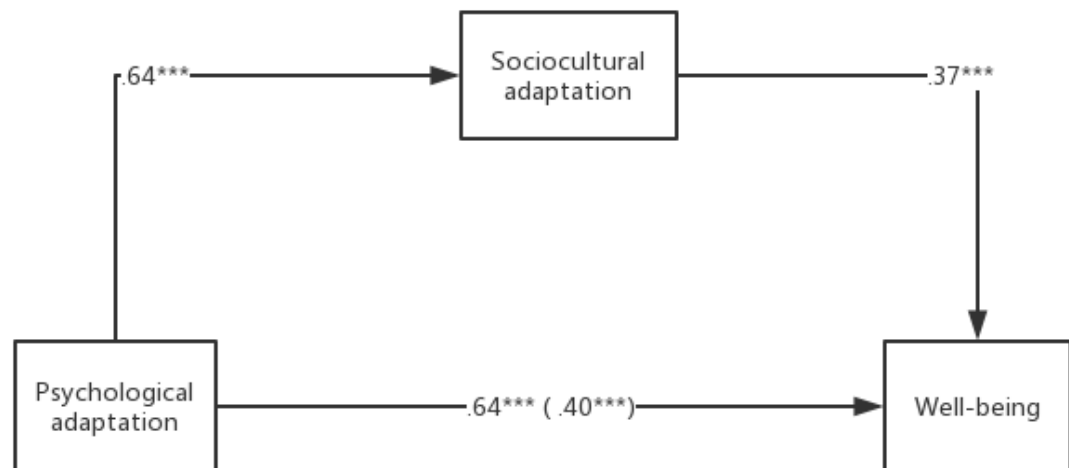
Figure 6.6 Mediating effect sociocultural adaptations in relation to psychological adaptation and well-being.

As demonstrated in Figure 6.6, psychological adaptation contributed to well-being at a significant level with a significant positive effect (.64 ***, $p < .001$) on well-being. When sociocultural adaptation was included in the model, the psychological adaptation still acted as a significant predictor of well-being. However, this time psychological adaptation only contributed to .40 *** ($p < .001$) of well-being, which suggests that sociocultural adaptation partially mediated the relationship between psychological adaptation and well-being.

Psychological adaptation was a positive significant predictor of sociocultural adaptation: the better the psychological adaptation was, the better sociocultural adaptation became. Furthermore, a higher level of sociocultural adaptation was contributing to a higher level of well-being. Thus, an increase of psychological adaptation was contributing to a higher level of well-being. The direct effect of psychological adaptation on well-being was .64*** ($p < .001$), and the indirect effect through sociocultural adaptation was only .40 ($p < .001$). The model explained 39 %

of sociocultural adaptation total variance and 49 % of the well-being total variance. In view of this, H11 sociocultural adaptation partially mediated the association between psychological adaptation and well-being was confirmed.

Table 6.13 presented the results of mediating effect of sociocultural adaptation and psychological adaptation on health status and well-being. The result of the mediating effect of sociocultural adaptation and psychological adaptation on health status and well-being was depicted in Figure 6.7 and summarized in Table 6.13.

Table 6.13 Results of sociocultural adaptations and psychological adaptation mediating the association of health status and well-being (dependent variables are underlined)

Dependent variables and predictors	ΔR^2	F	β
<u>Well-being</u>	.10	35.57***	
Health status			.33***
<u>Psychological adaptation</u>	.05	17.43***	
Health status			.23***
<u>Sociocultural adaptation</u>	.40	101.31***	
Health status			.12**
Psychological adaptation			.60***
<u>Well-being</u>	.42	107.03***	
Health status			.18***
Sociocultural adaptation			.58***

* $p < .05$, ** $p < .01$, *** $p < .001$ $p < .001$; ΔR^2 = adjusted R^2
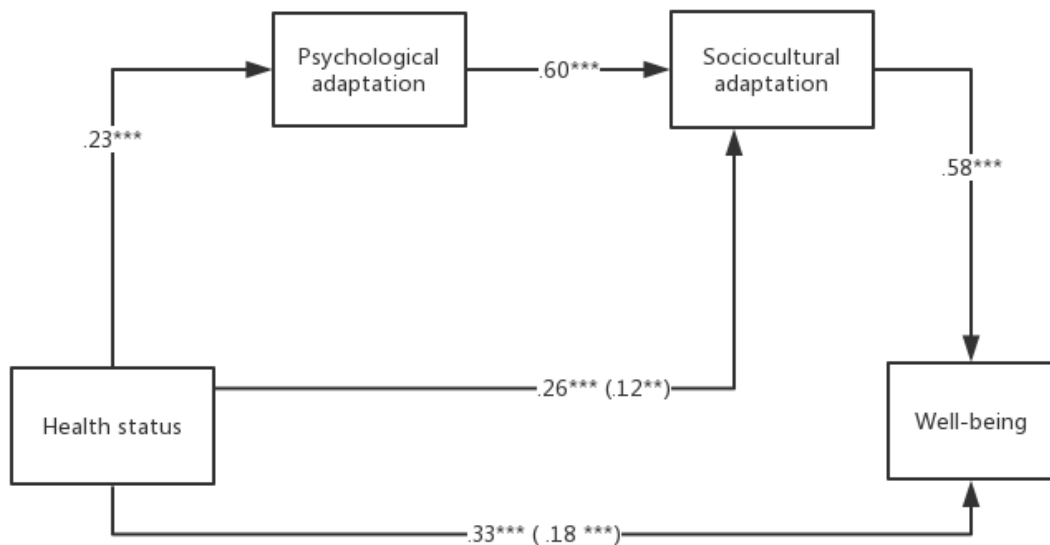
Figure 6.7 Mediating effect of sociocultural adaptation and psychological adaptation in relation to health status and well-being

As can been seen from Figure 6.7, health status was positively associated with well-being and acted as a positive predictor of well-being (β = .33***, $p < .001$) when well-being was regressed on health status alone. When sociocultural adaptation and psychological adaptation were added to the model, the health status was contributing to the well-being of Chinese international students at .18*** ($p < .001$). This suggests that part of the association between health status on well-being was through the sociocultural adaptation and psychological adaptation. The psychological adaptation partially mediated the positive effect of health status on sociocultural adaptation with a beta value reduced to .12 ($p < .001$) when psychological adaptation was added to this regression model. Viewed thus, H12 was confirmed: sociocultural adaptation and psychological adaptation mediates the association between health status and well-being.

6.8 Moderating effect of social support on academic stress and well-being

Hypothesis 13 involves testing the moderating effect of social support on the association between academic stress and well-being. As such, a multiple regression model was used to investigate whether social support played a moderator role on the association between academic stress and well-being among Chinese international students. The centred predictor (academic stress) and centred moderator (perceived social support) were computed at the first stage, and the interaction term (academic stress [centered] x perceived social support [centered]) was computed at the second stage.

When well-being was regressed on academic stress and social support, a 50.4% total variance of well-being could be explained, F_{change} (2, 299) = 151.76, $p < .001$. When the interaction term was added to the regression model in the following step, additional 0.5% variance (R^2_{change} = .05, F (3, 298) = 102.78, $p < .001$) was explained, which is a very small contribution. The total variance explained by the model with predictors of academic stress, perceived social support and the interaction as a whole was 50.9%.

In the first regression model, (see Table 6.14), the main effects of academic stress (β = -.41, $p < .005$) and perceived social support (β = .41, p < .001) both significantly predicted the well-being of Chinese international students. Step 2 showed that the interaction effect of perceived social support on academic stress was not a significant predictor of well-being (β = .07, $p > .05$). This finding suggested that perceived social support did not have a moderating effect on well-being. Table 6.14 presents the results

of multiple regression analysis testing the interaction between academic stress and perceived social support.

Table 6.14 The interaction between academic stress and perceived social support.

Predictors	B	SEb	Beta	p	R^2_{change}	P_{change}
Step1					.50	.000***
Academic stress	-.47	.05	-.41	.04*		
Social support	.71	.08	.41	.000***		
Step2					.50	.000***
Academic stress	-2.17	.26	-.40	.006**		
Social support	2.24	.25	.41	.000***		
Academic Stress * Social support	.316	.19	.07	.09		

$* p < .05, ** p < .01, *** p < .001 \ p < .001; \Delta R^2 = $ adjusted R^2

As can be seen from Table 6.14, the main effect of academic stress ($\beta = -.41^*$, $p < .05$), social support ($\beta = .41^{***}$, $p < .001$) were statistically significant. The social support * academic stress interaction was not statistically significant ($\beta = .07$, $p = .09$).

In view of this, hypothesis 13: social support moderates the relationship between academic stress and well-being was rejected via hierarchical regression test.

To conclude, through multiple regressions, hierarchical regressions, correlation and independent sample t-test, quantitative RQ1: How demographic factors associated with well-being for Chinese international students in the UK was answered, with age, and health status proved to be significant predictors of Chinese international students' well-being, while gender and length of stay in the UK were not significant predictors of Chinese international students' well-being.

Through multiple regressions, Hypothesis 2 - Hypothesis 5: psychological adaptation, social support, sociocultural adaptation and cultural health beliefs are confirmed as significant positive predictors of well-being. In the case of academic stress, it was confirmed to be a significant negative predictor of well-being.

English proficiency was not a significant predictor of well-being, so Hypothesis 6 was rejected. In terms of the predictors of Chinese international students' sociocultural adaptation and psychological adaptation, H7 and H8 were confirmed.

H1 Academic stress is a significant negative predictor of well-being.
H2 Psychological adaptation is a significant positive predictor of well-being.
H3 Social support is a significant positive predictor of well-being.
H4 Sociocultural adaptation is a significant positive predictor of well-being.
H5 Cultural health beliefs are a significant positive predictor of well-being.
H6 Language proficiency is a significant positive predictor of well-being.
H7 Sociocultural adaptation is a significant predictor of psychological adaptation.
H8 Social support is a significant positive predictor of Chinese international students' sociocultural adaptation.

Through hierarchical regressions, quantitative RQ2 was answered.

Quantitative RQ2: Does sociocultural adaptation mediate the association between age and well-being?
Sociocultural adaptation fully mediates the association between age and well-being.

Hypotheses 9 to Hypothesis 12 were confirmed, only Hypothesis 13 was rejected.
H9: Sociocultural adaptation mediates the association between health status and well-being.
H10: Social support mediates the association between sociocultural adaptation and well-being.
H11: Sociocultural adaptation mediates the association between psychological adaptation and well-being.

194

H12: Sociocultural adaptation and psychological adaptation mediates the association between health status, and well-being;

H13: Social support moderates the relationship between social support and well-being—was rejected.

6.9 Summary of quantitative findings

The major findings are reported regarding testing the thirteen hypotheses and two quantitative RQs were summarized in Table 6.16, with all the hypotheses (H1 - H5, H7 - 12) confirmed or partially confirmed apart from H6 and H13. It is interesting to note the significant effects of the age, health status on well-being with the exception of insignificant effect of gender, English oral communication, English academic writing and length of stay in the UK. The regression analysis revealed that well-being was significantly predicted by sociocultural adaptation, psychological adaptation, cultural health beliefs, social support, and academic stress.

Importantly, mediation analysis showed that sociocultural adaptation mediates the association between age and well-being. Sociocultural adaptation mediates the association between health status and well-being; Social support mediates the association between sociocultural adaptation and well- being; Sociocultural adaptation mediates the association between psychological adaptation and well-being; Sociocultural adaptation and psychological adaptation mediate the association between health status, and well-being. As a result, quantitative RQ2 was answered.

More importantly, multiple regression tests showed that 1) sociocultural adaptation, English oral communication, social support, and cultural health beliefs as well as length of stay in the UK were significant predictors of psychological adaptation; 2)

that psychological adaptation, social support and academic stress were significant predictors of Chinese international students' sociocultural adaptation.

6.10 Results for the research questions in relation to quantitative data

The confirmation and rejection of the hypotheses formulated in the study made it possible to answer the research question: what factors drive Chinese international students' well-being? Specifically, 1) what demographic factors may predict Chinese international students' well-being? 2) what adaptation factors (e.g. sociocultural adaption, psychological adaptation, academic stress, cultural health beliefs, social support) may predict Chinese international students' well-being? 3) what factors may predict their psychological adaptation? 4) what is the relationship between academic stress and well-being? 5) what is the effect of social support in the association between sociocultural adaptation and well-being? Pearson's product moment correlation and multiple regression analysis showed that age, English oral communication and self-reported health status were significant predictors of well-being of Chinese international students' sociocultural adaption, psychological adaptation, academic stress, cultural health beliefs, social support, were statistically significant predictors of Chinese international students' well-being.

Through multiple regression and hierarchical regression analysis, academic stress has proved to be a significant negative predictor of well-being. However, social support moderating the relationship between academic stress and well-being was not proved. With hierarchical regression, social support had a mediating effect in the association between sociocultural adaptation and well-being.

In response to the research question: How did they manage to achieve their well-being in UK universities: 1) what factors contribute to their psychological adaptation? Multiple regression tests revealed that sociocultural adaptation, English oral communication, social support and cultural health beliefs as well as length of stay in the UK were significant predictors of psychological adaptation, among which, length of stay in the UK contributed negatively; 2) what factors contribute to their sociocultural adaptation? Multiple-regression test showed that psychological adaptation, social support and academic stress were significant predictors of Chinese international students' sociocultural adaptation. Moreover, hierarchical regression and multiple regression tests indicated that social support did not demonstrate a buffering effect on the relationship between academic stress and well-being.

6.11 Chapter summary

Chapter 6 has concentrated on quantitative data analyses and the related results, together with the discussion about the underlying assumptions and how to test them, and how to analyse the quantitative data. Multiple regression tests and hierarchical regression, coupled with Pearson's product moment correlation tests were conducted, and a majority of hypotheses (see sections 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8) were confirmed or partially confirmed (see section 6.1). The main results were exhibited as follows: **Quantitative RQ1** Demographic factors were associated with well-being for Chinese international students in the UK; **H1**Academic stress was a significant negative predictor of well-being; **H2** Psychological adaptation was a significant positive predictor of well-being; **H3** Social support is a significant positive predictor of well-being; **H4** Sociocultural adaptation was a significant positive predictor of

well-being; **H5** Cultural health beliefs was a significant positive predictor of well-being; **H6** Language proficiency is a significant predictor of well-being. **H7** Sociocultural adaptation is a significant predictor of psychological adaptation. **H8** Social support is a significant positive predictor of Chinese international students' sociocultural adaptation. **Quantitative RQ2: S**ociocultural adaptation mediates the association between age and well-being. **H9:** Sociocultural adaptation mediates the association between health status and well-being. **H10:** Social support mediates the association between sociocultural adaptation and well-being. **H11:** Sociocultural adaptation mediates the association between psychological adaptation and well-being. **H12:** Sociocultural adaptation and psychological adaptation mediates the association between health status, and well-being; **H13:** Social support does not moderate the relationship between academic stress and well-being. The consistency and inconsistency between qualitative and quantitative findings are discussed in chapter seven. Some interesting findings that were unexpected or contradicted with the literature are also discussed in the following chapter.

Table 6.16 Summary of the hypothesis testing results

Hypothesis in this study		result
RQ1	Demographic factors are associated with well-being for Chinese international students in the UK.	◑
H1	Academic stress is a significant negative predictor of well-being.	●
H2	Psychological adaptation is a significant positive predictor of well-being.	●
H3	Social support is a significant positive predictor of well-being.	●
H4	Sociocultural adaptation is a significant positive predictor of well-being.	●
H5	Cultural health belief is a significant positive predictor of well-being.	●
H6	Language proficiency is a significant predictor of well-being.	○
H7	Sociocultural adaptation is a significant predictor of psychological adaptation.	●
H8	Social support is a significant predictor of Chinese international students' sociocultural adaptation.	●
RQ2	Sociocultural adaptation mediates the association between age and well-being.	●
H9	Sociocultural adaptation mediates the association between health status and well- being.	●
H10	Social support mediates the association between sociocultural adaptation and well- being.	●
H11	Sociocultural adaptation mediates the association between psychological adaptation and well-being.	●
H12	Psychological adaptation mediates the association between health status, sociocultural adaptation and well-being.	●
H13	Social support moderates the relationship between academic stress and well-being.	○

●= Confirmed ◑= Partially confirmed ○= Rejected

CHAPTER SEVEN
DISCUSSION

Chapter seven discusses the main findings in relation to previous studies, theoretically and methodologically. Specifically, the important findings from both qualitative and quantitative data analyses are presented through a comparison with previous studies. Possible reasons for the discrepancy between qualitative and quantitative findings are provided. Moreover, strengths and limitations of the study are discussed. At the end of the chapter, theoretical, methodological and practical implications are given, coupled with recommendations for future research. This chapter consists of 7.1 Agreement between qualitative and quantitative findings; 7.2 Inconsistency between qualitative and quantitative findings; 7.3 Unexpected findings; 7.4 Strengths and limitations; 7.5 Implications and 7.6 Chapter summary.

7.1 Agreement of qualitative and quantitative findings

This study set out to investigate the health and well-being issues of Chinese international students. On the basis of the literature review and qualitative data analyses, a range of hypotheses were formulated and tested (see chapter 6). Both qualitative and quantitative data suggest that the majority of Chinese international students have reported a myriad of stressors including environmental, biological, sociocultural and psychological adaptation as well as academic stress when studying in the UK. Chinese international students have actively utilised the social support from families in China and friends in the UK. Consistent with previous studies (Chen, Hwang, Tai, & Chien, 2013; Mossakowski & Zhang, 2014; Oppedal & Idsoe, 2015;

Wong & Lu, 2016), social support demonstrated a positive correlation with sociocultural adaptation, psychological adaptation, and well-being.

Compared with social support from family, the current research suggests that Chinese international students reported more preference for relying on peers' and friends' help in the UK. This may result from the high level of English language proficiency of this sample compared with the Chinese immigrants who worked in the catering and washing industries in the literature whose peers and friends in the host culture were regarded as "weak tie" compared with their families in the home country. The Chinese international students in the current study feel more relaxed in sharing their concerns with peers and friends in the UK who may provide them with more practical information from their daily lives and similar experiences, thereby being useful for newly arrived international students. Another possible explanation is avoiding bothering families who are far away and maintaining the family harmony back at home. The literature from cultural studies suggest that 'face loss' concerns are rooted in maintaining harmony in group relations and social order, concerns which are incompatible with revealing emotional distress in Chinese society (Lee, Sparkes, & Butcher, 2013).

Harmony is of paramount importance for Chinese people, hence, the saliency of relational concerns related to maintaining group harmony and avoiding face loss may compromise social support seeking for Chinese international students in the UK. Family is widely regarded as an important social support resource for Chinese people. However, being far away from China, Chinese international students may make their families an underutilized source of support. In addition, preferred methods of coping

(Berry, 1997) and face loss concerns (Rajapaksa & Dundes, 2002) may influence tendencies to disclose distressing thoughts and feeling in different ways for Chinese international students. These potential cultural differences may affect the perception and solicitation of social support, and consequently, lead to greater or less help seeking behaviour.

With a high level of social support, people tend to report less acculturative stress and exhibit better psychological and mental well-being and health status compared to those who reported a lower level of social support. This finding appears to support the existing theory of psychological adaptation and sociocultural adaptation (Ward & Berno, 2016; Safdar, Lay, & Struthers, 2003; Ward & Searle, 1991), which views social support as a protective factor that can aid sociocultural adaptation. The present study finds that social support was a positive significant predictor of both sociocultural adaptation and psychological adaptation. This is in line with the study of Ellison, Steinfield and Lampe (2007), who found that university students turn to their Facebook friends when in need. However, the literature has suggested that the findings are not consistent. When examining Asian international students' social support in the US university context, with a bootstrapping test, the results indicated that there was no direct effect from social support to sociocultural adaptation (Lee & Ciftci, 2014). This may be due to the fact that the primary purpose of international students studying abroad is to pursue academic success. The role of social support on their acculturation may be less recognised as significant.

In the present study, Chinese international students reported expanding their social support networks at post sojourn status, and their resources of social support were

varied. This finding echoed the discovery of Bertram, Poulakis, Elsasser, and Kumar (2014) who found that during their study abroad, international students developed a multiple resource of social support, ranging from fellow students, academic advisors or supervisors, faculty staff to friends of their parents and local church student groups. This indicates that perceived social support proves to be a significant predictor of adjusting to an unfamiliar culture. Although family is widely regarded as an important social support resource for Chinese people, the current study indicated that instead of seeking support from the family back in China, Chinese international students reported a greater preference for relying on peers and friends in the UK.

Being far away from China, Chinese international students tend to make their families an underutilized source of support. The value of family and divergent emphasis on family support for emotional experiences in China and UK contexts may also shape their perceptions of available sources of support. Additionally, their preferred methods of coping (Yeh et al., 2006) and face loss concerns (Zane & Ku, 2014) may affect their disclosure of psychological distress and undesirable feelings during their period of study abroad.

Compared with the social support from family and friends, Chinese international students indicated the least interest in sources of professional health counselling support. Various studies (Ellis-Bosold & Thornton-Orr, 2013; Li, Marbley, Bradley & Lan, 2016; Yang, Purdie-Vaughns, Kotabe, Link, Saw, Wang, & Phelan, 2013) have tried to identify potential reasons for Chinese international students' low access to psychological service. Stigma and language deficiency are deemed to be most widely accepted factors affecting their access.

Additionally, both qualitative and quantitative data analyses in this study indicate that academic related stress has a significant negative impact on well-being and sociocultural adaptation. This finding appears to be consistent with the results of previous studies (Berry, 1997; Ying & Liese, 1991). Transferring to a UK education system requires Chinese international students to move from Confucian style of learning to Socratic style of learning (Holmes, 2005) with the former emphasizing knowledge telling and re-expressing, and the latter underscoring teamwork and willingness to question authorities. In Chinese culture, learning appears to be authority-centred and competition-oriented (Chen, 2015; Hodkinson & Poropat, 2014), whereas UK academic culture, especially at the postgraduate level, requires students to be engaged in critical thinking and teamwork (Chiu, 2009). The UK lecturers would expect Chinese international students to act just like their Western counterparts in the classroom to share their analytical thinking, critical comments and contribute to the classroom discussion.

As academic pursuit is the prominent reason for studying abroad, academic stress is a salient stressor for Chinese international students because of the added barriers of facing a new language and adapting to a new educational environment (Dao et al., 2007; Smith & Khawaja, 2011). The distress arises from the incongruities between the educational systems in the Chinese academic culture and the UK, which could lead Chinese international students to question self-ability and the effect on of their well-being. The hypothesis that academic stress may predict Chinese international students' sociocultural adaptation and well-being has been proved in the present study with regression tests.

Chinese international students have been observed as a quiet group (Gu & Maley, 2008; Sit, Mak, & Neill, 2017). The reason for the obedience and quietness goes beyond language deficiency and is arguably due to the cultural context of Confucian collectivism. Fakunle, Alison and Fordyce (2016) argued that Chinese people seek to maintain societal harmony and not to challenge authority and this philosophy applies to the relationship between teachers and students. This is in contrast to Western individualistic culture which values criticality and argumentation. Chinese international students are typically attributed to not encouraging critical thinking and challenge teachers (Chang, Chen, & Alegría, 2014).

The rigorous academic demands along with the challenges to adapt to an academically different culture put Chinese international students at risk of not maintaining their well-being. It seems that the incongruities between the Chinese academic culture and British academic culture may challenge Chinese international students to adapt to different ways of learning in a relatively short period of time, and hence may affect the well-being of Chinese international students, especially for one-year master programme students.

From a cultural perspective, the current study seems to echo the finding of Gill (2007), who explored how Chinese international students immersed themselves within the academic and sociocultural contexts in the UK and came up with an intercultural learning transformation framework. Chinese international students' stereotype is to be silent in classroom discussion, always seeking a concrete example and the correct final answers from the teachers and lacking creativity in the learning process (Li & Wegerif, 2014; Tang & Naumann, 2016). Scholars suggest that this stereotyped way

of learning maybe shaped by culture (Cheng & Wan, 2016; Galton, Lai, & Chan, 2014). As Wang and Mallinckrodt (2006) suggest "Students from Taiwan or mainland China are usually taught to be compliant, remain quiet in class, and withhold expressing their thoughts or asking questions until invited to do so by their teachers" (p.422). The phenomenon of the silent group of Chinese international students who are typically passive, normally have low participation in the classroom discussion and are unwilling to initiate questions has been explained and challenged in a Confucius cultural and educational context (Tran, 2013). In Asian Confucius teaching, the teacher is considered as the authority to respect and learn from rather than to challenge. Maintaining group harmony and avoiding focussing on the individual is also deeply ingrained in the Confucius heritage mind.

Academic stress may stem from striving for academic excellence, which may help Chinese international students meet their cultural expectations, but their struggle for perfectionism may generate tremendous academic pressure. The results of the current study seem to agree with the existing findings on the association between academic stress and sociocultural adaptation (Gu & Maley, 2008; Liao & Wei, 2014; Pan, 2008). In the study of Liao and Wei (2014), the academic stress is deemed as a moderator on Chinese international students' social support and their overall well-being. Given the cultural emphasis on academic excellence and the perceived obligation to achieve academically (Liao & Wei, 2014; Pan, 2008; Tao & Hong, 2000), Chinese international students tend to experience more academic stress while studying abroad.

With regard to academic stress, English oral communication competence and English academic writing both demonstrate significant predictive effect on academic stress.

This lends support to the studies of Zhang and Goodson (2011), and Poyrazli and Kavanaugh (2006) who claim that perceived low English language skills have the strong correlation with international students' low academic achievement and greater overall adjustment strain. A low level of English proficiency is likely to negatively impact Chinese international students' academic performance and sociocultural adjustment. In other words, limited English proficiency acted as the main barrier for Chinse international students, and an important factor in the cross-culture adaptation and health maintenance.

English language proficiency has been widely reported as one of the most important factors that interact with other stressors affecting Chinese international students' acclimatization in both academic and sociocultural adaptation (Cao, Zhu, & Meng, 2016; Jia, Gottardo, Chen, Koh, & Pasquarella, 2016; Lanouette, Folsom, Sciolla, & Jeste, 2015; Ribes & Llanes, 2015). Specifically, studying with insufficient English proficiency in the new country may negatively impact on their adaptation and increase their academic stress. In the current study, English communicative competence was measured by self-rated questionnaires in terms of English oral communication and English academic writing respectively. But linear regression analysis showed that only English oral communication was found as a significant positive predictor of sociocultural adaptation, psychological adaptation and well-being. This finding appears to be consistent with a recent study (Cao, Zhu, & Meng, 2016) on Chinese international students' adaptation in Europe. It is suggested that the oral language incompetence of Chinese international students as a major stressor seems to affect their effective communication in the classroom. Furthermore, language deficiency

may affect the way international students view themselves (Carter, 2003), which is liable to give rise to depression (Dao, Lee, & Chang, 2007).

Noteworthy is that English deficiency may affect Chinese international students' utilisation of health service (Cordasco, Ponce, Gatchell, Traudt, & Escarce, 2011; Gee & Ponce, 2010; Li, Marbley, Bradley, & Lan, 2016). This finding appears to echo the study of Shi, Lebrun, and Tsai (2009) in the US, and inadequate English affects their access to healthcare. Meanwhile English deficiency would affect their choice of health service (Lee, Goldstein, Brown, & Ballard-Barbash, 2010; Gee & Ponce, 2010; Hsiao et al., 2006; Li, Marbley, Bradley, & Lan, 2016; Phokeo & Hyman, 2007). In line with previous studies, English deficiency may lead to low comprehension of medication instructions (Engel, Heislet, Smith, Robinson, Forman, & Ubel, 2009; Lokker, Sanders, Perrin, Jumar, Finkle, Franco, & Rothman, 2009), poor quality clinical communication (Ponce, Hays, & Cunningham, 2006) or low quality healthcare (De Alba & Sweningson, 2006).

The multiple regression tests revealed that the sociocultural adaptation, competent English oral communication, social support, cultural health beliefs and length of stay in the UK, and were significant predictors of psychological adaptation. It is important to notice that other factors such as health status and academic stress failed to contribute to the psychological adaptation of Chinese international students. Academic stress did not have a predictive effect on psychological adaptation, appears to be inconsistent with previous literature (Murff, 2005). The discrepancy may be explained by the high level social support Chinese international students reported simultaneously.

The present study examined the mediating effect of psychological adaptation together with sociocultural adaptation in the relationship between health status and well-being, and allowed a close observation of mediation effects in the adaptation process of Chinese international students. In the mediation analysis, sociocultural adaptation had mediation effect on the association between psychological adaptation and well-being. Social support adaptation also demonstrated mediation effect on the association between sociocultural and well-being. A number of models have been developed and debated in an attempt to depict the key factor of adaptation process (Smith & Khawaja, 2011; Zhou, Jindal-Snape, Topping, & Todman, 2008). However, limited models have been tested on international students, especially for Chinese international students. The relevance of these theories and models to Chinese international students will be discussed in the following paragraphs.

The finding that the psychological adaption and sociocultural adaptation both acted as significant positive predictors of well-being could offer some fresh insight on the contradictory literature on the psychological well-being and cross-cultural adaptation. For example, degree of acculturation was not to be a significant factor of participants' depression (Jung, Hecht, & Wadsworth, 2007). However, evidence from earlier studies (Ward & Rana-Deuba, 2000) suggested that acculturation, especially separation but not assimilation mode, is a significant negative predictor of psychological well-being.

Given that psychological adaptation denotes people's sense of psychological well-being, the relevant studies on international students have been widely evaluated on negative effects, such as stress, anxiety and depression and other psychosomatic

symptoms (Grossman, Niemann, Schmidt, & Walach, 2004). The cross-cultural adaptation is believed to create uncertainty, stress and other emotional turbulence for international students (Coles & Swami, 2012; Russell, Rosenthal, & Thomson, 2010; Smith & Khawaja, 2011). Chinese international students maybe leaving their home 8000 miles away for the first time, face issues such as seeking accommodation, financial pressures, cultural misunderstandings, lack of social interactions with host nationals, and meeting the host university's academic expectations. Taking every seemingly trivial thing together, the cross-cultural adaptation experience, along with processing all the overwhelming information in a foreign language, could affect Chinese international students' psychological health.

Worthy of note, in recent years, positive psychological adaptation of Chinese international students has also been reported, especially in the UK and Australia (Khawaja & Dempsey, 2008; Lillyman, 2014). This current study focused more on the positive psychological experience, e.g. excitement about studying in the UK; curiosity about the cultural difference in China and UK, and the difference of focus may partially explain the inconsistency in the literature. Moreover, the utilisation of a different psychological measurement instrument may also have played a role in this inconsistency. The results suggest that psychological distress may be influenced by their use of coping strategies, e.g. effective social support. The multiple regression tests revealed that sociocultural adaptation, English oral communication, social support, cultural health beliefs and length of stay in the UK, and were significant predictors of psychological adaptation.

Regarding cultural health beliefs, this study shows that culture specific health beliefs and well-being practice are vital to Chinese international students' study abroad experience (see section 5.7). This finding appears to be congruent with the discovery of Gervais, and Jovchelovitch (1998) in that regardless of age and degrees of acculturation, Chinese people in the UK share common health beliefs such as "balance" and "harmony" between the *Yin* and *Yang*. Namely, health results from balance, and illness arises from disequilibrium. Cultural health beliefs have an effect on the way people perceive the aetiology of an illness, interpret the symptoms, and act on them (Cheng, 2001, Tseng & Wu, 2013), and on the diagnosis and treatment (Kramer, Kwong, Lee, & Chung, 2002). For example, empirical research in medical anthropology and transcultural psychiatry has documented the cultural variation in the expression of emotion (Ryder, Yang, Zhu, Yao, Yi, Heine, & Bagby; 2008).

Traditionally, Chinese people are found to have a highly developed set of beliefs concerning the maintenance of health through the regulation of dietary patterns dating back to early texts such as the *Yellow Emperor's Classic of Internal Medicine* "黄帝内经" (*Huang Di Nei Jing*) (Veith, 2015). The geographical, historical and economic context of culture all shapes Chinese food preference. Study abroad means the change of surrounding environment and life style. Studying in the UK, Chinese international students still have a "Chinese stomach" for their daily diet choice, and they tend to seek advice about dietary modification. It seems that Chinese students may retain traditional ideas about diet and health, which might be different from the Western ideas.

Worthy of further exploration is TCM, which believes that there is a close link between weather change and human health. Abnormal weather phenomena such as cold waves, heat waves, heavy storms and heavy rainfall may have serious effects on human health and well-being. In the light of the *Yellow Emperor's Classic of Internal Medicine* "黄帝内经" (*Huang Di Nei Jing*), the inner link between human health and the natural environment could be further investigated. For example, the short sunshine span in winter may cause some students feeling "winter blues" or seasonal depression; and the humid weather may bring about skin problems such as eczema and rheumatoid arthritis. Chinese international students also attribute their hay fever and loss of hair to the change of environment. From the perspective of TCM, there is a link between natural environment and people's well-being. Unacclimatized, people may suffer from moving from one place to another geographically, feeling "dizzy" or "butterflies" in the stomach. In this regard, future research can be conducted to compare different perceptions and experiences of Chinese international students.

The majority of the Chinese international students in the present study consider that "The environment in the UK is good for my health status". It is easy to understand given the haze fog pollution in urban cities in China, especially in Beijing (Fu & Chen, 2017; Li, Wu, Wang, Yang, Li, Sum, & Wang, 2017). China, experiencing the rapid GDP growth, urbanisation is simultaneously facing the fog haze pollution. Chinese international students greatly appreciate the clean and green natural environment in the UK. They are highly aware of the pollution damage to their health in China. Chinese international students from northern part of China, especially from Beijing, talked in great detail about the difference they felt about their health status in China and UK, with an emphasis on the natural environment. Recently, BBC news revealed

that "Pollution particles 'get into brain' leading to depression and brain function problems such as loss of memory and decrease of learning ability (Calderón-Garcidueñas, Calderon-Garciduehas, Torres-Jardon, Avila-Ramirez, Kulesza, & Angiulli, 2015).

It is interesting to see that Chinese international students naturally link their health and well-being with the natural environment. This is hardly surprising, because in TCM, there has been a tradition to investigate the link between nature's environment and people's well-being, especially geographically. Moving to another country means the change of surrounding environment and life style. This adaptation can easily lead to illness, for example digestive problems. The majority of the participants think Chinese food is healthier than typical Western food, especially fast food. This is in line with the findings of an earlier study, which reported that the respondents rated Chinese nutritional food supplements as most helpful (Lu, Dear, Johnston, Wootton, & Titov, 2014). When visiting doctors, Chinese international students are usually seeking advice about dietary modification. Since diet therapy is an important part of TCM, it seems likely that Chinese students may retain traditional ideas about diet and health, which is possibly conflicting with Western ideas. Treatment for many illnesses could be dietary, certain foods such as French fries, ginger and alcohol were considered "hot" and excessive use of these may result in red spot, acne and anger, while water melon, green bean and herbal broths could be used to correct the excessive heat. Beliefs in the use of food to prevent and treat illness by maintaining or restoring balance were found, which echoed the research of Tabora and Flakerud (1997).

It is essential therefore to recognise the extent to which this group of students still adhere to and incorporate the Chinese philosophies into their beliefs about diet and how this relates to Western lifestyle in order to improve communication and effective dietary advice to enhance their well-being.

This study confirms the previous literature findings (Pan, Dixon, Himburg, & Huffman, 1999) that Chinese people change their eating habit after immigrating to the West. It has been found that Asian students consume only two meals per day since they came to the US, half of them reported they skipped breakfast (Pan et al., 1999) which is similar to the finding from the present research.

7.2 Inconsistency between qualitative and quantitative findings

In the current study, discrepancy between qualitative and quantitative findings was identified. The qualitative findings disclosed the fact that female Chinese international students were more likely to use TCM clinic services than their male counterparts (see chapter 5 in general, section 5.7 in particular). With regard to the cultural health beliefs, interview data suggested female students showed stronger awareness and intention to eat a healthful diet compared to male students, possessed a more positive attitude toward health, and were more likely to try western complementary nutrient food than male students. These results are similar to the findings from the US study (Diaz, Marshak, Montgomery, Rea, & Backman, 2009). Female students were more concerned about calories, percentage calories from fat, fruit and vegetable servings, or perceived behavioural control.

In this regard, the quantitative data analysis showed no significant difference between female and male students in terms of overall well-being and cultural health beliefs. A possible explanation is that female Chinese international students are more sensitive and conservative than their male counterparts about their views on health and well-being in the form of questionnaire. They are more likely to share their views and experience in the personal interviews and are liable to refrain from disclosing their privacy in a large scale survey. Although gender is widely examined in relation to sociocultural adaptation, psychological adaptation, academic stress, social support, and culture health beliefs (Misra, Crist, & Brunant, 2003; Poyrazli, Kavanaugh, Baker & Al-Timini, 2004), and gender frequently emerges as a significant predictor of sociocultural adaptation (e.g. Swami, 2009; Yeh & Inose, 2003), the reluctance of Chinese female students to reveal their well-being and health issues information should be taken into account. This finding suggests that a mixed research method, especially a qualitative approach, is needed to investigate the well-being and health issues of international students, particularly for students from Asian culture.

It is a bit surprising that no gender difference was detected with respect to academic stress though females were considered more inclined to express their stress and anxiety as well as emotions than their male counterparts (Wester, Vogel, Pressly, & Heesacker, 2002). This inconsistency appears to be congruous with the findings of Misra, Crist, and Burant (2003). Their study failed to identify any significant gender difference in terms of academic stress of internationals students. Considering that gender can be a significant predictor of sociocultural adaptation, as in the case of immigrants and refugee samples (Swami, 2009), this did not apply to the Chinese international student sample. For Chinese international students, study abroad,

regardless of gender, inevitably involves social contact with other students, lecturers, professors, and academic staffs, which may mitigate the role that gender plays in their academic performance. Taken together, gender was not a significant predictor of their sociocultural adaptation and well-being of international students.

Another inconsistency was reflected in the extent of stress of Chinese international students experience in the cross-culture adaptation process. Some of them experienced a range of challenges and hassles (see section 5.2, 5.3 and 5.4）during their study abroad; whereas others reported little stress socioculturally and psychologically in their study abroad. The discrepancy between individual experiences in intercultural adaptation may be derived from the fact that a number of Chinese international students were "2+2" or "2+3" programme students [Note 3]. Although they were strongly motivated to study abroad, they knew that they would have a short stay abroad (2 or 3 years). Also, they come as a cohort of students, with the course mate they are already familiar with. The two years course in China has also offered them opportunities of British educational training. The support and resources enabled them a better position in the adaptation process. Unlike migrants or immigrants (for survival purpose), those Chinese international students want to show that they become culturally competent not only in home culture but also host culture (for study purpose). In view of this, the inconsistency in terms of acculturative stress of Chinese international students appears to be less evident in the current study.

Unlike immigrants or refugees, Chinese international students seize the opportunity to make their Chinese dreams come true: study abroad may help them work to their advantage in their career development as China values talents with an international

216

education background. One possible reason may be that the majority of those well-educated international intellectuals are preparing themselves as intercultural mediators in China's rapid economic development and international cooperation. The career orientation may have an impact on their acculturation strategies, their integration motivation maybe less than that of immigrants. Although Chinese international students are making up a tremendous proportion in the global education market, the blue paper report from Chinese Ministry of Education on 2016 (English Gov News) suggested that the trend of Chinese international students going abroad for education and coming home for jobs becomes obvious.

7.3 Unexpected findings

Surprisingly, the current study found English oral communication was not a significant predictor of Chinese international students' social support. This contradicts the finding of Sullivan (2008), who claimed that language capacity may affect social networking. This may be explained by the possibility that Chinese international students usually hang out with peers from similar cultural background, and gain immediate social support and emotional support from someone who shares the same language and culture (Yan & Berliner, 2009).

The negative correlation between length of stay in the UK and their well-being level was unexpected. The current study showed that the length of stay negatively correlated with their well-being. This finding appears to be inconsistent with that of some previous studies (e.g., Gong, 2003; Wang & Mallinckrodt, 2006). Wang and Mallinckrodt (2006) report that the longer international students stay in the host

culture, the fewer psychological symptoms they experience, the better their well-being would become. Namely, the longer international students live in the host country, the fewer sociocultural adjustment difficulties they have, indicating that those international students who sojourn abroad longer tend to be more adjusted to the Western culture and experience less acculturative stress. Similarly, Gong's (2003) study reveals that a longer stay in the host culture may facilitate the academic adaptation and reduce the academic stress of international students.

Nonetheless, the result of this study appears to be congruous with the finding of Msengi, Msengi, Harris and Hopson (2011) who conduct a questionnaire survey with *Test Well Inventory* to measure the perceptions of international students from Asia, Africa, South America and Europe in relation to their overall health, physical exercise, quality of sleep, leisure time, eating habits, weight change, and length of stay in the US. Their results indicate that the overall health status and physical health of international students appear to deteriorate after they come to the US, suggesting that the longer international students stay abroad, the more likely their health status will become worse.

A possible explanation for the discrepancy is that the health status of international students tends to vary with their academic requirement and commitment. For a doctoral student, her/his health status or well-being is more likely to decline than that of a master student who is to expected to graduate in a year's time; whereas a doctoral student may embark on a long and lonely journey for about three to four years or more. During the course, a doctoral student may have to face family burden, financial pressure, and job hunting challenge, thus affecting her/his well-being.

Due to a range of negative factors such as more demanding academic work, less physical exercises, lack of social connectedness, or reduced leisure activities (Gong, 2003; Msengi, et al., 2011), international students with higher academic pursuit may run a big risk of increasing weight and decreased psychological well-being, thus leading to a decline of overall health and well-being. Indeed, the relationship between length of stay and health status or well-being level proves to be a complex and controversial issue, which warrants a further investigation in an intercultural context.

It is worth noting that some Chinese international students reported developing a new identity: speaking and writing as a new scientist. That is, they were learning and using English not only for language purposes (exam-takers) but for communication, self-presentation, and publication (intercultural communicator or intercultural mediator). As can be seen from the qualitative data analyses (see personal interviews in sections 5.2-5.7), identity is not fixed but in constant change. When Chinese international students are prepared to become intercultural mediators, they are aware of the fact that to become an intercultural mediator does not mean to lose her or his own cultural identity, but to develop their identity competence (Pellegrino, 2005), which involves "the ability to establish and maintain the desired level of control, status, safety, and validation, while interacting in the foreign language" (p.148).

In the present study, some Chinese international students claimed that they developed a bi-cultural competence/identity bi-cultural identity (local and global identity). With bicultural identity, these international students displayed their readiness and agency to play an active role in the intercultural context.

According to Houghton (2013), identity development may arise in the process of intercultural communication, and be reconstructed through social, economic, political, and cultural conditions. Regarding the psychological well-being in the adaption process which is part of experience of globalization, Arnett (2002) observed that "most people now develop a bicultural identity, in which part of their identity is rooted in their home culture with another part stemming from an awareness of their relation to the global culture" (p.777). Viewed thus, identity development was seen as an inseparable part of students' growth or gains in their intercultural communication.

To adapt to a more mobile, intercultural or multicultural world, the majority of Chinese international students showed strong willingness and motivation to be part of an English academic discourse community where they can exchange ideas using English as a means of   communication, and develop their intercultural mindset with criticality. Specifically, students feel happy to act as an intercultural mediator in the multicultural context, with the hope of bridging the gap between their home culture and the host culture; and meanwhile with multimodality-driven presentations, they are happy to have their voice heard for knowledge advancement and technical innovation.

Although Chinese international students showed their assurance in their capabilities, demonstrated willingness to bring their personal agency into full play, and displayed considerable self-efficacy in their academic acquisition, they encountered a variety of difficulties in the ad hoc community, e.g. the shortage of linguistic resources and the

unawareness of cultural norms seem to prevent them from becoming more productive in communication and sociocultural adaptation.

Clearly, there is an unmet academic need among Chinese international students to develop their productive skills for self-presentation and publication. As the identity development of international students appears to be more interactive and dynamic, the complex relation between language, identity and culture merits further research.

7.4 Strengths and limitations

This study is uniquely characterised by its mixed methods research design in carrying out an investigation into the health experience and well-being of Chinese international students in the UK university context. The strengths and limitations of the study need to be pointed out.

The strengths of the present study are: in the first place, the research focus of the study is the well-being and health issues of Chinese international students in an UK education context. As an uncharted research territory, this research provided unique insights into the health experiences of the fast-growing number of Chinese international students in UK universities. Due to a dearth of similar research, the present study functioned as a stepping stone for a massive scale study in the global context.

Secondly, there is a lack of qualitative research with respect to the well-being and health issues of international students (Smith, et al. p.31). Using both qualitative and

quantitative methods to investigate the health and well-being issues of Chinese international students in the UK, this study provided the opportunity to triangulate and complement the qualitative and quantitative findings. This study placed an emphasis on the understudied cultural variation of health and well-being issues of Chinese international students in the UK context. The mixed research methodology proved to be more effective and persuasive than that in the past research.

Thirdly, different from previous studies, this study moved a step forward and explored the health and well-being issues of Chinese international students through examining the mediating effects and moderation effects. To be specific, it was found that social support mediated the association between sociocultural adaptation and well-being (H10); psychological adaptation and sociocultural adaptation mediated the association between health status and well-being (H12); and social support did not moderate the relationship between academic stress and well-being. As such, the current study goes beyond a simple correlation or regression study and makes it possible to investigate the complex relationship between central constructs (e.g. academic stress, psychological adaptation, sociocultural adaptation and well-being), thus leading to a more rigorous and systematic investigation in relation to the health and well-being issues of Chinese international students in UK universities.

An original contribution to the knowledge of this study is the self-developed questionnaire - *Chinese international students' well-being scale* (CISWS). This questionnaire has covered well-being, cultural health beliefs, sociocultural adaptation, psychological adaptation, academic stress and social support. It demonstrated good

internal reliability and are available in both English and Chinese, which can be further tested in different samples of international students worldwide.

Most important of all, the study highlighted the personal constructs from the personal interviews: *fighting tiger, a fish out of water, Yin* and *Yang*, *TCM*, *internationalised person, one-child policy*, to name only a few. Such personal constructs shed some lights on a better understanding of the health and well-being issues of Chinese international students in the UK higher education, and proved to be culture-specific for identifying their coping strategies to resolve their health-related hassles, and assessing the extent to which these students experienced sociocultural adaption and psychological adjustment while studying abroad.

Limitations: Although mixed approaches for data collection and analyses were used, the data collection and analyses were far from perfect. Several limitations were identified in the study:

Firstly, the samples used in the qualitative study were drawn from Chinese university students in the northwest of UK only. If students from a wider range of universities were involved, a broader and better view of the health and well-being experiences of Chinese international students might be gained. In the future study, a larger population-based research is needed to improve the representativeness of the target research group.

Secondly, a single investigator conducted both quantitative and qualitative data analyses. As a Chinese international student, the researcher was aware that an insider

bias was likely to arise. Though the researcher herself may offer a privileged insight into the Chinese international students' health related issues, it may be seen as a limitation to the research. Although the participants were assured that their response to the interviews and questionnaire would be confidential, the researcher was not sure whether their responses were biased or socially favoured. During their study abroad, the participants of Chinese background were likely to avoid expressing too much about their feelings, emotions and opinions.

Thirdly, considering the time constraint and the composition of undergraduate and postgraduates in the present sample, great caution must be exercised to interpret the available results. As study abroad is potentially complex and controversial, more in-depth longitudinal studies of Chinese international students' health and well-being issues are needed to confirm the related findings. This implies that the results obtained may not be generalizable to other ethnic minority international students in the UK or to Chinese international students studying in other Western countries, before they are replicated in these populations.

7.5 Implications

The results of the study offer important implications for studying Chinese international students' health and well-being, which will be illustrated from the following three aspects: 1) theoretical implications; 2) methodological implications; and 3) practical implications.

7.5.1 Theoretical implications

This study explored the health and well-being issues of Chinese international students in the UK universities within a sociocultural and psychological framework. Both qualitative and quantitative findings appeared to support the existing theory of 'cross-cultural adaptation' (Ward & Searle, 1991). Worthy of note was that both home culture and host culture were equally valued in the current study. Unlike previous studies, culture-specific variables such as *Yin* and *Yang* beliefs, *balanced diet, one-child policy* and weather-related health beliefs were considered in the interpretations of the health and well-being issues of Chinese international students. Meanwhile, individual factors such as demographic information, English proficiency and self-rated health status were taken into account. This research orientation seemed to be conducive to a systematic and productive research, and proved to be helpful for identifying a range of central factors leading to the enhanced well-being of Chinese international students.

7.5.2 Methodological implications

Methodological implications drawn from the findings in this study were three-fold: The first was the use of a mixed approach to investigate the health and well-being issues of Chinese international students in UK universities. Through personal interviews and questionnaires, a variety of acculturative variables at micro level (e.g. language proficiency, self-rated health status) and at macro level (e.g. social support, psychological adjustment and sociocultural adaptation, social support and well-being) were investigated. Secondly, mediation effect of sociocultural adaptation on psychological adaptation on well-being was examined. More importantly, moderation tests were conducted to examine the relationship between academic stress and social

support and well-being. Thirdly, before the quantitative study, face-to-face interviews were conducted so as to focus on main themes and generate relevant questionnaire items in relation to the health and well-being issues of Chinese international students in the UK universities. Consequently, quantitative and qualitative data analyses could triangulate each other, and allow us to better understand the health and well-being issues of Chinese international students in UK universities.

7.5.3 Practical implications

The study also provided practical implications for counsellors and educational advisors who work closely with international students. It was discovered from this study that academic stress and lack of social support had significantly negative impact on the emotional well-being of Chinese international students. Thus, helping Chinese international students solve the problems in these domains would efficiently enhance their sense of well-being. First, gaining an insight and deeper level understanding of these students' adaptation and well-being issues might enable the university counselling service provider to offer access to more culturally sensitive support. This would increase universities and practitioners' understanding of Chinese international students' help-seeking behaviour and health related choices. In particular, faculty administration staff, counsellors, academic staff and administrators in universities could help international students to find effective practical strategies to reduce their academic stress and offer more social support. Equally important is to enhance Chinese international students' awareness of health and well-being, which would have a positive effect on their learning experience in host universities.

7.5.3.1 Implications for counselling services

For Chinese international students who reported a low level of well-being, it could be beneficial for counsellors to first assess whether they have sufficient social support: if students complained about feeling lonely and do not have effective social support network, the counsellors might suggest on campus activities such as 'quiz night' or hiking and excursions offered by the international societies; or joining a student society or club (e.g. badminton or table tennis club) for personal interest, or organisation such as CSSA (Chinese Student Scholars Association) to meet and make conation and international friends, and so forth. In a similar vein, for international students who showed a high level of concern over the academic stress, counsellors could help them to analyse and evaluate if they have access to effective social support either emotionally or practically, meanwhile to explore if these students are in close contact with their friends, families via video call, Facetime or social networks such as *Wechat*.

7.5.3.2 Implication for university services

The mediating tests demonstrated the importance of sociocultural adaptation in maintaining Chinese international students' health and well-being both in a direct way and as a mediating factor. The Chinese international students' acculturations were manifested in their contact and intercultural communication with the UK local and home students. The university student service centre as well as the international society can help the international students' sociocultural adaptation with organising events involving both international students and home students for more opportunities of interaction to smooth their adaptation to the new culture.

Student service offices could arrange orientation programs specially geared to the needs of Chinese international students. To help Chinese international students make local and international friends, the Student Unions or various student associations and societies could play an active role in initiating a wide range of social activities, such as sightseeing excursions, cultural evenings, joint research program discussions and field trips; it could be a good idea to pair a Chinese international student with an English-speaking student (who is interested in China or Chinese culture) as study groups for cooperative learning and/or as roommates in student residence halls pair international students with British peers (Abe, Talbot, & Geelhoed, 1998).

7.5.3.3 Utilization of TCM and WM health service

The findings of this study may encourage medical practitioners to be more aware of the cultural influence on health behaviours. This study investigated Chinese international students' perception of facilitators and barriers to maintaining health in the UK, thus offered significant factors that influence health-seeking behaviour of this group of students. This may be of help for health promotion practitioners who struggle to develop strategies to encourage changes in health-seeking behaviour that are effective and sustainable in maintaining their health and well-being. Their perception and preference of TCM and WM are based on their cultural health beliefs and practical factors such as long waiting before appointment, language barriers in clinical communication with British GPs. Cultural beliefs and practices influenced health-seeking behaviour. Despite high self-rated English language proficiency in this well-educated group of students, communication in English is still deemed as a major challenge as barriers to accessing health services.

7.6 Chapter summary

Compared with previous studies, chapter seven has discussed the main findings from both qualitative and quantitative data analyses. The consistency between qualitative and quantitative findings and the discrepancy between them were scrutinized. Possible reasons for the unexpected findings were given. Furthermore, strengths and limitations of the study were assessed. Finally, theoretical, methodological and practical implications were outlined, together with recommendations for future studies. The next chapter will offer a brief summary of all the main findings emerged from qualitative and quantitative data. The contribution of the current study and possible future research are also presented in the final chapter of this thesis.

CHAPTER EIGHT
CONCLUSION

8.1 Overview of the study

This exploratory study sets out to investigate Chinese international students' health and well-being when studying in UK universities. A mixed methodology with in-depth interviews as well as questionnaire surveys was adopted for the present study to collect qualitative and quantitative data. Both qualitative and quantitative data were triangulated with each other (see Chapter 7 discussion). In this chapter, firstly, the outcomes of this research will be summarised. Secondly, the major contributions of the study to the understanding of Chinese international students' health and well-being in UK universities will be discussed. Thirdly, recommendations for possible areas of future research will be offered. It will end with a chapter summary and final words.

8.2 Major findings of the study

The major findings of the study were summarised by answering the research questions raised in the study (see section 1.5)

8.2.1 Research question 1

In research question 1, two sub-questions were formulated: 1) What did Chinese international students report about their health and well-being while studying in the UK? and 2) What are their attitudes towards the use of WM and TCM? and Why? In answer to the first research questions:

The qualitative data analyses showed that 1) academic stress/anxiety tends to arise from study abroad; 2) a number of Chinese international students struggled for sociocultural adaptation; 3) different views exist with respect to social support; 4) study abroad seems to be closely related to psychological adaptation; 5) Chinese female students tend to show more concerns about health than their male counterparts; 6) many Chinese international students appear to be bothered by the dilemmas between using TCM or WM health service; and 7) a number of Chinese international students seem to adhere to the cultural health beliefs and well-being practice in their home culture.

Finding A: Chinese international students, irrespective of their gender and academic status, reported that academic stress/anxiety tends to arise from study abroad. For them, "well-being" goes beyond physical health, and involves a balance of one's mind, body, and spirit. They tend to strive for a balance or harmony of physical health, emotional needs and intellectual pursuit.

Finding B: In their sociocultural adaptation, a number of Chinese international students felt uneasy in adjusting themselves to the host culture although English football culture and pub culture impressed them most. Inadequate English proficiency tended to limit them from socialising and interacting effectively with others in the host culture. As a consequence, English language deficiency tended to frustrate many international students and gave rise to academic stress (See section 5.2 and section 5.3).

Finding C: Some Chinese international students became interested in church culture, and regarded church going as a key turning point in their life. With the guidance of God, they felt less spiritual loneliness or isolation. They reported feeling like walking out the shadow of academic stress and depression (See section 5.2).

Finding D: The different teaching and learning styles in the UK and China appeared to distress some Chinese international students who were fond of knowledge-telling instead of knowledge-transforming in their academic performance. Step by step, they became accustomed to questioning one's own and others' beliefs, and learning through thinking independently or critically (See section 5.3).

Finding E: Study abroad seems to be closely related to psychological adaptation. Strongly motivated to study abroad, many Chinese international students reported experiencing psychological stress when they struggled to meet rigorous academic demands, and to communicate in non-native language: English. Leaving their familiar home culture, a number of Chinese international students tend to suffer from sleep disorders, indigestion, headaches, insomnia, countless muscular and skeletal pains. Facing adversity, many Chinese international students did their utmost to achieve their academic success with robust self-efficacy beliefs (See section 5.4).

Finding F: Different views exist with respect to social support. Most Chinese international students tended to view family support as a powerful coping resource for adjusting to an unfamiliar culture; whereas others did not expect too much from their families due to the high expectation of their families, fear of 'face losing', and loss of self-esteem. Instead, they turned to support from their friends or co-nationals.

Paradoxically, strong family bond ties tend to weaken Chinese international students' efforts to become new members of the targeted community, and a lack of social support may bring about homesickness, isolation, loneliness, or alienation, thus thwarting their efforts to hone the strengths necessary to integrate into the host culture (See section 5.5).

Finding G: Some Chinese international students reported their dilemma between using TCM or WM health services, as they perceived their GP health service in a negative light. Their underuse of the NHS health services in general, and GP health service in particular stemmed from the cold welcome to international students, language barriers, delayed treatments, and the lack of shared concepts concerning the causes and manifestations of health and illness (See section 5.6).

Finding H: Female Chinese international students tend to show more concern about their health than their male counterparts. Sensitive to their health care, female Chinese international students displayed their tendency to visit TCM clinics instead of the NHS/GP health services. This is because TCM is considered more suitable and effective for treating chronic illness, including gynaecology related issues such as irregular periods, period pain, the stagnation of blood circulation or blood deficiency (See section 5.7).

Finding I: Concerning the health beliefs and practices of Chinese international students when studying at UK universities, a majority of them tend to adhere to the cultural health beliefs and well-being practice in their home culture. As noted in Section 5.1, the traditional Chinese *Yin and Yang* concepts were widely recognized,

and they used them to maintain well-being and restore their health from ailments (See section 5.1).

Finding J: Regarding their attitudes towards the use of WM and TCM and the reasons for using WM and/or TCM, most of the Chinese international students interviewed adopted a pragmatic approach towards TCM and WM. They generally believe that TCM cures the root causes of diseases, while WM only cures the symptoms; TCM is more effective in treating chronic diseases than WM; the use of WM has more drug side effects than TCM; WM can be used in treating severe diseases, while TCM for minor diseases; WM is more scientific-based than TCM; TCM maintains health through *Yin-Yang* balance.

Finding K: There is a close link between their health and the local weather conditions. Specifically, the wet and cold weather was likely to cause their emotional discomfort, such as seasonal depression, psychological low mood and physical ailments (See section 5.1).

8.2.2 Research question 2

Research question 2 asked, What factors drive Chinese international students' well-being? four sub-questions were formulated: 1) What is the relationship between academic stress and well-being of Chinese international students in the UK? 2) What is the relationship between sociocultural adaptation and well-being of Chinese international students in the UK? 3) What factors may predict their psychological adaptation? and 4) What effect does social support have in the association between sociocultural adaptation and well-being?

The quantitative data analyses revealed that a range of hypotheses formulated on the basis of the literature review and qualitative data analyses were verified, with some hypotheses rejected (for more details please see chapter 6).

Finding L: The quantitative data analyses (multi-regression analysis) showed that a range of factors drove Chinese international students' health and well-being, including psychological adaptation, social support, cultural health beliefs and sociocultural adaptation, which proved to be significant positive predictors of the health and well-being (See section 6.6). Among these variables measured, only academic stress was a significant negative predictor of Chinese international students' health and well-being. In terms of demographic factors, age and self-rated health status were significant positive predictors of Chinese international students' health and well-being. Gender or length of staying in the UK were not significant predictors of Chinese international students' health and well-being (See section 6.4).

Finding M: The quantitative data analyses (multiple-regression analysis) demonstrated that psychological adaptation had a major role in Chinese international students' health and well-being, followed by academic stress, social support, cultural health beliefs and sociocultural adaptation. Academic stress produced a negative effect on Chinese international students' health and well-being; sociocultural adaptation had a mediating effect in relation to age/health status and well-being, thus highlighting the role of sociocultural adaptation to enhance Chinese international students' health and well-being.

Finding N: With regard to the factors to predict psychological adaptation, English oral communication, length of stay in the UK, cultural health beliefs, sociocultural adaptation and social support proved to be significant predictors of psychological adaptation. However, health status and academic stress were not significant predictors of the psychological adaptation of Chinese international students.

Finding O: Concerning the effect of social support in the association between sociocultural adaptation and health and well-being, social support demonstrated a partial mediating effect on the association between sociocultural adaptation and health and well-being of Chinese international students (See section 6.7).

In response to the research questions of what factors drive Chinese international students' well-being? Among demographic factors, age and self-rated health status were significant positive predictors of Chinese international students' well-being. Sociocultural adaptation, psychological adaptation, cultural health beliefs, and social support were significant positive predictors of Chinese international students' well-being. Academic stress was significantly negatively correlated with health and well-being and it was a significant negative predictor of well-being too.

English oral communication, length of stay in the UK, cultural health beliefs, sociocultural adaptation and social support were significant positive predictors of psychological adaptation. Social support seemed to have a mediating effect in the association between sociocultural adaptation and health and well-being.

With regard to research question 3: How did they manage to achieve their well-being in the UK universities? Three sub-questions were formulated: 1)What strategies did they employ to reduce their academic stress? (Qualitative and Quantitative); 2) What social support/resources did they use to resolve the perceived psychological stress? (Qualitative and Quantitative); and 3) How is their sociocultural adaptation? (Qualitative and Quantitative).

Finding P: Both qualitative and quantitative data analyses showed that Chinese international students utilised a variety of resources to maintain their health and well-being. The IPA data analyses of the personal interviews revealed strategies such as dietary regulation, food selection, food therapy, taking home prepared patent Chinese medicine, taking Taichi exercises, drinking herbal tea, etc. practices embedded in their home culture. An emphasis has been placed on the daily lifestyle choice, especially through preventative therapy to maintain their well-being while studying in the UK. They utilised the health service of TCM and WM, with the latter underused in UK universities.

Finding Q: To resolve their perceived psychological stress, they used different social support/resources. Chinese international students reported going to church for spiritual comfort, and seeking social support from families, friends and university counselling services. Most of them liked making friends with UK students, and actively engaged in group work and team work. In their spare time, they watched English TV programmes and BBC news. The emotional support from families and friends were also used to reduce their psychological stress. (See section 6.3).

Finding R: With regard to their sociocultural adaptation, the quantitative data analyses revealed that among the six domains of sociocultural adaptation, Chinese international students experienced the highest level of sociocultural adaptation in Living (e.g. hygiene, sleeping practices, and safety). The second and third highest levels of sociocultural adaptation are "People" as stated as how friendly people are, how stressed /relaxed people are, attitudes toward foreigners and "Friends" e.g. making friends, amount of social interaction, (what people do to have fun and relax). Value and beliefs, e.g. what people think about religion and politics, what is right or wrong are the fourth factors Chinese international students feel well adapted in. The two most challenging factors for Chinese international students to adapt to included language and people's sense of humour, which include learning the language, understanding lectures/people and making themselves understood. Understanding people's sense of humour in the UK was rated as most poorly adapted to.

8.3 Contributions

Acculturative stress is a type of stress associated with the process of adapting to a new culture (Berry, 1997, 2005, 2006). "In today's global society, research on intercultural mobility may be more pertinent than ever" (Demes & Geeraert, 2014, p.91). Chinese international students tend to experience acculturative stress related to the challenges of adjusting to British culture, the rigorous academic demands (Li & Gasser, 2005), and the use of their non-native language during their study abroad. This study attempted to make contributions in the following aspects:

1) **Theoretically,** this study initiated a research project to investigate the health and well-being of Chinese international students in UK universities within a sociocultural and psychological framework. Both home culture and host culture were equally valued in the current study. Unlike previous studies, culture specific variables such as *Yin* and *Yang* beliefs, balanced diet, and weather-related health beliefs were considered in relation to the health and well-being of Chinese international students.

2) **Methodologically,** both qualitative and quantitative approaches were used to collect and analyse the data. To deepen our understanding of the positive and negative aspects in their acculturative process, the Interpretative Phenomenological Analysis (IPA) was used to conduct qualitative data analysis. IPA allowed the researcher to have the participants' voice heard, and to gain an access to their cognitive inner world (Smith, Flower, & Larkin, 2009).

3) Worthy of note, two self-developed research instruments were used to investigate the health and well-being of Chinese international students: semi-structured interviews in the form of personal/individual interviews and newly developed questionnaire on *Chinese International Students' Well-being Survey* (CISWS). The questionnaire (CISWS) comprised a number of self-report statements designed to tap into different perceptions and practice of Chinese international students (please see Appendix VI). Building upon existing measures, the questionnaire (CISWS) was used to measure sociocultural adaptation, psychological adjustment, perceived social support, academic stress, and cultural health beliefs. The semi-structured interviews in the form of personal/individual interviews covered the central issues of motivations of study abroad, self-rated English proficiency, social connectedness, adherence to home

culture, psychological stress, and coping strategies to resolve cultural barriers or hassles.

4) Different from prior studies, a dynamic perspective was adopted to examine the health and well-being of Chinese international students. Specifically, their perceived change in cultural identity (intercultural mediator), bi-cultural competence, acculturative stress, social support, coping strategies to resolve cultural barriers and hassles arising from study abroad were highlighted.

5) Personal constructs of Chinese international students were highlighted to explore their health and well-being, 'ideal self'. Cultural variables such as *Yin and Yang, One child policy,* and TCM were used to achieve a better understanding of the health and well-being of Chinese international students in UK universities.

6) Worthy of note, the current study moved a step forward to investigate mediating effect and moderation effect in relation to health and well-being: 1) the mediation effect of sociocultural adaptation on psychological adaptation and well-being was examined; 2) moderation tests were conducted to examine the relationship between academic stress and social support and well-being. This study served as a stepping stone for future studies of the health and well-being of Chinese international students while studying abroad.

8.4 Recommendations for future research

1) Effects of mediation and moderation on acculturation and well-being

Further research is needed to ascertain whether academic stress, social support and well-being are associated with sociocultural adaptation and psychological adjustment (e.g., Zhang & Godson, 2011a; Ying & Han, 2006) among other cohorts of Chinese international students (in the US, Canada or Australia). As few studies have examined the mechanisms behind or the indirect effect of multiple variables in the dynamic relationship between health and well-being and the multiple variables such as psychological adaptation, academic stress, social support in the process of cross-cultural adaptation (i.e., mediation and moderation), more efforts are needed to examine the potential mediating and moderating effects of sociocultural adaptation and social support in the acculturative process and psychological well-being. A better understanding of the question is needed, including under what condition or for whom, the acculturation has the strongest influence on health and well-being (i.e., moderation effects).

2) Cultural factors/variables

As noted in the section 5.7, cultural factors/variables such as the union of human beings and nature (天人合一), balance of *Yin* vs. *Yang* (阴阳平衡), eating in accordance with the change of season (四季饮食), and mixture of hot and cold food (食性搭配), may exert some influence on the well-being of Chinese international students. Given that the shortage of Chinese culture specific terms (e.g. using westernized terms instead) may lead to potential misunderstanding in an intercultural context, cultural factors/variables merit further investigation. Further research is needed to explore culture specific variables such as 1) forbearance (fear of burdening others), and 2) perfectionism (e.g. cultural value to honour the family through academic achievements).

Forbearance as a coping strategy of Chinese international student (Wei, Liao, Heppner, Chao & Ku, 2012) warrants an in-depth study through qualitative inquiry so as to assess these students' behaviour in seeking social support and expressing their health and emotional needs. Statements such as "I keep the problem or concern to myself in order not to worry others" and "I told myself that I could overcome the problem or concern." may be used in the personal interviews.

Regarding perfectionism, Chinese international students may have unrealistically high expectation of themselves to maintain the same level of outstanding achievements as they used to in their home universities. The desire for academic excellence may lead to their silence or suppression of their difficulties or emotional problems to themselves, thus increasing their vulnerability to depression in the course of study abroad (Wei et al., 2007). Future studies can explore how to reduce maladaptive perfectionism among Chinese international students and increase their health and well-being while they study in UK universities.

3) Intercultural Communicative Competence

Intercultural Communicative Competence (ICC, Byram, 1997) of Chinese international students, especially bi-cultural competence deserves further investigation. As English deficiency is widely recognized as a predictor of acculturative stress or psychological distress, authorities of higher education need to reflect on and improve ICC of international students. Much is written on the internationalization of higher education, but little has been done about the inner link between the development of ICC and the psychological health and well-being of international students. Therefore,

it is necessary and opportune to discover where problems lie and how ICC could be improved.

To be more specific, Intercultural Communicative Competence (ICC) consists of five dimensions, namely, *savoirs, savoir apprendre, savoir comprendre, savoir etre,* and *savoir s'engager* (Byram, 1997). According to Houghton (2013), ICC is concerned with not only communicative abilities (understand, speak, read, and write English), but sociolinguistic competence, discourse competence, and cultural competence. It would be helpful to carry out longitudinal studies to explore the interrelationship between ICC and academic performance and health and well-being. To make ICC more operational, learnable and achievable, international students need to develop their "ability to negotiate cultural meanings and to execute appropriately effective communication behaviours" (Chen and Starosta, 1996, p.358). As such, their bi-cultural efficacy (e.g., "I feel that I have the necessary skills to adjust to the host culture") can be enhanced and their linguistic competence developed as evidenced in the case of how to say "I don't know".

Since ICC was integrated into the National College English Curriculum Guidelines (CECG, 2016) of the P. R. China, further research can investigate Chinese international students' perceived difference between their home culture and host culture, and their ability to communicate in-between and have their own voice heard (Gu, 2016). If possible, a range of meta-skills such as experiencing, exploring, analysing, evaluating, appreciating, respecting, accepting, self-reflecting, negotiating, and dialoguing should be fostered and assessed as well. In this way, Chinese international students' intercultural knowledge (Savoirs and savoir comprendre),

intercultural skills (Savoir apprendre and savoirs'engager), and intercultural awareness (Savoir-etre), coupled with their cultural identity will be developed (Houghton, 2013).

4) China's one-child policy

Last but not least, the "one-child policy" of China deserves a careful investigation. The effect of growing up as the only child may function as a potential moderator to influence or affect Chinese international students' health and well-being during their study abroad (Wei, Liao, Heppner, Chao & Ku, 2012; Feng, Cai, & Gu, 2013). The implementation of the "one-child policy" in China has made most of the students in their 20s and 30s grow up as the single child, with no brothers or sisters. With the socioeconomic development in China in the past thirty years, some of these children became "little emperors" at home, and may be more self-centred and less cooperative compared with other generations (Cameron, et. al, 2013; Deutsch, 2006); meanwhile they have a heavier burden to carry the family's hope for success. Sharing a house with others and living together under the same roof with culturally different people may be a challenging task for them, and therefore longitudinal studies are called for.

The emergence of a Chinese middle class has led to a sharp increase of families who can economically afford the international tuition fee for their children to study in the Western prestigious universities and even boarding schools at a young age. For example, the past ten years have seen a dramatic rise in the numbers of Chinese teenagers studying on their own in the US for middle school education (World Education News/ Reviews, 2017). Younger Chinese students choose to go abroad for high schools because more parents believe that this may lead to a better education in

the global context. Given that Chinese students arrive at a younger age, with most starting in the ninth grade, they may face more challenges in the sociocultural adaptation and psychological adjustment. Further research should be conducted on the psychological health and overall well-being of younger Chinese international students.

8.5 Chapter summary

By revisiting the research questions raised in the study, Chapter eight has summarised the main findings of the present study, and the contributions of the study, followed by recommendations for future research. The chapter ends with final words.

8.6 Final words

First and foremost, I would like to express my gratitude to the University of Lancaster, which allowed me to pursue my doctoral study at the Faculty of Health and Medicine in this university of the UK.

Given the growing worldwide trend of internalisation of higher education, this study has suggested implications drawn from ongoing progress of research development and hopes to provide some practical innovations in the higher education sector in the UK.

The growing numbers of international students are invaluable in generating economic, societal and cultural benefits, e.g. the spending by international students has become a key contributor to regional economies. However, with English as their foreign language, these international students are more likely to experience challenges given

the language and cultural barriers, health and well-being concerns, pedagogical challenges, and loss of familiar social support (Akanwa, 2015).

In UK universities, Chinese international students have to adapt to not only English academic culture but an intercultural or multicultural world, where every international student speaks English with an accent. Studying abroad involves the development of intercultural communicative competence (ICC) (Byram, 1997).

Eight years ago, as a university student of TCM, I successfully passed the International English Language Testing System (IELTS) with the score of 7.5. Confident and curious, I embarked on the journey of study abroad at the University of Manchester, where I obtained my Bachelor degree in communication and master degree in educational research. Then, I moved on and started my doctoral degree in health research at the Lancaster University. As expected, study abroad provided me with the opportunity to experience cultural differences, which drove me to explore the impact of the cultural difference on Chinese international students' health and well-being.

Study abroad offered me vibrant opportunities to engage in intercultural communication and function as an intercultural mediator in a multicultural context. The moment I entered the research methodology course at the University of Lancaster (2014), I knew exactly which career I was destined for - the research into health and well-being of international students as I was fascinated and challenged by the issues discussed in class. Given that study abroad is a complex intercultural process, which is further complicated by individual differences in terms of characters and coping

strategies (Green & Myatt, 2011), how these Chinese international students perceive their health and well-being in the English cultural context proves to be a complex and challenging issue, particularly when they are striving to fulfil their personal, familial and career goals.

Considering their lack of social network, Chinese international students may encounter difficult situations and therefore they need help practically or emotionally when facing challenges in communication, academic works or difficulties in understanding others. These circumstances are likely to result in stress and anxiety for Chinese international students. It is highly likely that culture shock, lack of support, homesickness, helplessness, and loneliness interfere with their educational experiences abroad. In view of this, I set out to investigate the health and well-being of Chinese international students in the UK universities.

Both qualitative and quantitative findings have shown that academic stress, psychological adjustment, sociocultural adaptation, social support, cultural health beliefs, utilization of TCM and WM health service are pertinent to the health and well-being of Chinese international students. This study has opened a small window on the health and well-being of Chinese international students in UK universities. In their academic pursuit, Chinese international students showed their sincere intention to become intercultural mediators. In spite of varied frustrations, they exercised considerable personal agency and exhibited their intercultural communicative competence (ICC) in the context of UK universities.

By exploring Chinese students' psychological adjustment and sociocultural adaptation, together with their utilization of health service, it is hoped that the findings could encourage health services providers to be more aware of the culturally shaped health behaviours. In the years to come, I will make a continuing effort to investigate Chinese international students' health and well-being, concentrate on the mediation and moderation effects, and seek an effective solution to their academic stress and psychological distress. Hopefully, a new era of exploring the link between academic performance and health and well-being of Chinese international students in an intercultural context is on the horizon.

I intend to disseminate the findings of this research to researchers, lecturers and students through international conferences, teacher development forums, workshops at Manchester University and Lancaster University as well as through publishing journal articles to reach a wider audience. By raising the awareness, amongst both health practitioners, researchers, teachers and students at British universities, of the academic, medical and cultural traditions, from which the Chinese students come from, it is hoped that it will lead to a greater understanding of the adaptation that the students have to make both academically and culturally.

References

Abe, J., Talbot, D. M., & Geelhoed, R. J. (1998). Effects of a peer program on international student adjustment. *Journal of College Student Development, 39*(6), 539.

Ackroyd, S. (2004). Some implications of critical realism. Critical realist applications in organisation and management studies, London, Sage, pp 127-128.

Adelman, M. B. (1988). Cross-cultural adjustment: A theoretical perspective on social support. *International journal of intercultural relations, 12*(3), 183-204.

Akanwa, E. E. (2015). International students in western developed countries: History, challenges, and prospects. *Journal of International Students, 5*(3), 271-284.

Almohanna, A., Conforti, F., Eigel, W., & Barbeau, W. (2015). Impact of dietary acculturation on the food habits, weight, blood pressure, and fasting blood glucose levels of international college students. *Journal of American College Health, 63*(5), 307-314.

Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International education, 5*(2), 131-154.

Ang, R. P., & Huan, V. S. (2006). Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using multiple regression. *Child psychiatry and human development, 37*(2), 133.

Arends-Tóth, J., & van de Vijver, F. J. (2006). Issues in the Conceptualization and Assessment of Acculturation.

Arnett, J. J. (2002). The psychology of globalization. *American psychologist, 57*(10), 774-783.

Ataca, B., & Berry, J. W. (2002). Psychological, sociocultural, and marital adaptation of Turkish immigrant couples in Canada. *International Journal of Psychology, 37*(1), 13-26.

Babbie, E. R. (2015). *The practice of social research*: Nelson Education.

Bandura, A. (1994). Self-efficacy. In Ramachaudran, V. S. (ed.) *Encyclopedia of Human Behaviour, 4*. New York: Academic Press, 71-81.

Bandura, A. (1995). (ed.) *Self-efficacy in Changing Societies*. Cambridge: Cambridge University Press.

Barbour, R. (2008). *Doing focus groups*: Sage.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology, 51*(6), 1173.

Barratt, M., & Huba, M. (1994). Factors related to international undergraduate student adjustment in an American community. *College Student Journal*.

Barrera Jr, M., Castro, F. G., Strycker, L. A., & Toobert, D. J. (2013). Cultural adaptations of behavioral

Barry, D. T., & Garner, D. M. (2001). Eating concerns in East Asian immigrants: Relationships between acculturation, self-construal, ethnic identity, gender, psychological functioning and eating concerns. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 6*(2), 90-98.

Bates, J. A. (2005). Use of narrative interviewing in everyday information behavior research. *Library & Information Science Research, 26*(1), 15-28.

Bate, R. (2012). *Phake: the deadly world of falsified and substandard medicines*: AEI Press.

Beaven, A., & Borghetti, C. (2016). Interculturality in study abroad: Taylor & Francis.

Berg, B. L., Lune, H., & Lune, H. (2004). *Qualitative research methods for the social sciences* (Vol. 5): Pearson Boston, MA.

Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied psychology, 46*(1), 5-34.

Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International journal of intercultural relations, 29*(6), 697-712.

Berry, J. W. (2006). Acculturation: A conceptual overview. *Acculturation and parent-child relationships: Measurement and development, 2*, 13-30.

Berry, J. W., Kim, U., Minde, T., & Mok, D. (1987). Comparative studies of acculturative stress. *International migration review*, 491-511.

Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant youth: Acculturation, identity, and adaptation. *Applied psychology, 55*(3), 303-332.

Bertram, D. M., Poulakis, M., Elsasser, B. S., & Kumar, E. (2014). Social support and acculturation in Chinese international students. *Journal of Multicultural Counseling and Development, 42*(2), 107-124.

Bhaskar, R. (2013). *A Realist Theory of Science*: Routledge.

Biggerstaff, D., & Thompson, A. R. (2008). Interpretative Phenomenological Analysis (IPA): A Qualitative Methodology of Choice in Healthcare Research. *Qualitative research in psychology, 5*(3), 214-224. doi: 10.1080/14780880802314304

Birman, D., & Simon, C. D. (2014). Acculturation research: Challenges, complexities, and possibilities. *APA handbook of multicultural psychology, 1*, 207-230.

Bishop, F. L., Lim, C. Y., Leydon, G. M., & Lewith, G. T. (2009). Overseas Chinese students in the UK: patterns and correlates of their use of Western and traditional Chinese medicine. *Complementary therapies in clinical practice, 15*(1), 8-13.

Black, T. R. (1999). *Doing quantitative research in the social sciences: An integrated approach to research design, measurement and statistics*: Sage.

Blaikie, N. (2009). *Designing Social Research: Cambridge and Malden,* MA: Polity Press.

Blumenthal, D., & Hsiao, W. (2005). Privatization and its discontents—the evolving Chinese health care system. *New England Journal of Medicine, 353*(11), 1165-1170.

Bourhis, R. Y., Moise, L. C., Perreault, S., & Senecal, S. (1997). Towards an interactive acculturation model: A social psychological approach. *International journal of psychology, 32*(6), 369-386.

Bowling, A. (2014). *Research methods in health: investigating health and health services*: McGraw-Hill Education (UK).

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101.

Breslin, S. (2016). *China and the global political economy*: Springer.

Brisset, C., Safdar, S., Lewis, J. R., & Sabatier, C. (2010). Psychological and sociocultural adaptation of university students in France: The case of Vietnamese international students. *International journal of intercultural relations, 34*(4), 413-426.

Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative research, 6*(1), 97-113.

Bryman, A., & Bell, E. (2007). Business research strategies. *Business research methods*.

Butani, Y., Weintraub, J. A., & Barker, J. C. (2008). Oral health-related cultural beliefs for four racial/ethnic groups: Assessment of the literature. *BMC Oral Health, 8*(1), 26.

Byram, M. (1997). *Teaching and assessing intercultural communicative competence*: Multilingual Matters.

Cahill, C. R., & Stavrianeas, S. (2013). Assessing dietary changes in international students and the barriers to healthy living abroad: a review. *Journal of Exercise Physiology Online, 16*(4), 51-64.

Calderón-Garcidueñas, L., Calderón-Garcidueñas, A., Torres-Jardón, R., Avila-Ramírez, J., Kulesza, R. J., & Angiulli, A. D. (2015). Air pollution and your brain: what do you need to know right now. *Primary health care research & development, 16*(04), 329-345.

Cameron, K. (2016). *Factors influencing the perceived stress and sociocultural adaptation of international students: Policy and leadership implications.* Niagara Univeristy

Cameron, L., Erkal, N., Gangadharan, L., & Meng, X. (2013). Little emperors: behavioral impacts of China's One-Child Policy. *Science, 339*(6122), 953-957.

Cao, C., Zhu, D. C., & Meng, Q. (2016). An exploratory study of inter-relationships of acculturative stressors among Chinese students from six European union (EU) countries. *International journal of intercultural relations, 55*, 8-19.

Carey, S. (2009). *The origin of concepts*: Oxford University Press.

Carter, R. (2003). Language Awareness. *ELT journal, 57*(1), 64-65.

Cemalcilar, Z., & Falbo, T. (2008). A longitudinal study of the adaptation of international students in the United States. *Journal of Cross-Cultural Psychology, 39*(6), 799-804.

Cetinkaya-Yildiz, E., Cakir, S. G., & Kondakci, Y. (2011). Psychological distress among international students in Turkey. *International journal of intercultural relations, 35*(5), 534-539.

Chabbott, C. (2013). *Constructing education for development: International organizations and education for all*: Routledge.

Chae, S.-M., Park, J. W., & Kang, H. S. (2014). Relationships of acculturative stress, depression, and social support to health-related quality of life in Vietnamese immigrant women in South Korea. *Journal of Transcultural Nursing, 25*(2), 137-144.

Chambel, M. J., & Curral, L. (2005). Stress in academic life: work characteristics as predictors of student well-being and performance. *Applied psychology, 54*(1), 135-147.

Chan, C., Ying Ho, P. S., & Chow, E. (2002). A body-mind-spirit model in health: an Eastern approach. *Social work in health care, 34*(3-4), 261-282.

Chan, E. A., Cheung, K., Mok, E., Cheung, S., & Tong, E. (2006). A narrative inquiry into the Hong Kong Chinese adults' concepts of health through their cultural stories. *International journal of nursing studies, 43*(3), 301-309.

Chan, K.-W., & Ip, M. (2014). Cooperatives in China—A Promising Player in Chinese Economy: Guest Editors' Introduction. *Chinese Economy, 47*(4), 3-7.

Chang, D. F., Tong, H., Shi, Q., & Zeng, Q. (2005). Letting a hundred flowers bloom: Counseling and psychotherapy in the People's Republic of China. *Journal of Mental Health Counseling, 27*(2), 104-116.

Chang, J. (2006). Globalization and English in Chinese higher education. *World Englishes, 25*(3-4), 513-525.

Chang, J., Chen, C.-N., & Alegría, M. (2014). Contextualizing social support: Pathways to help seeking in Latinos, Asian Americans, and Whites. *Journal of Social and Clinical Psychology, 33*(1), 1-24.

Chen, C. P. (1999). Professional issues: Common stressors among international college students: Research and counseling implications. *Journal of College Counseling, 2*(1), 49-65.

Chen, F.-p., Lai, G. Y.-C., & Yang, L. (2013). Mental illness disclosure in Chinese immigrant communities. *Journal of Counseling Psychology, 60*(3), 379.

Chen, G.-M., & Starosta, W. J. (1996). Intercultural communication competence: A synthesis. *Annals of the International Communication Association, 19*(1), 353-383.

Chen, H. Y., & Boore, J. R. (2010). Translation and back-translation in qualitative nursing research: methodological review. *Journal of clinical nursing, 19*(1-2), 234-239.

Chen, H.-H., Hwang, F.-M., Tai, C.-J., & Chien, L.-Y. (2013). The interrelationships among acculturation, social support, and postpartum depression symptoms among marriage-based immigrant women in Taiwan: a cohort study. *Journal of Immigrant and Minority Health, 15*(1), 17-23.

Chen, J. (2010). A cultural approach to understanding and working with Chinese migrants in New Zealand: a thesis presented in partial fulfillment of the requirements for the degree of Doctor of Clinical Psychology at Massey University, Albany, New Zealand.

Chen, J. (2015). Teachers' conceptions of approaches to teaching: A Chinese perspective. *The Asia-Pacific Education Researcher, 24*(2), 341-351.

Chen, L. (2002). Communication in intercultural relationships. In W. B. Gudykunst & B. Mody (Eds.), *Handbook of International and Intercultural Communication* (2nd ed., pp. 241– 258). Thousand Oaks, CA: Sage.

Chen, X., & Swartzman, L. C. (2001). Health beliefs and experiences in Asian cultures. *Handbook of cultural health psychology*, 390-411.

Chen, Y. W. (2006). Intercultural friendship from the perspective of East Asian international students. *China Media Research, 2*(3), 43-58.

Chen, Y.-L. D. (1996). Conformity with nature: A theory of Chinese American elders' health promotion and illness prevention processes. *Advances in Nursing Science, 19*(2), 17-26.

Chen, L., & Yang, X. (2015). Nature and effectiveness of online social support for intercultural adaptation of Mainland Chinese international students. *International journal of communication, 9*, 21.

Cheng, A. T. (2001). Case definition and culture: are people all the same? : RCP.

Cheng, M. H. M., & Wan, Z. H. (2016). Unpacking the paradox of Chinese science learners: Insights from research into Asian Chinese school students' attitudes towards learning science, science learning strategies, and scientific epistemological views. *Studies in Science Education, 52*(1), 29-62.

China Daily: http://www.chinadaily.com.cn/china/2017-04/07/content_28827442.htm

China Daily: http://www.chinadaily.com.cn/business/2017-04/12/content_28895679.htm (One belt one road)

China File: http://www.chinafile.com/archive/201605?page=6 retrieved on the 6th May, 2017.

China View: The train between China and Europe. http://www.xinhuanet.com/world/chinaeurope-relations/index.htm, retrieved on the 6th May, 2017.

Chiu, Y. C. J. (2009). Facilitating Asian students' critical thinking in online discussions. *British Journal of Educational Technology, 40*(1), 42-57.

Cho, J., & Yu, H. (2015). Roles of university support for international students in the United States: Analysis of a systematic model of university identification, university support, and psychological well-being. *Journal of studies in international education, 19*(1), 11-27.

Choi, J., Miller, A., & Wilbur, J. (2009). Acculturation and depressive symptoms in Korean immigrant women. *Journal of Immigrant and Minority Health, 11*(1), 13-19.

Chow, S.-C., Wang, H., & Shao, J. (2007). *Sample size calculations in clinical research*: CRC press.

Chu, C. (2014). Yio Yueh-Tau (Sitting the Month) in Contemporary Taiwan. *Maternity and reproductive health in Asian societies*, 191.

Chung, K., & Wong, M. (2004). Experience of stigma among Chinese mental health patients in Hong Kong. *The Psychiatrist, 28*(12), 451-454.

Clark, R., & Gieve, S. N. (2006). On the discursive construction of 'the Chinese learner'. *Language, culture and curriculum, 19*(1), 54-73.

Coase, R., & Wang, N. (2016). *How China became capitalist*: Springer.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*: Routledge.

Coles, R., & Swami, V. (2012). The sociocultural adjustment trajectory of international university students and the role of university structures: A qualitative investigation. *Journal of Research in International Education, 11*(1), 87-100.

Coll, C. G., & Magnuson, K. (2014). The psychological experience of immigration: A developmental perspective. *The New Immigrant and the American Family: Interdisciplinary Perspectives on the New Immigration, 4*, 69.

Constant, A. F., Tien, B. N., Zimmermann, K. F., & Meng, J. (2013). China's Latent Human Capital Investment: achieving milestones and competing for the top. *Journal of Contemporary China, 22*(79), 109-130.

Cooper, B. J. (2004). The enigma of the Chinese learner. *Accounting Education, 13*(3), 289-310.

Cordasco, K. M., Ponce, N. A., Gatchell, M. S., Traudt, B., & Escarce, J. J. (2011). English language proficiency and geographical proximity to a safety net clinic as a predictor of health care access. *Journal of Immigrant and Minority Health, 13*(2), 260-267.

Creswell, J. W., Fetters, M. D., & Ivankova, N. V. (2004). Designing a mixed methods study in primary care. *The Annals of Family Medicine, 2(1),* 7-12.

Cura, Ü., & Isik, A. N. (2016). Impact of Acculturative Stress and Social Support on Academic Adjustment of International Students. *Egitim ve Bilim, 41*(184).

Dao, T. K., Lee, D., & Chang, H. L. (2007). Acculturation level, perceived English fluency, perceived social support level, and depression among Taiwanese international students. *College Student Journal, 41*(2), 287.

Darzi, A. (2008). *High quality care for all: NHS next stage review final report* (Vol. 7432): The Stationery Office.

De Alba, I., & Sweningson, J. M. (2006). English proficiency and physicians' recommendation of Pap smears among Hispanics. *Cancer detection and prevention, 30*(3), 292-296.

Del Pilar, J. A., & Udasco, J. O. (2004). Marginality theory: The lack of construct validity. *Hispanic Journal of Behavioral Sciences, 26*(1), 3-15.

Demaray, M. K., & Malecki, C. K. (2002). Critical levels of perceived social support associated with student adjustment. *School Psychology Quarterly, 17*(3), 213.

Demes, K. A., & Geeraert, N. (2014). Measures matter: Scales for adaptation, cultural distance, and acculturation orientation revisited. *Journal of Cross-Cultural Psychology, 45*(1), 91-109.

Demes, K. A., & Geeraert, N. (2015). The highs and lows of a cultural transition: A longitudinal analysis of sojourner stress and adaptation across 50 countries. *Journal of personality and social psychology, 109*(2), 316.

Denscombe, M. (2014). *The good research guide: for small-scale social research projects*: McGraw-Hill Education (UK).

Deutsch, F. M. (2006). How parents influence the life plans of graduating Chinese university students. *Journal of Comparative Family Studies*, 393-421.

DeVellis, M. (1991). *Reliability test of attitudinal instruments.* Paper presented at the annual research conference, university of Minnesota, Minneapolis.

Diaz, H., Marshak, H. H., Montgomery, S., Rea, B., & Backman, D. (2009). Acculturation and gender: Influence on healthy dietary outcomes for Latino adolescents in California. *Journal of nutrition education and behavior, 41*(5), 319-326.

Diener, E. (2000). Subjective well-being-The science of happiness and a proposal for a national index. *American psychologist, 55*(1), 34-43.

Ditzen, B., & Heinrichs, M. (2014). Psychobiology of social support: the social dimension of stress buffering. *Restorative neurology and neuroscience, 32*(1), 149-162.

Dixon, T. Y. (2014). *Passprot to campus: international student experiences of culture and gender stereotypes. A thesis submitted to the Graduate School. Ball State University*

Donato, R. (1994). Collective scaffolding in second language learning. *Vygotskian approaches to second language research, 33456*.

Dörnyei, Z. (2001). *Motivation strategies in the language classroom*: Ernst Klett Sprachen.

Dörnyei, Z., & Taguchi, T. (2009). *Questionnaires in second language research: Construction, administration, and processing*: Routledge.

Duncan, S., & Fiske, D. W. (2015). *Face-to-face interaction: Research, methods, and theory* (Vol. 3): Routledge.

Easterby-Smith, M. T., & Thorpe, R. (2002). R. and Lowe, A.(2002). *Management research: An introduction, 2*, 342.

Eatough, V., Smith, J. A., & Shaw, R. (2008). Women, anger, and aggression: An interpretative phenomenological analysis. *Journal of interpersonal violence, 23*(12), 1767-1799.

Edlund, L., Li, H., Yi, J., & Zhang, J. (2007). Sex ratios and crime: evidence from China's one-child policy: IZA Discussion Papers.

Eggleston, K., Ling, L., Qingyue, M., Lindelow, M., & Wagstaff, A. (2008). Health service delivery in China: a literature review. *Health economics, 17*(2), 149-165.

Eide, P., & Kahn, D. (2008). Ethical issues in the qualitative researcher—participant relationship. *Nursing ethics, 15*(2), 199-207.

Ellis-Bosold, C., & Thornton-Orr, D. (2013). A needs assessment: A study of perceived need for student health services by Chinese international students. *College Student Journal, 47*(1), 155-168.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer‐ Mediated Communication, 12*(4), 1143-1168.

Engel, K. G., Heisler, M., Smith, D. M., Robinson, C. H., Forman, J. H., & Ubel, P. A. (2009). Patient comprehension of emergency department care and instructions: are patients aware of when they do not understand? *Annals of emergency medicine, 53*(4), 454-461. e415.

Fakunle, L., Allison, P., & Fordyce, K. (2016). Chinese Postgraduate Students' Perspectives on Developing Critical Thinking on an UK Education Masters. *Journal of Curriculum and Teaching, 5*(1), p27.

Fang, L., & Schinke, S. P. (2007). Complementary alternative medicine use among Chinese Americans: findings from a community mental health service population. *Psychiatric Services, 58*(3), 402-404.

Fang, T. (2012). Yin Yang: A new perspective on culture. *Management and organization Review, 8*(1), 25-50.

Feng, W., Cai, Y., & Gu, B. (2013). Population, Policy, and Politics: How Will History Judge China's One Child Policy? *Population and develoPment review, 38*(s1), 115-129.

Fischer, C. T. (2009). Bracketing in qualitative research: Conceptual and practical matters. *Psychotherapy Research, 19*(4-5), 583-590.

Findley, S., & Matos, S. (2015). *Bridging the gap: How community health workers promote the health of immigrants*: Oxford University Press.

Fobes, C. (2005). Taking a critical pedagogical look at travel-study abroad:"A classroom with a view" in Cusco, Peru. *Teaching Sociology, 33*(2), 181-194.

Fowler Jr, F. J. (2013). *Survey research methods*: Sage publications.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*(1), 115.

French, H. W. (2006). Wealth grows, but health care withers in China. New York Times, 14.

Fu, H., & Chen, J. (2017). Formation, features and controlling strategies of severe haze-fog pollutions in China. *Science of The Total Environment, 578,* 121-138.

Funder, D. C. (2015). *The Personality Puzzle: Seventh International Student Edition*: WW Norton & Company.

Furham, A. (2012). Culture shock. *Journal of Psychology and Education, 7*(1), 9-22.

Furnham, A., & Wong, L. (2007). A cross-cultural comparison of British and Chinese beliefs about the causes, behaviour manifestations and treatment of schizophrenia. *Psychiatry research, 151*(1), 123-138.

Galton, M., Lai, K. C., & Chan, K. W. (2014). *Learning to teach small classes: Lessons from East Asia:* Routledge.

Gao, L.-l., Larsson, M., & Luo, S.-y. (2013). Internet use by Chinese women seeking pregnancy-related information. *Midwifery, 29*(7), 730-735.

Gao, M., Ahern, J., & Koshland, C. P. (2016). Perceived built environment and health-related quality of life in four types of neighborhoods in Xi'an, China. *Health & place, 39,* 110-115.

Gao, Z. (2015). Pavlovianism in China: Politics and differentiation across scientific disciplines in the Maoist era. *History of Science, 53*(1), 57-85.

Gaynor, M., Propper, C., & Seiler, S. (2016). Free to choose? Reform, choice, and consideration sets in the English National Health Service. *The American Economic Review, 106*(11), 3521-3557.

Gazzaniga, M., & Heatherton, T. (2015). *Psychological Science: Fifth International Student Edition*: WW Norton & Company.

Gee, G. C., & Ponce, N. (2010). Associations between racial discrimination, limited English proficiency, and health-related quality of life among 6 Asian ethnic groups in California. *American Journal of Public Health, 100*(5), 888-895.

Gervais, M.-C., & Jovchelovitch, S. (1998). Health and identity: the case of the Chinese community in England. *Social science information, 37*(4), 709-729.

Gill, S. (2007). Overseas students' intercultural adaptation as intercultural learning: A transformative framework. *Compare, 37*(2), 167-183.

Gong, Y. (2003). Goal orientations and cross-cultural adjustment: An exploratory study. *International journal of intercultural relations, 27*(3), 297-305.

Gorard, S. (2010). Research design, as independent of methods.

Gough, S., & Scott, W. (2000). Exploring the purposes of qualitative data coding in educational enquiry: Insights from recent research. *Educational Studies, 26*(3), 339-354.

Graham, S. (2006). A study of students' metacognitive beliefs about foreign language study and their impact on learning. *Foreign Language Annals, 39*(2), 296-309.

Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology, 78*(6), 1360-1380.

Granovetter, M. S. (1983). The strength of weak ties: A network theory revisited. *Sociological theory*, 201-233.

Green, G., Bradby, H., Chan, A., & Lee, M. (2006). "We are not completely Westernised": Dual medical systems and pathways to health care among Chinese migrant women in England. *Social science & medicine, 62*(6), 1498-1509.

Green, W., & Myatt, P. (2011). Telling tales: A narrative research study of the experiences of new international academic staff at an Australian university. *International Journal for Academic Development, 16*(1), 33-44.

Greene, J. C., & Caracelli, V. J. (1997). *Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms*: Jossey-Bass.

Grey, S., Cox, J. G., Serafini, E. J., & Sanz, C. (2015). The Role of Individual Differences in the Study Abroad Context: Cognitive Capacity and Language Development During Short-Term Intensive Language Exposure. *The Modern Language Journal, 99*(1), 137-157.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of psychosomatic research, 57*(1), 35-43.

Grotberg, E. H. (2003). *Resilience for today: Gaining strength from adversity*: Greenwood Publishing Group.

Gu, Q. (2016). Chinese Students in the UK *Spotlight on China* (pp. 107-128): Springer.

Gu, Q., & Maley, A. (2008). Changing places: A study of Chinese students in the UK. *Language and Intercultural Communication, 8*(4), 224-245.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods, 18*(1), 59-82.

Guo, K. (2013). Ideals and realities in Chinese immigrant parenting: Tiger mother versus others. *Journal of Family Studies, 19*(1), 44-52.

Guo, S., & Guo, Y. (2016). *Spotlight on China: Chinese Education in the Globalized World*: Springer.

Gurung, R. A. (2013). *Health psychology: A cultural approach*: Cengage Learning. Hall, J. K. (2005). *Language and Culture.* Beijing: Foreign Language Teaching and Research Press, China.

Hall, J. K. (2005). *Language and Culture*. Beijing: Foreign Language Teaching and Research Press, China.

Hamamura, T., & Laird, P. G. (2014). The effect of perfectionism and acculturative stress on levels of depression experienced by East Asian international students. *Journal of Multicultural Counseling and Development, 42*(4), 205-217.

Hamill, C., & Sinclair, H. A. (2010). Bracketing–practical considerations in Husserlian phenomenological research: Conal Hamill and Helen Sinclair discuss bracketing in Husserlian phenomenological research. *Nurse Researcher, 17(2),* 16-24.

Hammersley, M. (2010). Reproducing or constructing? Some questions about transcription in social research. *Qualitative research, 10*(5), 553-569.

Han, L., Berry, J. W., & Zheng, Y. (2016). The Relationship of Acculturation Strategies to Resilience: The Moderating Impact of Social Support among Qiang Ethnicity following the 2008 Chinese Earthquake. *PloS one, 11*(10), e0164484.

Han, X., Han, X., Luo, Q., Jacobs, S., & Jean-Baptiste, M. (2013). Report of a mental health survey among Chinese international students at Yale University. *Journal of American College Health, 61*(1), 1-8.

Hao, J., Wen, W., & Welch, A. (2016). When sojourners return: Employment opportunities and challenges facing high-skilled Chinese returnees. *Asian and Pacific Migration Journal, 25*(1), 22-40.

Harris, E. L. (2016). Aspects of Shen Dao's Political Philosophy.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*: Guilford Press.

He, C., Chen, T., Mao, X., & Zhou, Y. (2016). Economic transition, urbanization and population redistribution in China. *Habitat International, 51*, 39-47.

Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *International journal of intercultural relations, 35*(3), 281-295.

Heng, T. T. (2016). Different is not deficient: contradicting stereotypes of Chinese international students in US higher education. *Studies in Higher Education*, 1-15.

Hennink, M., Hutter, I., & Bailey, A. (2010). *Qualitative research methods*: Sage.

Hennink, M. M. (2008). Language and communication in cross-cultural qualitative research. *Doing cross-cultural research*, 21-33.

Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2016). Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough? *Qualitative Health Research,* 1049732316665344.

Hilton, I. V., Stephen, S., Barker, J. C., & Weintraub, J. A. (2007). Cultural factors and children's oral health care: a qualitative study of carers of young children. *Community dentistry and oral epidemiology, 35*(6), 429-438.

Hodkinson, C., & E. Poropat, A. (2014). Chinese students' participation: the effect of cultural factors. *Education+ Training, 56*(5), 430-446.

Holbert, R. L., & Stephenson, M. T. (2003). The importance of indirect effects in media effects research: Testing for mediation in structural equation modeling. *Journal of Broadcasting & Electronic Media, 47*(4), 556-572.

Hollenberg, D., & Muzzin, L. (2010). Epistemological challenges to integrative medicine: An anti-colonial perspective on the combination of complementary/alternative medicine with biomedicine. *Health Sociology Review, 19*(1), 34-56.

Holmes, P. (2005). Ethnic Chinese Students' Communication with Cultural Others in a New Zealand University This paper was first presented at the Australia New Zealand Communication Association (ANZCA) conference at Coolangatta, Queensland, Australia, in July 2002. The work is based on the author's doctoral thesis. *Communication education, 54*(4), 289-311.

Hostinar, C. E., & Gunnar, M. R. (2015). Social support can buffer against stress and shape brain activity. *AJOB neuroscience, 6*(3), 34-42.

Houghton, S. A. (2013). Making intercultural communicative competence and identity-development visible for assessment purposes in foreign language education. *The Language Learning Journal, 41*(3), 311-325.

Houston, S. (2001). Beyond social constructionism: Critical realism and social work. *British Journal of Social Work, 31(6),* 845-861.

Hoyt, W. T., Leierer, S., & Millington, M. J. (2006). Analysis and interpretation of findings using multiple regression techniques. *Rehabilitation Counseling Bulletin, 49*(4), 223-233.

Hsiao, A.-F., Wong, M. D., Goldstein, M. S., Becerra, L. S., Cheng, E. M., & Wenger, N. S. (2006). Complementary and alternative medicine use among Asian-American subgroups: prevalence, predictors, and lack of relationship to acculturation and access to conventional health care. *Journal of Alternative and Complementary Medicine, 12*(10), 1003-1010.

Hsiao, F. H., Klimidis, S., Minas, H., & Tan, E. S. (2006). Cultural attribution of mental health suffering in Chinese societies: the views of Chinese patients with mental illness and their caregivers. *Journal of clinical nursing, 15*(8), 998-1006.

Hsu, L., & Alden, L. E. (2008). Cultural influences on willingness to seek treatment for social anxiety in Chinese-and European-heritage students. *Cultural Diversity and Ethnic Minority Psychology, 14*(3), 215.

Hsu, S., & Wu, Y.-Y. (2015). *Education as Cultivation in Chinese Culture*: Springer.

Huang, G. H.-C., & Gove, M. (2012). Confucianism and Chinese families: Values and practices in education. *International Journal of Humanities and Social Science, 2*(3), 10-14.

Huang, J. (2011). Are Esol Students Really Experiencing High Levels Of Academic Anxiety At North American Universities?-Reports By Chinese Graduate Students. *International Journal of Business and Social Science, 2*(14).

Huang, J., & Klinger, D. A. (2006). Chinese graduate students at North American universities: Learning challenges and coping strategies. *Comparative and International Education/Éducation Comparée et Internationale, 35*(2), 48-61.

Huang, J., & Rinaldo, V. (2009). Factors affecting Chinese graduate students' cross-cultural learning. *International Journal of Applied Educational Studies, 4*(1), 1-13.

Huang, L., Chen, J., Zhu, M., & Wu, S. (2007). A study of TCM treatment choices among outpatients. *Jiangsu Journal of Traditional Chinese Medicine, 39*(4), 51-53.

Huang, G. H.-C., & Gove, M. (2012). Confucianism and Chinese families: Values and practices in education. *International Journal of Humanities and Social Science, 2*(3), 10-14.

Huang, S. (2000). Language, identity and conflict: A Taiwanese study. *International Journal of the Sociology of Language, 143*(1), 139-150.

Hubbard, G., O'Carroll, R., Munro, J., Mutrie, N., Haw, S., Mason, H., & Treweek, S. (2016). The feasibility and acceptability of trial procedures for a pragmatic randomised controlled trial of a structured physical activity intervention for people diagnosed with colorectal cancer: findings from a pilot trial of cardiac rehabilitation versus usual care (no rehabilitation) with an embedded qualitative study. *Pilot and Feasibility Studies, 2*(1), 51.

Hui, B. P. H., Chen, S. X., Leung, C. M., & Berry, J. W. (2015). Facilitating adaptation and intercultural contact: The role of integration and multicultural ideology in dominant and non-dominant groups. *International journal of intercultural relations, 45*, 70-84.

Huppert, F. A., & So, T. T. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research, 110*(3), 837-861.

Iwamoto, D. K., & Liu, W. M. (2010). The impact of racial identity, ethnic identity, Asian values, and race-related stress on Asian Americans and Asian international college students' psychological well-being. *Journal of Counseling Psychology, 57*(1), 79.

Jen, W. (2016). The use of Image Theatre to examine the acculturation process of Taiwanese international performing arts students in New York City. *Drama Therapy Review, 2*(1), 79-97.

Jia, W. (2016). Shuang Liu, Identity, Hybridity, and Cultural Home: Chinese Migrants and Diaspora in Multicultural Societies, First edition, Rowan & Littlefield International, Ltd., London, UK (An affiliate of Rowan & Littlefield), 2015, 205 pp. *International journal of intercultural relations, 52*, 72-73. doi: http://dx.doi.org/10.1016/j.ijintrel.2016.02.002

Jia, F., Gottardo, A., Chen, X., Koh, P., & Pasquarella, A. (2016). English proficiency and acculturation among Chinese immigrant youth in Canada: a reciprocal relationship. *Journal of Multilingual and Multicultural Development, 37*(8), 774-782.

Jiang, S., Zhang, Y., Long, J., & Dong, Y. (2016). Chinese Health System Development From 1949 To 2015: A Systematic Review. *Value in Health, 19*(3), A289.

Jones, M. (2011). Diet and nutrition in traditional Chinese medicine. *Traditional Chinese Medicine*, 179.

Jose, P. (2003). MedGraph-I: A programme to graphically depict mediation among three variables: The internet version, version 2.0. *Victoria Univesity of Wellington, Wellington, New Zealand. Retrieved Dec, 31,* 2009.

Jou, Y. H., & Fukada, H. (1997). Stress and social support in mental and physical health of Chinese students in Japan. *Psychological reports, 81*(3_suppl), 1303-1312.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33(7),* 14-26.

Joshi, A., Pandey, N., & Han, G. H. (2009). Bracketing team boundary spanning: An examination of task‐based, team‐level, and contextual antecedents. *Journal of Organizational Behavior, 30*(6), 731-759.

Jovchelovitch, S., & Gervais, M. C. (1999). Social representations of health and illness: The case of the Chinese community in England. *Journal of Community & Applied Social Psychology, 9*(4), 247-260.

Jung, E., Hecht, M. L., & Wadsworth, B. C. (2007). The role of identity in international students' psychological well-being in the United States: A model of depression level, identity gaps, discrimination, and acculturation. *International Journal of Intercultural Relations, 31*(5), 605-624.

Kahneman, D., Diener, E., & Schwarz, N. (1999). *Well-being: Foundations of hedonic psychology*: Russell Sage Foundation.

Kang, S.-M. (2006). Measurement of acculturation, scale formats, and language competence their implications for adjustment. *Journal of Cross-Cultural Psychology, 37*(6), 669-693.

Kaptchuk, T. (2014). *The web that has no weaver: understanding Chinese medicine*: BookBaby.

Kashima, E. S., & Loh, E. (2006). International students' acculturation: Effects of international, conational, and local ties and need for closure. *International journal of intercultural relations, 30*(4), 471-485.

Keji, C., & Hao, X. (2003). The integration of traditional Chinese medicine and Western medicine. *European Review, 11*(02), 225-235.

Kennedy, W. (2016). China and the evolution of power: What is motivating China to adopt soft power strategies and how effective have these strategies been?

Khallad, Y., & Jabr, F. (2015). Effects of perceived social support and family demands on college students' mental well-being: A cross-cultural investigation. *International Journal of Psychology*.

Khawaja, N. G., & Dempsey, J. (2008). A Comparison of International and Domestic Tertiary Students in Australia. *Australian Journal of Guidance and Counselling, 18*(01), 30-46.

Kiew Kit, W. (2002). *Complete Book of Chinese Medicine: A Holistic Approach to Physical, Emotional and Mental Health*: Cosmos Internet (Publishing Division).

Kim, B. S., & Omizo, M. M. (2006). Behavioral acculturation and enculturation and psychological functioning among Asian American college students. *Cultural Diversity and Ethnic Minority Psychology, 12*(2), 245.

Kim, H. S., & Sasaki, J. Y. (2014). Cultural neuroscience: Biology of the mind in cultural contexts. *Annual review of psychology, 65*, 487-514.

King, B. (2005). *The conceptual structure of emotional experience in Chinese*: Lulu. com.

Kline, R. (1998). Principles and Practice of Structural Equation Modeling The Guilford Press New York Google Scholar.

Ko, Y.-F. (2003). Consuming differences:'Hello Kitty'and the identity crisis in Taiwan*. *Postcolonial Studies: Culture, Politics, Economy, 6*(2), 175-189.

Kohn, L. (2013). 1 The Daoist body of qi. *Religion and the Subtle Body in Asia and the West: Between Mind and Body, 8*, 16.

Kong, H., & Hsieh, E. (2012). The social meanings of traditional Chinese medicine: Elderly Chinese immigrants' health practice in the United States. *Journal of Immigrant and Minority Health, 14*(5), 841-849.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*: New Age International. Achieving cultural appropriateness in health promotion

programs: targeted and tailored approaches. *Health Education & Behavior, 30*(2), 133-146.

Kramer, E. J., Kwong, K., Lee, E., & Chung, H. (2002). Cultural factors influencing the mental health of Asian Americans. *Western Journal of Medicine, 176*(4), 227.

Kumar, A., & Nevid, J. S. (2010). Acculturation, enculturation, and perceptions of mental disorders in Asian Indian immigrants. *Cultural Diversity and Ethnic Minority Psychology, 16*(2), 274.

Kung, W. W. (2004). Cultural and practical barriers to seeking mental health treatment for Chinese Americans. *Journal of Community Psychology, 32*(1), 27-43.

Kwon, Y. (2009). Factors affecting internatioanl students' transition to higher education institutions in the United States -from the perspective of office of international students. *College Student Journal, 43*(4), 1020-1036.

Lai, D. W., & Surood, S. (2009). Chinese health beliefs of older Chinese in Canada. *Journal of Aging and Health, 21*(1), 38-62.

Lai, M.-l. (2001). Hong Kong students' attitudes towards Cantonese, Putonghua and English after the change of sovereignty. *Journal of Multilingual and Multicultural Development, 22*(2), 112-133.

Lanouette, N. M., Folsom, D. P., Sciolla, A., & Jeste, D. V. (2015). Psychotropic medication nonadherence among United States Latinos: a comprehensive literature review. *Psychiatric Services, 60*(2), 157-174.

Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative research in psychology, 3*(2), 102-120.

Lau, J. S.-N. (2006). *Acculturative stress, collective coping, and psychological well-being of Chinese international students.* University of South Carolina.

Lazarus, R. S., & Folkman, S. (1984a). Coping and adaptation. *The handbook of behavioral medicine*, 282-325.

Lazarus, R. S., & Folkman, S. (1984b). *Stress, appraisal, and coping*: Springer publishing company.

Lee, C. (2001). *An examination of British Chinese health care practice and beliefs: investigating the theory of planned behaviour, health-related quality of life, and Chinese medicine treatment for psoriasis.* University of Bath.

Lee-Lin, F., Menon, U., Pett, M., Nail, L., Lee, S., & Mooney, K. (2007). Breast cancer beliefs and mammography screening practices among Chinese American immigrants. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 36*(3), 212-221.

Lee, A., & Brann, L. (2015). Influence of cultural beliefs on infant feeding, postpartum and childcare practices among Chinese-American mothers in New York City. *Journal of community health, 40*(3), 476-483.

Lee, J.-y., & Ciftci, A. (2014). Asian international students' socio-cultural adaptation: Influence of multicultural personality, assertiveness, academic self-efficacy, and social support. *International Journal of Intercultural Relations, 38,* 97-105.

Lee-Lin, F., Menon, U., Pett, M., Nail, L., Lee, S., & Mooney, K. (2007). Breast cancer beliefs and mammography screening practices among Chinese American immigrants. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 36*(3), 212-221.

Lee, F. W.-L., & Chen, T. K.-K. (2005). Service needs of young new arrivals from mainland china to Hong Kong. *Asia Pacific Journal of Social Work and Development, 15*(2), 55-74.

Lee, J.-y., & Ciftci, A. (2014). Asian international students' socio-cultural adaptation: Influence of multicultural personality, assertiveness, academic self-efficacy, and social support. *International journal of intercultural relations, 38*, 97-105.

Lee, J., & Zhou, M. (2014). The success frame and achievement paradox: The costs and consequences for Asian Americans. *Race and Social Problems, 6*(1), 38-55.

Lee, J. H., Goldstein, M. S., Brown, E. R., & Ballard-Barbash, R. (2010). How does acculturation affect the use of complementary and alternative medicine providers among Mexican-and Asian-Americans? *Journal of Immigrant and Minority Health, 12*(3), 302-309.

Lee, S., Choi, S., & Jung, M.-J. (2014). Ethnic variation in access to health care of Asian Americans who are not US citizens: Chinese, Korean, and Vietnamese ethnic groups. *Journal of health care for the poor and underserved, 25*(2), 577-590.

Lee, S., Chung, J. E., & Park, N. (2016). Linking cultural capital with subjective well-being and social support: The role of communication networks. *Social Science Computer Review, 34*(2), 172-196.

Lee, Y. L., Sparks, B., & Butcher, K. (2013). Service encounters and face loss: Issues of failures, fairness, and context. *International Journal of Hospitality Management, 34*, 384-393.

Lefringhausen, K., & Marshall, T. C. (2016). Locals' Bidimensional Acculturation Model: Validation and Associations With Psychological and Sociocultural Adjustment Outcomes. *Cross-Cultural Research, 50*(4), 356-392.

Levesque, R. J. (2011). Brain Maturation. Encyclopedia of Adolescence, 350-352.

Li, A., & Gasser, M. B. (2005). Predicting Asian international students' sociocultural adjustment: A test of two mediation models. *International journal of intercultural relations, 29*(5), 561-576.

Li, H., Wu, H., Wang, Q. g., Yang, M., Li, F., Sun, Y., . . . Wang, C. (2017). Chemical partitioning of fine particle-bound metals on haze–fog and non-haze–fog days in Nanjing, China and its contribution to human health risks. *Atmospheric Research, 183,* 142-150.

Li, J., Marbley, A. F., Bradley, L. J., & Lan, W. (2016). Attitudes toward seeking professional counseling services among Chinese international students: Acculturation, ethnic identity, and English proficiency. *Journal of Multicultural Counseling and Development, 44*(1), 65-76.

Li, L., & Wegerif, R. (2014). What does it mean to teach thinking in China? Challenging and developing notions of 'Confucian education'. *Thinking skills and creativity, 11,* 22-32.

Li, P., & Chan, S. (2000). Application of a weather stress index for alerting the public to stressful weather in Hong Kong. *Meteorological Applications, 7*(4), 369-375.

Li, S. (2015). Bridie Andrews and Mary Brown Bullock (eds.), Medical Transitions in Twentieth-Century China. *Social History of Medicine*, hkv095.

Liao, K. Y.-H., & Wei, M. (2014). Academic stress and positive affect: Asian value and self-worth contingency as moderators among Chinese international students. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 107.

Liberman, K. (1994). Asian student perspectives on American university instruction. *International journal of intercultural relations, 18*(2), 173-192.

Lillyman, S., & Bennett, C. (2014). Providing a positive learning experience for international students studying at UK universities: A literature review. *Journal of Research in International Education, 13*(1), 63-75.

Lin, C. (2006). Culture shock and social support: An investigation of a Chinese student organization on a US campus. *Journal of Intercultural Communication Research, 35*(2), 117-137.

Lin, J. P., & Yi, C. C. (2011). Filial norms and intergenerational support to aging parents in China and Taiwan. *International Journal of Social Welfare, 20*(s1), S109-S120.

Lin, S.-P., & Betz, N. E. (2009). Factors related to the social self-efficacy of Chinese international students. *The Counseling Psychologist, 37*(3), 451-471.

Ling, J. (2015). Qi, Blood, Essence, and Body Fluid *Handbook of Traditional Chinese Medicine* (pp. 73-86): World Scientific.

Lokker, N., Sanders, L., Perrin, E. M., Kumar, D., Finkle, J., Franco, V., . . . Rothman, R. L. (2009). Parental misinterpretations of over-the-counter pediatric cough and cold medication labels. *Pediatrics, 123*(6), 1464-1471.

Long, J., Byrne, P., Gabbay, M., Frith, L., & Fletcher, I. (2015). The dragon and the snake: health practices among Chinese in the UK from an inter-disciplinary perspective. *Ethnicity & health, 20*(2), 107-128.

Lu, H. (2015). Burgers or tofu? Eating between two worlds: Risk information seeking and processing during dietary acculturation. *Health communication, 30*(8), 758-771.

Lu, J.-F. R., & Hsiao, W. C. (2003). Does universal health insurance make health care unaffordable? Lessons from Taiwan. *Health affairs, 22*(3), 77-88.

Lu, L., Cooper, C. L., Kao, S.-F., & Zhou, Y. (2003). Work stress, control beliefs and well-being in Greater China: An exploration of sub-cultural differences between the PRC and Taiwan. *Journal of Managerial Psychology, 18*(6), 479-510.

Lu, S. H., Dear, B. F., Johnston, L., Wootton, B. M., & Titov, N. (2014). An internet survey of emotional health, treatment seeking and barriers to accessing mental health treatment among Chinese-speaking international students in Australia. *Counselling Psychology Quarterly, 27*(1), 96-108.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child development, 71*(3), 543-562.

Lytra, V. (2016). Language and ethnic identity. *The Routledge handbook of language and identity. London: Routledge*, 131-145.

Ma, W., & Li, G. (2016). Looking beyond the Stereotypes and Moving Forward: Cultivating the Hearts and Minds of Chinese-Heritage Learners. *Chinese-Heritage Students in North American Schools: Understanding Hearts and Minds Beyond Test Scores*, 254.

Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). Qualitative research methods: a data collectors field guide.

Maciocia, G. (2015). *The foundations of Chinese medicine: A comprehensive text*: Elsevier Health Sciences.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annu. Rev. Psychol., 58*, 593-614.

MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention science, 1*(4), 173-181.

Mair, V. H., & Tzu, L. (2012). *Tao Te Ching: The classic book of integrity and the way*: Bantam.

Mak, W. W., Chen, S. X., Wong, E. C., & Zane, N. W. (2005). A psychosocial model of stress–distress relationship among Chinese Americans. *Journal of Social and Clinical Psychology, 24*(3), 422-444.

Malhotra Naresh, K., & Birks, D. F. (2003). Marketing Research, An Applied Approach. *Printice Hall*.

Manfreda, K. L., Batagelj, Z., & Vehovar, V. (2002). Design of web survey questionnaires: Three basic experiments. *Journal of Computer‑Mediated Communication, 7*(3), 0-0.

Martirosyan, N. M., Hwang, E., & Wanjohi, R. (2015). Impact of English proficiency on academic performance of international students. *Journal of International Students, 5*(1), 60.

Maundeni, T. (2001). The role of social networks in the adjustment of African students to British society: students' perceptions. *Race Ethnicity and Education, 4*(3), 253-276.

McEvoy, P., & Richards, D. (2006). A critical realist rationale for using a combination of quantitative and qualitative methods. *Journal of Research in Nursing, 11(1)*, 66-78.

Meng, Q., Xu, L., Zhang, Y., Qian, J., Cai, M., Xin, Y., . . . Barber, S. L. (2012). Trends in access to health services and financial protection in China between 2003 and 2011: a cross-sectional study. *The Lancet, 379*(9818), 805-814.

Mennella, J. A. (2014). Ontogeny of taste preferences: basic biology and implications for health. *The American journal of clinical nutrition, 99*(3), 704S-711S.

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*: Sage publications.

Mikkonen, K., Elo, S., Kuivila, H.-M., Tuomikoski, A.-M., & Kääriäinen, M. (2016). Culturally and linguistically diverse healthcare students' experiences of learning in a clinical environment: a systematic review of qualitative studies. *International journal of nursing studies, 54*, 173-187.

Millar, R., Jian, W., Mannion, R., & Miller, R. (2016). Healthcare reform in China: making sense of a policy experiment? *Journal of health organization and management, 30*(3)*, 324-330.

Miller, M. J. (2007). A bilinear multidimensional measurement model of Asian American acculturation and enculturation: Implications for counseling interventions. *Journal of Counseling Psychology, 54*(2), 118.

Miller, M. J. (2010). Testing a bilinear domain-specific model of acculturation and enculturation across generational status. *Journal of Counseling Psychology, 57*(2), 179.

Miller, T., Kim, A. B., & Holmes, K. (2015). 2015 Index of economic Freedom. *Washington DC: The Heritage Foundation*.

Misra, R., Crist, M., & Burant, C. J. (2003). Relationships Among Life Stress, Social Support, Academic Stressors, and Reactions to Stressors of International Students in the United States. *International Journal of Stress Management, 10*(2), 137.

Miville, M. L., & Constantine, M. G. (2006). Sociocultural predictors of psychological help-seeking attitudes and behavior among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology, 12*(3), 420.

Mori, S. C. (2000). Addressing the mental health concerns of international students. *Journal of Counseling & Development, 78*(2), 137-144.

Morse, J. M. (2015). Data were saturated: SAGE Publications.

Mortenson, S. T. (2006). Cultural Differences and Similarities in Seeking Social Support as a Response to Academic Failure: A Comparison of American and Chinese College Students The research reported in this study was funded in part by a General University Research Grant from the University of Delaware. *Communication education, 55*(2), 127-146.

Mossakowski, K. N., & Zhang, W. (2014). Does social support buffer the stress of discrimination and reduce psychological distress among Asian Americans? *Social Psychology Quarterly*, 0190272514534271.

Msengi, C. M., Msengi, I. G., Harris, S., & Hopson, M. (2011). International students: A comparison of health status and physical health before and after coming to the United States. *International Education, 41*(1), 59.

Msengi, I. (2003). Sources of stress and its impact on health behaviors and academic performance of international students at a comprehensive Midwestern University. *International Journal of Global Health and Health Disparities, 5*(1), 55-69.

Mulder, A. M., & Cashin, A. (2015). Health and wellbeing in students with very high psychological distress from a regional Australian university. *Advances in Mental Health, 13*(1), 72-83.

Murff, S. H. (2005). The impact of stress on academic success in college students. *ABNF Journal, 16*(5), 102.

Mustafa, E. (2016). *Food acculturation of new international students in the UK.* University of Surrey.

Naidoo, J., & Wills, J. (2016). *Foundations for health promotion*: Elsevier Health Sciences.

Naughton, B. (2007). *The Chinese economy: Transitions and growth*: MIT press.

Navas, M., García, M. C., Sánchez, J., Rojas, A. J., Pumares, P., & Fernández, J. S. (2005). Relative Acculturation Extended Model (RAEM): New contributions with regard to the study of acculturation. *International journal of intercultural relations, 29*(1), 21-37.

Newman, J. M. (2004). *Food culture in China*: Greenwood Publishing Group.

Ng, R. Y.-k., & Lau, L.-f. (2014). An empirical study of mainland Chinese students' learning needs, perceptions of self-identity and sense of belonging. *SpringerPlus, 3*(1), 1.

Ngo-Metzger, Q., Massagli, M. P., Clarridge, B. R., Manocchia, M., Davis, R. B., Iezzoni, L. I., & Phillips, R. S. (2003). Linguistic and cultural barriers to care. *Journal of general internal medicine, 18*(1), 44-52.

Nilsson, J. E., & Anderson, M. Z. (2004). Supervising International Students: The Role of Acculturation, Role Ambiguity, and Multicultural Discussions. *Professional Psychology: Research and Practice, 35*(3), 306.

Nisbett, R. (2010). *The Geography of Thought: How Asians and Westerners Think Differently... and*: Simon and Schuster.

Nolan, P. H. (2005). China at the Crossroads. *Journal of Chinese Economic and Business Studies, 3*(1), 1-22.Norusis, M. (2008). *SPSS 16.0 statistical procedures companion*: Prentice Hall Press.

Norusis, M. (2008). *SPSS 16.0 statistical procedures companion:* Prentice Hall Press.

Okafor, M.-T. C., Carter-Pokras, O. D., Picot, S. J., & Zhan, M. (2013). The relationship of language acculturation (English proficiency) to current self-rated health among African immigrant adults. *Journal of Immigrant and Minority Health, 15*(3), 499-509.

Onwuegbuzie, A. J., & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools, 13*(1), 48-63.

Oppedal, B., & Idsoe, T. (2015). The role of social support in the acculturation and mental health of unaccompanied minor asylum seekers. *Scandinavian journal of psychology, 56*(2), 203-211.

Oppenheim, A. N. (2000). *Questionnaire design, interviewing and attitude measurement*: Bloomsbury Publishing.

OTLU, F. N. (2010). *College adjustment of international students: the role of gender, acculturative stress, coping skills, cultural distance, and perceived social support.* Citeseer.

Ouarasse, O. A., & van de Vijver, F. J. R. (2005). The role of demographic variables and acculturation attitudes in predicting sociocultural and psychological adaptation in Moroccans in the Netherlands. *International journal of intercultural relations, 29*(3), 251-272. doi: http://dx.doi.org/10.1016/j.ijintrel.2005.06.005

Ozturk, A. (2016). Examining the economic growth and the middle-income trap from the perspective of the middle class. *International Business Review, 25*(3), 726-738.

Palos, S. (1972). The Chinese art of healing. *Southern Medical Journal, 65*(9), 1163.

Pan, J.-Y. (2011). A resilience-based and meaning-oriented model of acculturation: A sample of mainland Chinese postgraduate students in Hong Kong. *International journal of intercultural relations, 35*(5), 592-603. doi: 10.1016/j.ijintrel.2011.02.009

Pan, J.-Y. (2015). Predictors of post-migration growth for Chinese international students in Australia. *International journal of intercultural relations, 47*, 69-77. doi: http://dx.doi.org/10.1016/j.ijintrel.2015.03.030

Pan, J.-Y., Wong, D. F. K., Joubert, L., & Chan, C. L. W. (2007). Acculturative stressor and meaning of life as predictors of negative affect in acculturation: a cross-cultural comparative study between Chinese international students in Australia and Hong Kong. *Australian and New Zealand Journal of Psychiatry, 41*(9), 740-750.

Pan, J.-Y., Wong, D. F. K., Joubert, L., & Chan, C. L. W. (2008). The protective function of meaning of life on life satisfaction among Chinese students in Australia and Hong Kong: A cross-cultural comparative study. *Journal of American College Health, 57*(2), 221-232.

Pan, J.-Y., Yue, X., & Chan, C. L. W. (2010). Development and validation of the acculturative hassles scale for Chinese students (AHSCS): An example of mainland Chinese university students in Hong Kong. *Psychologia, 53*(3), 163-178.

Pan, J. (2008). Acculturation and resilience of mainland Chinese postgraduate studentsin Hong Kong. *香港大學學位論文*, 1-0.

Pan, Y.-L., Dixon, Z., Himburg, S., & Huffman, F. (1999). Asian students change their eating patterns after living in the United States. *Journal of the American Dietetic Association, 99*(1), 54-57.

Park, N. (2004). The role of subjective well-being in positive youth development. *The Annals of the American Academy of Political and Social Science, 591*(1), 25-39.

Park, N., Song, H., & Lee, K. M. (2014). Social networking sites and other media use, acculturation stress, and psychological well-being among East Asian college students in the United States. *Computers in Human Behavior, 36*, 138-146.

Parker, G., Gladstone, G., & Chee, K. T. (2001). Depression in the planet's largest ethnic group: the Chinese. *American Journal of Psychiatry, 158*(6), 857-864.

Parker, G., Chan, B., Tully, L., & Eisenbruch, M. (2005). Depression in the Chinese: the impact of acculturation. *Psychological medicine, 35*(10), 1475-1483.

Patwardhan, B., Warude, D., Pushpangadan, P., & Bhatt, N. (2005). Ayurveda and traditional Chinese medicine: a comparative overview. *Evidence-Based Complementary and Alternative Medicine, 2*(4), 465-473.

Pellegrino, V. (2005). Study Abroad and Second Language Use: Constructing the Self. Cambridge University Press.

Peng, L. (2005). *Dietary acculturation of Chinese students in the United States.* University of Akron.

Perry, B., & Scrivens, R. (2016). white pride worldwide: constructing global identities online. *The Globalisation of Hate: Internationalising Hate Crime.*

Petri Jr, R. P., Delgado, R. E., & McConnell, K. (2015). Historical and Cultural Perspectives on Integrative Medicine. *Medical Acupuncture, 27*(5), 309-317.

Phoenix TV: On health, http://www.phoenixtv-distribution.com/products/listing/77/pcategory: /lang:zh_hk, retrieved on the 6th May, 2017.

Phokeo, V., & Hyman, I. (2007). Provision of pharmaceutical care to patients with limited English proficiency. American journal of health-system pharmacy, 64(4).

Piontkowski, U., Rohmann, A., & Florack, A. (2002). Concordance of acculturation attitudes and perceived threat. *Group processes & intergroup relations, 5*(3), 221-232.

Ponce, N. A., Hays, R. D., & Cunningham, W. E. (2006). Linguistic disparities in health care access and health status among older adults. *Journal of General Internal Medicine, 21*(7), 786-791.

Poyrazli, S., & Kavanaugh, P. R. (2006). Marital status, ethnicity, academic achievement, and adjustment strains. *College Student Journal, 40*(4), 767-780.

Poyrazli, S. (2015). Psychological symptoms and concerns experienced by international students: outreach implications for counseling centers. *Journal of International Students, 5*(3), 306-312.

Poyrazli, S., Kavanaugh, P. R., Baker, A., & Al-Timimi, N. (2004). Social support and demographic correlates of acculturative stress in international students. *Journal of College Counseling, 7*(1), 73-83.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, 36*(4), 717-731.

Punch, K. F., & Oancea, A. (2014). *Introduction to research methods in education*: Sage.

Qiang, Z. (2015). Study Abroad Fever Among Chinese Students. *International Higher Education*(69), 15-17.

Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative research in accounting & management, 8*(3), 238-264.

Ra, Y.-A. (2016). Social Support and Acculturative Stress Among Korean International Students. *Journal of College Student Development, 57*(7), 885-891.

Raffaelli, M., Andrade, F. C., Wiley, A. R., Sanchez-Armass, O., Edwards, L. L., & Aradillas-Garcia, C. (2013). Stress, Social Support, and Depression: A Test of

the Stress-Buffering Hypothesis in a Mexican Sample. *Journal of Research on Adolescence, 23*(2), 283-289.

Rahman, O., & Rollock, D. (2004). Acculturation, competence, and mental health among South Asian students in the United States. *Journal of Multicultural Counseling and Development, 32*(3), 130-142.

Rajapaksa, S., & Dundes, L. (2002). It's a long way home: International student adjustment to living in the United States. *Journal of College Student Retention: Research, Theory & Practice, 4*(1), 15-28.

Rasmi, S., Safdar, S., & Lewis, J. (2009). A longitudinal examination of the MIDA Model with international students. *Culture and gender an intimate relations. Gdansk Polond: Gdanskie Wydawnictwo Psychologiczne*.

Rasmi, S., Safdar, S., & Lewis, J. R. (2010). The longitudinal adaptation process of international students in Canada: Gdanskie Wydawnictwo Psychologiczne.

Reber, A. (1995). Dictionary of psychology – Second Edition. Harmonsworth: Penguin.

Reeve, K. L., Shumaker, C. J., Yearwood, E. L., Crowell, N. A., & Riley, J. B. (2013). Perceived stress and social support in undergraduate nursing students' educational experiences. *Nurse Education Today, 33*(4), 419-424.

Rheeder, P., Van Zyl, D., Seager, J., & Westaway, M. (2015). The effects of social support on health, well-being and management of Diabetes Mellitus: a black South African perspective.

Riazi, A. M. (1999). *A dictionary of research methods: Quantitative and qualitative*: Rahnama Publications.

Ribes, Y., & Llanes, À. (2015). First language attrition: The effects of acculturation to the host culture. *Procedia-Social and Behavioral Sciences, 173*, 181-185.

Richards, K. (2003). *Qualitative inquiry in TESOL*: Springer.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychological bulletin, 138*(2), 353.

Rienties, B., Beausaert, S., Grohnert, T., Niemantsverdriet, S., & Kommers, P. (2012). Understanding academic performance of international students: the role of ethnicity, academic and social integration. *Higher education, 63*(6), 685-700.

Rosenthal, D. A., Russell, J., & Thomson, G. (2007). Social connectedness among international students at an Australian university. *Social indicators research, 84*(1), 71-82.

Rosenthal, D. A., Russell, J., & Thomson, G. (2008). The health and wellbeing of international students at an Australian university. *Higher Education, 55*(1), 51.

Rothstein, W. G., & Rajapaksa, S. (2003). Health beliefs of college students born in the United States, China, and India. *Journal of American College Health, 51*(5), 189-194.

Roysircar, G., & Maestas, M. L. (2002). Assessing acculturation and cultural variables *Asian American mental health* (pp. 77-94): Springer.

Ruble, R. A., & Zhang, Y. B. (2013). Stereotypes of Chinese international students held by Americans. *International journal of intercultural relations, 37*(2), 202-211.

Rudmin, F. W. (2003). Critical history of the acculturation psychology of assimilation, separation, integration, and marginalization. *Review of general psychology, 7*(1), 3.

Rudmin, F. W. (2009). Catalogue of acculturation constructs: Descriptions of 126 taxonomies, 1918-2003. *Online Readings in Psychology and Culture, 8*(1), 8.

Rueger, S. Y., Malecki, C. K., Pyun, Y., Aycock, C., & Coyle, S. (2016). A meta-analytic review of the association between perceived social support and depression in childhood and adolescence: American Psychological Association.

Russell, J., Rosenthal, D., & Thomson, G. (2010). The international student experience: three styles of adaptation. *Higher education, 60*(2), 235-249.

Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of personality and social psychology, 79*(1), 49.

Ryder, A. G., Yang, J., Zhu, X., Yao, S., Yi, J., Heine, S. J., & Bagby, R. M. (2008). The cultural shaping of depression: somatic symptoms in China, psychological symptoms in North America? *Journal of abnormal psychology, 117*(2), 300.

Safdar, S., Lay, C., & Struthers, W. (2003). The process of acculturation and basic goals: Testing a multidimensional individual difference acculturation model with Iranian immigrants in Canada. *Applied Psychology, 52*(4), 555-579.

Safdar, S., Struthers, W., & van Oudenhoven, J. P. (2009). Acculturation of Iranians in the United States, the United Kingdom, and the Netherlands a test of the multidimensional individual difference acculturation (MIDA) model. *Journal of Cross-Cultural Psychology, 40*(3), 468-491.

Sarason, I. G. (2013). *Social support: Theory, research and applications* (Vol. 24): Springer Science & Business Media.

Sawir, E., Marginson, S., Deumert, A., Nyland, C., & Ramia, G. (2008). Loneliness and international students: An Australian study. *Journal of studies in international education, 12*(2), 148-180.

Sayer, A. (2004). *Why Critical Realism?* Routledge, London.

Schutt, R., & Chambliss, D. (2006). Making sense of the social world: Methods of investigation: London & New Delhi: Pine Forge Press.

Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept of acculturation: implications for theory and research. *American Psychologist, 65*(4), 237.

Schwartz, S. J., & Zamboanga, B. L. (2008). Testing Berry's model of acculturation: A confirmatory latent class approach. *Cultural Diversity and Ethnic Minority Psychology, 14*(4), 275.

Scott, I., & Mazhindu, D. (2005). Statistics for health care professionals. Scott I: London: SAGE Publications Ltd.

Scott, I., & Mazhindu, D. (2014). *Statistics for healthcare professionals: An introduction*: Sage.

Scottham, K. M., & Dias, R. H. (2010). Acculturative strategies and the psychological adaptation of Brazilian migrants to Japan. *Identity: An International Journal of Theory and Research, 10*(4), 284-303.

Searle, W., & Ward, C. (1990). The prediction of psychological and sociocultural adjustment during cross-cultural transitions. *International journal of intercultural relations, 14*(4), 449-464.

Sekaran, U. (2003). Research methods for business . Hoboken: NJ: John Wiley & Sons.

Sekaran, U., & Bougie, R. (2003). Business Research Methods: John Wiley & Sons, Inc: USA.

Settles, B. H., Sheng, X., Zang, Y., & Zhao, J. (2013). The one-child policy and its impact on Chinese families *International handbook of Chinese families* (pp. 627-646): Springer.

Shah, H., & Marks, N. (2004). *A well-being manifesto for a flourishing society*: New Economics Foundation.

Shanafelt, T., & Dyrbye, L. (2012). Oncologist burnout: causes, consequences, and responses. *Journal of Clinical Oncology, 30*(11), 1235-1241.

Sheet, D. (2009). Data Protection,". *Symantec NetBackup, 7*.

Shi, L., Lebrun, L. A., & Tsai, J. (2009). The influence of English proficiency on access to care. *Ethnicity & health, 14*(6), 625-642.

Shin, S. S. (1998). Development of integrated traditional Chinese and western medicine and change of medical policy in China. *Ui sahak, 8*(2), 207-232.

Siedlecki, K. L., Salthouse, T. A., Oishi, S., & Jeswani, S. (2014). The relationship between social support and subjective well-being across age. *Social indicators research, 117*(2), 561-576.

Silverman, D. (2013). *Doing qualitative research: A practical handbook*: SAGE Publications Limited.

Simon, D. F., & Cao, C. (2009). Creating an innovative talent pool. *China business review, 36*(6), 34-38.

Simoons, F. J. (1990). *Food in China: a cultural and historical inquiry*: CRC Press.

Simon, M., Chen, R., & Dong, X. (2014). Gender differences in perceived social support in US Chinese older adults. *Journal of Gerontological and Geriatric Research, 3*(4), 163-172.

Sit, A., Mak, A. S., & Neill, J. T. (2017). Does cross-cultural training in tertiary education enhance cross-cultural adjustment? A systematic review. *International journal of intercultural relations, 57*, 1-18. doi: http://dx.doi.org/10.1016/j.ijintrel.2017.01.001

Smith, J., Flowers, P., & Larkin, M (2009). Interpretative phenomenological analysis: Theory, method and research: SAGE Publ., London, UK.

Smith, J., Jarman, M., & Osborn, M. (1999). Doing interpretative phenomenological analysis. M. Murray & K. Chamberlain (Eds.), Qualitative health psychology (pp. 218-239): London: Sage.

Smith, J. A. (2004). Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology. *Qualitative research in psychology, 1*(1), 39-54.

Smith, J. A. (2015). *Qualitative psychology: A practical guide to research methods*: Sage.

Smith, J. A., & Phenomenological, F. P. L. M. I. (2009). Analysis: Theory, Method and Research: London: Sage.

Smith, R. A., & Khawaja, N. G. (2011). A review of the acculturation experiences of international students. *International journal of intercultural relations, 35*(6), 699-713.

Snape, D., & Spencer, L. (2003). The foundations of qualitative research'in Ritchie, J. and Lewis, J (eds) Qualitative Research Practice: Sage, London.

Song, J. (2014). *The influence of Confucian values: students' understandings of classroom behaviours and learning practices in a university in Central China.* Auckland University of Technology.

Spector, R. E. (2002). Cultural diversity in health and illness. *Journal of Transcultural Nursing, 13*(3), 197-199.

Spencer-Oatey, H., & Xiong, Z. (2006). Chinese students' psychological and sociocultural adjustments to Britain: An empirical study. *Language, culture and curriculum, 19*(1), 37-53.

Stinebrickner, T., & Stinebrickner, R. (2012). Learning about academic ability and the college dropout decision. *Journal of Labor Economics, 30*(4), 707-748.

Streiner, D. L., Norman, G. R., & Cairney, J. (2014). *Health measurement scales: a practical guide to their development and use*: Oxford University Press, USA.

Struthers, C. W., Perry, R. P., & Menec, V. H. (2000). An examination of the relationship among academic stress, coping, motivation, and performance in college. *Research in higher education, 41*(5), 581-592.

Sullivan, A. (2008). Exploring the acculturation of Taiwanese students in an Australian University: English self-confidence, wellbeing and friendships: Griffith Working Papers in Pragmatics and Intercultural Communication.

Sullivan, G & Artino Jr, A (2013). Analyzing and Interpreting Data From Likert-Type Scales. Journal of Graduate Medical Education: December 2013, Vol. 5, No. 4, pp. 541-542.

Sun, S., Chen, J., Johannesson, M., Kind, P., & Burström, K. (2016). Subjective well-being and its association with subjective health status, age, sex, region, and socio-economic characteristics in a Chinese population study. *Journal of Happiness Studies, 17*(2), 833-873.

Swami, V. (2009). Predictors of sociocultural adjustment among sojourning Malaysian students in Britain. *International Journal of Psychology, 44*(4), 266-273.

Szabo, A., Ward, C., & Jose, P. E. (2016). Uprooting stress, coping, and anxiety: A longitudinal study of international students. *International Journal of Stress Management, 23*(2), 190.

Tabachnik, B., & Fidell, S. (2007). Discriminant analysis. *Using multivariate statistics. Boston: Pearson Education Inc, 201*(3), 377-438.

Tabora, B. L., & Flaskerud, J. H. (1997). Mental health beliefs, practices, and knowledge of Chinese American immigrant women. *Issues in Mental Health Nursing, 18*(3), 173-189.

Takizawa, T., Kondo, T., Sakihara, S., Ariizumi, M., Watanabe, N., & Oyama, H. (2006). Stress buffering effects of social support on depressive symptoms in middle age: reciprocity and community mental health. *Psychiatry and Clinical Neurosciences, 60*(6), 652-661.

Tan, J. B., & Yates, S. (2011). Academic expectations as sources of stress in Asian students. *Social Psychology of Education, 14*(3), 389-407.

Tang, T. T., Reilly, J., & Dickson, J. M. (2012). Attitudes toward seeking professional psychological help among Chinese students at a UK university. *Counselling and Psychotherapy Research, 12*(4), 287-293.

Tang, C., & Naumann, S. E. (2016). Team diversity, mood, and team creativity: The role of team knowledge sharing in Chinese R & D teams. *Journal of Management & Organization, 22*(03), 420-434.

Tao, V., & Hong, Y. (2000). A meaning system approach to Chinese students' achievement goals. *Journal of Psychology in Chinese societies, 1*(2), 13-38.

Tashakkori, A., & Teddlie, C. (2010). *Sage Handbook of Mixed Methods in Social & Behavioral Research:* London, Sage.

Tennant, J. E., Demaray, M. K., Malecki, C. K., Terry, M. N., Clary, M., & Elzinga, N. (2015). Students' ratings of teacher support and academic and social–emotional well-being. *School psychology quarterly, 30*(4), 494.

Tessier, S. (2012). From field notes, to transcripts, to tape recordings: Evolution or combination? *International Journal of Qualitative Methods, 11*(4), 446-460.

Thanasegaran, G. (2009). Reliability and validity issues in research. *Integration & Dissemination, 4*(1), 35-40.

The Guardian, (2017). Tuition fees 'have led to surge in students seeking counselling. https://www.theguardian.com/education/2016/mar/13/tuition-fees-have-led-to-surge-in-students-seeking-counselling,retrieved on the 6th May, 2017.

Thomas, F., & Sumathi, G. (2016). Acculturative Stress and Social Support among the International Students: An Empirical Approach. *Global Management Review, 10*(3).

Thurmond, V. A. (2001). The point of triangulation. *Journal of nursing scholarship, 33*(3), 253-258.

Tognoli, J. (2003). Leaving home: Homesickness, place attachment, and transition among residential college students. *Journal of College Student Psychotherapy, 18*(1), 35-48.

Tieu, Y., & Konnert, C. A. (2014). Mental health help-seeking attitudes, utilization, and intentions among older Chinese immigrants in Canada. *Aging & mental health, 18*(2), 140-147.

Tsai, S.-C. (2016). Perceptions of East Asian students in Canadian graduate schools: What they may indicate about student speech in a Chinese model of education *Chinese Education Models in a Global Age* (pp. 217-230): Springer.

Tseng, W.-S., & Wu, D. Y. (2013). *Chinese Culture and Mental Health*: Academic Press.

Titzmann, P. F. (2014). Immigrant adolescents' adaptation to a new context: Ethnic friendship homophily and its predictors. *Child Development Perspectives, 8*(2), 107-112.

Todres, L., Galvin, K., & Dahlberg, K. (2007). Lifeworld-led healthcare: Revisiting a humanising philosophy that integrates emerging trends. *Medicine, health care and philosophy, 10*(1), 53-63.

Tran, L. T. (2016). Mobility as 'becoming': A Bourdieuian analysis of the factors shaping international student mobility. *British Journal of Sociology of Education, 37*(8), 1268-1289.

Tran, T. T. (2013). Is the learning approach of students from the Confucian heritage culture problematic? *Educational Research for Policy and Practice, 12*(1), 57-65.

Tufford, L., & Newman, P. (2012). Bracketing in qualitative research. *Qualitative social work, 11*(1), 80-96.

Tweed, R. G., & Lehman, D. R. (2002). Learning considered within a cultural context: Confucian and Socratic approaches. *American Psychologist, 57*(2), 89.

UKCISA: UK Council for International Student Affairs. (2017). International student statistics—sources of regularly published data on international students in the UK.https://institutions.ukcisa.org.uk/Info-for-universities-colleges--schools/Policy-research--statistics/Research--statistics/International-student-statistics/ retrieved on the 6th May, 2017.

U.S. Department of Health and Human Services. *Mental Health: A Report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services; Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 2001.

Van Gordon, W., Shonin, E., Sumich, A., Sundin, E. C., & Griffiths, M. D. (2014). Meditation awareness training (MAT) for psychological well-being in a sub-

clinical sample of university students: a controlled pilot study. *Mindfulness, 5*(4), 381-391.

Van Oudenhoven, J. P., Ward, C., & Masgoret, A.-M. (2006). Patterns of relations between immigrants and host societies. *International journal of intercultural relations, 30*(6), 637-651.

VandenBos, G. R. (2007). *APA dictionary of psychology*: American Psychological Association.

Veith, I. (2015). *The yellow emperor's classic of internal medicine*: Univ of California Press.

Wagstaff, A., Lindelow, M., Jun, G., Ling, X., & Juncheng, Q. (2009). Extending health insurance to the rural population: an impact evaluation of China's new cooperative medical scheme. *Journal of health economics, 28*(1), 1-19.

Walker, J., & Almond, P. (2010). *Interpreting statistical findings: a guide for health professionals and students*: McGraw-Hill Education (UK).

Wang, C.-C. D., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of Counseling Psychology, 53*(4), 422.

Wang, C. C., & Greenwood, K. M. (2015). Chinese nursing students' culture-related learning styles and behaviours: A discussion paper. *International Journal of Nursing Sciences, 2*(3), 253-258.

Wang, H., Gusmano, M. K., & Cao, Q. (2011). An evaluation of the policy on community health organizations in China: will the priority of new healthcare reform in China be a success? *Health Policy, 99*(1), 37-43.

Wang, J., & Song. P. (2016) 王景惠, & 宋平. (2016). 多元文化语境下博士生英语教学模式探索--以新科学家英语演讲与写作课程为例. *学位与研究生教育*(7), 52-56.

Wang, J. L. (2004). Rural–urban differences in the prevalence of major depression and associated impairment. *Social psychiatry and psychiatric epidemiology, 39*(1), 19-25.

Wang, K. T., Heppner, P. P., Fu, C.-C., Zhao, R., Li, F., & Chuang, C.-C. (2012). Profiles of acculturative adjustment patterns among Chinese international students. *Journal of counseling psychology, 59*(3), 424.

Wang, L., & Jensen, A. A. (2013). Cultural Influences on Chinese Language Teachers' Perceptions and Beliefs in a Danish Context *Teaching and Learning Culture* (pp. 95-112): Springer.

Wang, L. (2014). China's Janus-faced Approach to Su Zhi Education: A Capability Perspective. *Journal of Human Development and Capabilities, 15*(4), 308-319.

Wang, N., & Zou, Y. (2011). Yin-Yang theory and globalization. *Studies in Sociology of Science, 2*(2), 38.

Wang, Q., & Hannes, K. (2014). Academic and socio-cultural adjustment among Asian international students in the Flemish community of Belgium: A photovoice project. *International journal of intercultural relations, 39*, 66-81.

Wang, Y. (2016). The adjustment journey of international students in tertiary education. Master thesis, University of Victoria

Ward, C., & Berno, T. (2016). Acculturation. *Encyclopedia of Tourism*, 5-7.

Ward, C. (2001). The A, B, Cs of acculturation. *The handbook of culture and psychology*, 411-445.

Ward, C. (2013). Probing identity, integration and adaptation: Big questions, little answers. *International journal of intercultural relations, 37*(4), 391-404.

Ward, C., Bochner, S., & Furnham, A. (2005). *The psychology of culture shock*: Routledge.

Ward, C., & Geeraert, N. (2016). Advancing acculturation theory and research: The acculturation process in its ecological context. *Current Opinion in Psychology, 8*, 98-104.

Ward, C., & Kennedy, A. (1996). Before and after cross-cultural transition: A study of New Zealand volunteers on field assignments. *Key issues in cross-cultural psychology*, 138-154.

Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International journal of intercultural relations, 23*(4), 659-677.

Ward, C., & Rana-Deuba, A. (1999). Acculturation and adaptation revisited. *Journal of Cross-Cultural Psychology, 30*(4), 422-442.

Ward, C., & Rana-Deuba, A. (2000). Home and host culture influences on sojourner adjustment. *International journal of intercultural relations, 24*(3), 291-306.

Ward, C., & Searle, W. (1991). The impact of value discrepancies and cultural identity on psychological and sociocultural adjustment of sojourners. *International journal of intercultural relations, 15*(2), 209-224.

Ward, C., & Berno, T. (2016). Acculturation. *Encyclopedia of Tourism,* 5-7.

Watkins, D., Reghi, M., & Astilla, E. (1991). The-Asian-learner-as-a-rote-learner Stereotype: myth or reality? *Educational Psychology, 11*(1), 21-34.

Webb, J. (2000). Questionnaires and their Design. *The Marketing Review, 1*(2), 197-218.

Wei, M., Heppner, P. P., Mallen, M. J., Ku, T.-Y., Liao, K. Y.-H., & Wu, T.-F. (2007). Acculturative stress, perfectionism, years in the United States, and depression among Chinese international students. *Journal of Counseling Psychology, 54*(4), 385.

Wei, M., Ku, T.-Y., Russell, D. W., Mallinckrodt, B., & Liao, K. Y.-H. (2008). Moderating effects of three coping strategies and self-esteem on perceived discrimination and depressive symptoms: A minority stress model for Asian international students. *Journal of Counseling Psychology, 55*(4), 451.

Wei, M., Liao, K., Heppner, P., Chao, R., & Ku, T. (2012). Forbearance, acculturative stress, identification with heritage culture, and psychological distress among Chinese international students. *Journal of Counseling Psychology, 59*, 97-106.

Wei, M., Liao, K. Y.-H., Heppner, P. P., Chao, R. C.-L., & Ku, T.-Y. (2012). Forbearance coping, identification with heritage culture, acculturative stress, and psychological distress among Chinese international students. *Journal of Counseling Psychology, 59*(1), 97.

Wei, M., Su, J. C., Carrera, S., Lin, S.-P., & Yi, F. (2013). Suppression and interpersonal harmony: A cross-cultural comparison between Chinese and European Americans. *Journal of Counseling Psychology, 60*(4), 625.

Wen, Q.F. (2001). *Applied Linguistics: Research Methods and Thesis Writing.* BeijingForeign Language. Teaching and Research Press, (2001).

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Wong, D. F. K., Lam, D., Yan, P., & Hung, M. (2004). The impacts of acculturative stress and social competence on the mental health of mainland Chinese immigrant youth in Hong Kong. *British Journal of Social Work, 34*(7), 1009-1024.

Wester, S. R., Vogel, D. L., Pressly, P. K., & Heesacker, M. (2002). Sex differences in emotion: A critical review of the literature and implications for counseling psychology. *The Counseling Psychologist, 30*(4), 630-652.

WHO (2016). The 9th global conference on health promotion, Shanghai, 2016.

http://www.who.int/healthpromotion/conferences/9gchp/en/ retrieved on the 6th May, 2017

Williams, T. (2016). *Chinese medicine: Acupuncture, herbal remedies, nutrition, qigong and meditation for total health*: Pavilion Books.

Willis, J. W., Jost, M and Nilakanta, R. (2007). *Foundations of Qualitative Research: Interpretive and Critical Approaches.* Sage Publications.

Wong, C. C., & Lu, Q. (2016). Match between culture and social support: Acculturation moderates the relationship between social support and well-being of Chinese American breast cancer survivors. *Quality of Life Research,* 1-12.

Wong, D. F. K., & Li, J. C. M. (2014). Cultural influence on Shanghai Chinese people's help-seeking for mental health problems: Implications for social work practice. *British Journal of Social Work, 44*(4), 868-885.

Wong, D. F. K., Lam, D., Yan, P., & Hung, M. (2004). The impacts of acculturative stress and social competence on the mental health of mainland Chinese immigrant youth in Hong Kong. *British Journal of Social Work, 34*(7), 1009-1024.

Wong, F. K. D., Lam, Y. K. A., & Poon, A. (2010). Depression literacy among Australians of Chinese-speaking background in Melbourne, Australia. *BMC psychiatry, 10*(1), 7.

World Bank, (2017). China can provide leadership for global economy. http://www.worldbank.org/en/news/opinion/2017/01/17/china-can-provide-leadership-for-global-economy, retrieved on the 6th May, 2017.

World Education News, (2017). More and younger: outbound student mobility among Chinese high school students. http://wenr.wes.org/2017/04/more-and-younger-outbound-student-mobility-among-chinese-high-school-students, retrieved on the 6th May, 2017.

Wright, K. B., Rains, S., & Banas, J. (2010). Weak-Tie Support Network Preference and Perceived Life Stress Among Participants in Health-Related, Computer-Mediated Support Groups. *Journal of Computer-Mediated Communication, 15*(4), 606-624.

Wu, B., & Smith, C. (2016). Acculturation and environmental factors influencing dietary behaviors and body mass index of Chinese students in the United States. *Appetite, 103*, 324-335.

Wu, E. K., & Mak, W. W. (2012). Acculturation process and distress: Mediating roles of sociocultural adaptation and acculturative stress. *The Counseling Psychologist, 40*(1), 66-92.

Wu, H.-p., Garza, E., & Guzman, N. (2015). International student's challenge and adjustment to college. *Education Research International, 2015*.

Wu, Q. (2014). Motivations and Decision-Making Processes of Mainland Chinese Students for Undertaking Master's Programs Abroad. *Journal of studies in international education, 18*(5), 426-444.

Xiong, X., Yang, X., Liu, Y., Zhang, Y., Wang, P., & Wang, J. (2013). Chinese herbal formulas for treating hypertension in traditional Chinese medicine: perspective of modern science. *Hypertension Research, 36*(7), 570-579.

Xutian, S., Cao, D., Wozniak, J., Junion, J., & Boisvert, J. (2012). Comprehension of the unique characteristics of traditional Chinese medicine. *The American journal of Chinese medicine, 40*(02), 231-244.

Yamada, Y., Klugar, M., Ivanova, K., & Oborna, I. (2014). Psychological distress and academic self-perception among international medical students: the role of peer social support. *BMC medical education, 14*(1), 256.

Yan, K., & Berliner, D. C. (2009). Chinese international students' academic stressors in the United States. *College Student Journal, 43*(4), 939.

Yan, K., & Berliner, D. C. (2011a). Chinese international students in the United States: Demographic trends, motivations, acculturation features and adjustment challenges. *Asia Pacific Education Review, 12*(2), 173-184.

Yan, K., & Berliner, D. C. (2011b). An examination of individual level factors in stress and coping processes: Perspectives of Chinese international students in the United States. *Journal of college student development, 52*(5), 523-542.

Yan, K., & Berliner, D. C. (2013). Chinese international students' personal and sociocultural stressors in the United States. *Journal of college student development, 54*(1), 62-84.

Yan, K., & Berliner, D. C. (2016). The Unique Features of Chinese International Students in the United States *Spotlight on China* (pp. 129-150): Springer.

Yan, W., Li, Y., & Sui, N. (2014). The Relationship between Recent Stressful Life Events, Personality Traits, Perceived Family Functioning and Internet Addiction among College Students. *Stress & Health: Journal of the International Society for the Investigation of Stress, 30*(1), 3-11. doi: 10.1002/smi.2490

Yan, Z. (2012). Physical activity among Chinese international students in American higher education: from quantitative and qualitative perspectives.

Yang, L. H., Purdie-Vaughns, V., Kotabe, H., Link, B. G., Saw, A., Wong, G., & Phelan, J. C. (2013). Culture, threat, and mental illness stigma: identifying culture-specific threat among Chinese-American groups. *Social Science & Medicine, 88*, 56-67.

Yang, H., & Zhao, D. (2015). Performance legitimacy, state autonomy and China's economic miracle. *Journal of Contemporary China, 24*(91), 64-82.

Yang, J., McCandliss, B. D., Shu, H., & Zevin, J. D. (2009). Simulating language-specific and language-general effects in a statistical learning model of Chinese reading. *Journal of Memory and Language, 61*(2), 238-257.

Yap, A. F., Thirumoorthy, T., & Kwan, Y. H. (2016). Medication adherence in the elderly. *Journal of Clinical Gerontology and Geriatrics, 7*(2), 64-67.

Ye, J. (2006a). An examination of acculturative stress, interpersonal social support, and use of online ethnic social groups among Chinese international students. *The Howard Journal of Communications, 17*(1), 1-20.

Ye, J. (2006b). Traditional and online support networks in the cross-cultural adaptation of Chinese international students in the United States. *Journal of Computer-Mediated Communication, 11*(3), 863-876.

Yeh, C. J. (2003). Age, acculturation, cultural adjustment, and mental health symptoms of Chinese, Korean, and Japanese immigrant youths. *Cultural Diversity and Ethnic Minority Psychology, 9*(1), 34.

Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counselling Psychology Quarterly, 16*(1), 15-28.

Yeh, C. J., Inman, A. C., Kim, A. B., & Okubo, Y. (2006). Asian American families' collectivistic coping strategies in response to 9/11. *Cultural Diversity and Ethnic Minority Psychology, 12*(1), 134.

Yin, R. K. (2015). *Qualitative research from start to finish*: Guilford Publications.

Ying, Y.-W. (2003). Academic achievement and quality of overseas study among Taiwanese students in the United States. *College Student Journal, 37*(3), 470.

Ying, Y.-W. (2005). Variation in acculturative stressors over time: A study of Taiwanese students in the United States. *International journal of intercultural relations, 29*(1), 59-71.

Ying, Y.-W., & Han, M. (2006). The contribution of personality, acculturative stressors, and social affiliation to adjustment: A longitudinal study of Taiwanese students in the United States. *International journal of intercultural relations, 30*(5), 623-635.

Ying, Y.-W., & Han, M. (2008). Variation in the Prediction of Cross-Cultural Adjustment by Ethnic Density: A Longitudinal Study of Taiwanese Students in the United States. *College Student Journal, 42*(4), 1075-1086.

Ying, Y.-W., Lee, P. A., & Tsai, J. L. (2007a). Attachment, sense of coherence, and mental health among Chinese American college students: Variation by migration status. *International journal of intercultural relations, 31*(5), 531-544.

Ying, Y.-W., Lee, P. A., & Tsai, J. L. (2007b). Predictors of depressive symptoms in Chinese American college students: parent and peer attachment, college challenges and sense of coherence. *American Journal of Orthopsychiatry*.

Ying, Y.-W., & Liese, L. H. (1991). Emotional well-being of Taiwan students in the US: An examination of pre-to post-arrival differential. *International journal of intercultural relations, 15*(3), 345-366.

Yip, W. C.-M., Hsiao, W. C., Chen, W., Hu, S., Ma, J., & Maynard, A. (2012). Early appraisal of China's huge and complex health-care reforms. *The Lancet, 379*(9818), 833-842.

Yip, W., & Hsiao, W. (2014). Harnessing the privatisation of China's fragmented health-care delivery. *The Lancet, 384*(9945), 805-818.

Yoon, E., Lee, R. M., & Goh, M. (2008). Acculturation, social connectedness, and subjective well-being. *Cultural Diversity and Ethnic Minority Psychology, 14*(3), 246.

Yumba, W. (2010). Academic stress: a case of the undergraduate students.

Yoshino, M., & Miyashita, R. (2007). Studies on bioclimate and weather-health forecasting in Japan. *GLOBAL ENVIRONMENTAL RESEARCH-ENGLISH EDITION-, 11*(1), 23.

YoungMinds (2006). Stressed out and struggling (SOS): Higher education institutions and international students' mental health.

YoungMinds, (2017). The voice for young people's mental health and wellbeing https://youngminds.org.uk/retrieved on the 6th May, 2017.

Yuan, H. (2015). The Five Elements (Wu Xing, 五行) *Handbook of Traditional Chinese Medicine* (pp. 31-41): World Scientific.

Zane, N., & Ku, H. (2014). Effects of ethnic match, gender match, acculturation, cultural identity, and face concern on self-disclosure in counseling for Asian Americans. *Asian American Journal of Psychology, 5*(1), 66.

Zhang, H.-J., & Wang, Z.-X. (2014). Yin-yang and Zheng: Exported from Chinese medicine. *Chinese journal of integrative medicine, 20*(4), 250-255.

Zhang, J., & Goodson, P. (2011a). Acculturation and psychosocial adjustment of Chinese international students: Examining mediation and moderation effects. *International journal of intercultural relations, 35*(5), 614-627.

Zhang, J., & Goodson, P. (2011b). Predictors of international students' psychosocial adjustment to life in the United States: A systematic review. *International journal of intercultural relations, 35*(2), 139-162.

Zhang, W., Pritzker, S. E., & Hui, K.-K. (2015). Factors affecting definitions of and approaches to integrative medicine: a mixed methods study examining China's integrative medicine development. *Evidence-Based Complementary and Alternative Medicine, 2015*.

Zhang, Y. (2012). An examination of acculturative stress, perceived social support and depression among Chinese international students.

Zhang, Z., & Brunton, M. (2007). Differences in living and learning: Chinese international students in New Zealand. *Journal of studies in international education, 11*(2), 124-140.

Zhang, Z., & Zhang, J. (2017). Perceived residential environment of neighborhood and subjective well-being among the elderly in China: A mediating role of sense of community. *Journal of Environmental Psychology, 51*, 82-94.

Zhao, H., et al., The Four-Year Fellow-up of Psychosomatic Health and Its Related Factors of College Students. Chinese Journal of Clinical Psychology, 2001. 9(1): p.28-30.

Zheng, B., & Warschauer, M. (2015). Participation, interaction, and academic achievement in an online discussion environment. *Computers & Education, 84*, 78-89.

Zheng, X., & Berry, J. W. (1991). Psychological adaptation of Chinese sojourners in Canada. *International Journal of Psychology, 26*(4), 451-470.

Zheng, X., Sang, D., & Wang, L. (2004). Acculturation and subjective well-being of Chinese students in Australia. *Journal of Happiness Studies, 5*(1), 57-72.

Zhou, Y., Jindal-Snape, D., Topping, K., & Todman, J. (2008). Theoretical models of culture shock and adaptation in international students in higher education. *Studies in Higher Education, 33*(1), 63-75.

Zhu, C. J., & Dowling, P. J. (2000). Managing people during economic transition: the development of HR practices in China. *Asia Pacific Journal of Human Resources, 38*(2), 84-106.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of personality assessment, 52*(1), 30-41.

Zimmaro, L. A., Salmon, P., Naidu, H., Rowe, J., Phillips, K., Rebholz, W. N., . . . Bayley-Veloso, R. (2016). Association of Dispositional Mindfulness with Stress, Cortisol, and Well-Being Among University Undergraduate Students. *Mindfulness*, 1-12.

Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies, 3*(2), 254.

Appendices
Appendix I Ethic approval letter for qualitative study

Research and Enterprise
Services Division | Lancaster University

Applicant: Amily Dongshuo Wang
Supervisor: Dr Ian Fletcher
Department: DHR

10 December 2014

Dear Amily and Ian,

Re: Exploring Chinese international students' wellbeing in a UK university

Thank you for submitting your research ethics application for the above project for review by the Faculty of Health and Medicine Research Ethics Committee (FHMREC). The application was recommended for approval by FHMREC, and on behalf of the Chair of the University Research Ethics Committee (UREC), I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;

- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);

- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact the Research Ethics Officer, Debbie Knight (01542 592605 ethics@lancaster.ac.uk) if you have any queries or require further information.

Yours sincerely,

Yvonne Fox,
Research & Contracts Support Manager

Cc Fiona Aiken, University Secretary, (Chair, UREC); Professor Roger Pickup (Chair, FHMREC)

279

Health & Medicine | Lancaster University

Consent Form

Study Title: Exploring Chinese International Students' Well-being in a UK University

Before you consent to participate in the study we ask that you read the Participant Information sheet and mark each box below with your initials if you agree. If you have any questions or queries before signing the Consent Form please speak to the Principal investigator, Dongshuo Wang.

1. I confirm that I have read the information sheet and fully understand what is expected of me within this study

2. I confirm that I have had the opportunity to ask any questions and to have them answered.

3. I understand that my interview will be audio recorded and then made into an anonymised written transcript.

4. I understand that audio recordings will be kept until the research project has been examined, around May, 2017.

5. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.

6. I understand that once my data have been anonymised and incorporated into themes it might not be possible for it to be withdrawn, though every attempt will be made to extract my data, up to the point of publication.

7. I understand that the information from my interview will be pooled with other participants' responses, anonymised and may be published.

8. I consent to information and quotations from my interview being used in reports, conferences and training events.

9. I understand that any information I give will remain strictly confidential and anonymous unless it is thought that there is a risk of harm to myself or others, in which case the principal investigator will/may need to share this information with her research supervisor.

10. I consent to Lancaster University keeping electronic versions of the anonymous transcripts for 5 years after the study has finished.

11. I consent to take part in the above study.

Name of Participant_____ Signature_____ Date _____

Name of Researcher _____ Signature _____ Date _____

Appendix III Interview schedule

Health & Medicine | Lancaster University

Semi-Structured Interview Schedule

All students to be interviewed will be from mainland China, Hong Kong and Taiwan, studying at Lancaster and Manchester University

Aim and purpose of the interview:

The aim of this interview is to gain insights into Chinese international students' experiences of health/well-being while they are studying in the UK. This interview is to get the Chinese international students to reflect on their own personal experiences in order to obtain their perceptions of their well-being to date.

Introduction to the interview:

I'd like you to think back to when you were in China, then the past [period of time] here at the UK university. I'm going to ask you some questions on your well-being on campus, which I hope will help you to reflect on the experiences you have had.

I. **Personal introduction from the students:**
Name, Age, Linguistic backgrounds, Sexual orientation,
Area of residence in China, Degree course,
Length of stay in the UK, Personal circumstance, Family, Previous work experience

II. **Being a Chinese student in a UK University**
Please tell be about your experiences of studying in the UK since arriving from China.
Prompt:
What do you think about you social interaction / social connectedness with local people?
Are you comfortable or confident when communicating with native speakers of English?
How friendly are the local people to the international students?
How do you like the local weather?
What is your favorite food while studying abroad?
How do you like the local food?
Do you often feel lonely in the UK? Are you home sick?
Are you curious to know more about British culture/?
What do you think about church going? Social norms
What motivated you to pursue your doctoral study in the UK?
Learning goal orientations / ideal-self.
Linguistic abilities, e.g. How do you perceive your English proficiency?
How do you link your academic work and English proficiency?
Self-rated communicative competence

Academic worries

Do you like to exchange your ideas with your team members?
  Enacted social connectedness
Have you got anything that seems very difficult for you when studying abroad?
  coping strategies / self-assessed English proficiency
Are you worried about your own standard of English when communicating ideas in English?
  intercultural mediator
What strategies did you use to meet the rigorous requirements of English writing/publication?
  strategies used to combat against academic stress
What are the differences between your past study and your present study? Studying in the Western cultural context, analytical, critical
Could you please tell me whether you develop your critical thinking in the Chinese international students' community? Adherence to home culture
What do you think about the academic discourse community of international doctoral students? global mindset / different accents / same English
What do you think of your identity while studying abroad? ideal-myself ? identity development , know about two culture / Bi-cultural identity
What do you think about your ability / capacity to fit in the academic culture in the UK university?
Did you experience a feeling of worthlessness in the UK?
Did you run into sociocultural adjustment difficulties?
Do you often contact host nationals? ICC competence
What do you think about Bi-cultural competence? identity?
Are you curious about things that are culturally different? China/UK social norm Time Self-efficacy, cultural efficacy / social efficacy upon arrival in the UK
What's your perceived social support from the interpersonal social networks? from on line ethnic social groups?
Are you happy to be away from home and study abroad?
Is there any perceived change in your cultural identity? intercultural mediator
How did you manage to become a member of the scientific community when studying abroad?
  integrativeness / integration
What's your reflection on your study abroad?
How do think of the so called "bi-cultural duality?
What academic stress do you experience during your study abroad?
What hassles do you have to face while studying abroad?
e.g. could not understand lectures or ask questions in class
What social support do you need in your study abroad?

III.   Health concerns, perceptions and practice

How would you describe your overall health/well-being before coming to the UK?
How would you describe your overall health/well-being since coming to the UK?
Prompt: Have you been ill?
Who is the first person that you ask for help when you feel ill?
What do you perceive as health/well-being problems?
What do you consider important to staying healthy in the UK?

(eating healthy food, seeing a health care provider like a doctor or a nurse for a routine physical check, exercising on a regular basis, taking vitamins or herbal remedies that are easy to find in my country, attending health-related education)

Have you ever thought that you might have healthcare need in the UK?

How you would get medical care after deciding to study in the UK?

Who do you think are responsible for your health?

Whom can you really count on to distract you from your worries when you feel under stress?

Where you can obtain information of health and well-being related?

Do you use any everyday health strategies, remedies or medicines to get well? (e.g. eat particular things, drink teas/soups, take medicine sent by family)

What's your impression of NHS in the UK?

Did you use the university counselling service?

What's you comment on the TCM in the UK? Personal enacted gap

Thank you!

Appendix IV Ethic approval letter for quantitative study

Lancaster University

Applicant: Dongshuo Wang
Supervisor: Ian Fletcher & Carol Thomas
Department: Health Research
FHMREC Reference: FHMREC15063

03 October 2016

Dear Amily,

Re: Exploring Chinese international students' wellbeing in a UK university

Thank you for submitting your research ethics application for the above project for review by the Faculty of Health and Medicine Research Ethics Committee (FHMREC). The application was recommended for approval by FHMREC, and on behalf of the Chair of the University Research Ethics Committee (UREC), I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;

- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);

- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact the Diane Hopkins (01542 592838 fhmresearchsupport@lancaster.ac.uk) if you have any queries or require further information.

Yours sincerely,

Dr Diane Hopkins
Research Development Officer

CC Ethics@Lancaster; Professor Roger Pickup (Chair, FHMREC)

Appendix V Consent form for quantitative study

Health & Medicine | Lancaster University

Consent Form

Study Title: Exploring Chinese International Students' Well-being in UK Universities

Before you consent to participate in the study we ask that you read the Participant Information sheet and mark each box below with your initials if you agree. If you have any questions or queries before signing the Consent Form please speak to the Principal investigator, Dongshuo Wang.

Please initial box after each statement

I confirm that I have read the information sheet and fully understand what is expected of me within this study

1. I confirm that I have had the opportunity to ask any questions and to have them answered. ☐

2. I understand that my questionnaire will be anonymous. ☐

3. I understand that my questionnaire data will be kept until the research project has been examined, around December 2016. ☐

4. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

5. I understand my data have been anonymised it might not be possible for it to be withdrawn. ☐

6. I understand that the information from my questionnaire data will be pooled with other participants' responses, anonymised and may be published. ☐

7. I consent to information from my questionnaire being used in reports, conferences and training events. ☐

8. I understand that any information I give will remain strictly confidential and anonymous. ☐

9. I consent to Lancaster University keeping electronic versions of the anonymous questionnaire for 10 years after the study has finished. ☐

10. I consent to take part in the above study. ☐

Name of Participant_____ Signature_____ Date _____

Name of Researcher _____ Signature _____ Date _____

Appendix VI Chinese international students' well-being survey

Health & Medicine | Lancaster University

Chinese International Students' Well-being Survey
中国留学生健康问卷

Thank you for your participation in Chinese international students' well-being survey. Please be assured that the answers you give will be kept anonymous and confidential.感谢您参与中国在英留学生健康调查问卷，您提供的信息都将得到保密。

Section I: Demographic information 基础信息

性别 Gender：男 Male _____   女 Female_____   年龄 Age：_____

请给您的英语口语交流水平打分1 为最低，7为最高_____。
Please rate your current competence in English conversational communication from 1 (low) to 7 (high) _____.

请给您的英语学术写作水平打分1 为最低，7为最高_____。
Please rate your current competence in English academic writing from 1 (low) to 7 (high) _____.

您目前已经来英国多长时间了？How long have you been in the UK: _____年 year(s), 零_____月 month(s)

您目前的健康状况 Health status：

o 非常健康 Very healthy   o 健康 Healthy   o 一般 Average health   o 不太健康 Unhealthy   o 很不健康 Very unhealthy

Section II: Well-being in the past 4 weeks. 过去4个星期的健康状况

请标明您对下列陈述的认同程度，1为强烈不认同，2为不认同, 3为一般, 4为认同, 5为强烈认同
Please state how much you agree or disagree with the statements below using the 5 point scale.

1	*2*	*3*	*4*	*5*
Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*

Statement	Score
1. 大部分时间我对我做的事情有成就感。 Most days I feel a sense of accomplishment from what I do.	
2. 我喜欢学习新事物。 I love learning new things.	
3. 我认为我做的事情是有价值的和值得做的。 I generally feel that what I do in my life is valuable and worthwhile.	
4. 我对我的未来很乐观。 I am always optimistic about my future.	
5. 生活中有人真的关心我。 There are people in my life who really care about me.	
6. 如果生活中有困难，我要花很长时间调整自己。 When things go wrong in my life it generally takes me a long time to get back to normal.	
7. 通常来说我对自己的看法很正面。 In general, I feel very positive about myself.	
8. 我感到充满能量。 I have a lot of energy.	
9. 综合考量，你认为自己有多开心 Taking all things together, I am very happy.	0为很不开心，10为非常开心 Score from 0 (extremely unhappy) to 10 (extremely happy)

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们
Please add anything you want to share your thought on_____

287

Section III: Cultural health beliefs 文化健康认知

Key: TCM= Traditional Chinese Medicine   WM=Western Medicine

请标明您对下列陈述的认同程度，1为强烈不认同，2为不认同, 3为一般, 4为认同, 5为强烈认同

Please state how much you agree or disagree with the statements below using the 5 point scale.

1	*2*	*3*	*4*	*5*
Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*

Statement	Score
1.中医治本-治病，西医治标-治症状。TCM cures the root of diseases, while WM only cures the symptoms.	
2.中医药比西医在治疗慢性病上更为有效。 TCM is more effective in treating chronic diseases than WM.	
3.使用西医和西药带来的副作用比中医大。 The use of WM has more drug side effects than TCM.	
4.西医用于治疗急重症，中医擅长治疗小病。 WM will be used in treating severe diseases, while TCM for minor diseases.	
5.西医比中医更加科学。 WM is more scientific-based than TCM.	
6.中医通过维持机体平衡来保持健康。 TCM maintains health through *Yin-Yang* balance.	

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们
Please add anything you want to share your thought on_____

288

Section IV: Psychological adaptation. 心理适应

请标请标明您对下列陈述的认同程度，1为强烈不认同，2为不认同, 3为一般, 4为认同, 5为强烈认同
Please state how much you agree or disagree with the statements below using the 5 point scale.

	1 *Strongly disagree*	2 *Disagree*	3 *Neutral*	4 *Agree*	5 *Strongly agree*

Statement	**Score**
1.来英国很兴奋。I am excited about being in the UK.	
2.很难融入英国文化。I find it difficult to fit into UK culture.	
3.有些时候，一些场合会不知所措。I am nervous about how to behave in certain situations.	
4.周围没有国内的亲戚朋友，很孤独。I feel lonely without Chinese family and friends around.	
5.对中英文化中的不同很有兴趣。I am curious about things that are different in the UK.	
6.想家，思乡 I feel homesick when I think of China.	
7.对在英国的日常生活很开心。I feel happy with my day-to-day life in the UK.	

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们
Please add anything you want to share your thought on_____

Section V: Sociocultural adaptation. 社会适应

请标明您对下列陈述的认同程度，1 很不适应，2 不太适应, 3一般, 4适应, 5 适应很好
Please state how much you agree or disagree with the statements below using the 5 point scale.

1	*2*	*3*	*4*	*5*
Very poorly adapted	*Poorly adapted*	*Neutral*	*Well adapted*	*Very well adapted*

Statement	**Score**
1. 我能地理解当地人的价值观（宗教信仰，是非观） I can understand local people's values and beliefs (e.g. What people think about religion and politics, what is right or wrong).	
2. 当地人对我友好。 People are friendly to international students.	
3. 我认为与当地人结交朋友或进行社会互动很难。 I find it difficult to make friends or have social interactions with local people.	
4. 我的语言学习让我可以理解课程内容，让别人理解自己的想法。 My language learning enables me to understand lectures and make myself understood.	
5. 我对生存环境满意（比如：卫生，睡眠，安全感）。 I feel satisfied while living and learning in the UK.	
6. 我能理解人们的幽默感。 I can understand the humour of local people.	

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们
Please add anything you want to share your thought on_____

Section VI: Academic-related Stress 学术压力

请标明您对下列陈述的认同程度
　　1极大压力　2压力偏大　3压力中等　4有点压力　5没有压力
How stressful are you finding university-related work, please use the 5 point scale.

1	*2*	*3*	*4*	*5*
Extremely stressful	*Very stressful*	*Moderately stressful*	*A little bit stressful l*	*Not stressful at all*

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们

Statement	**Score**
1.我不适应英式的思考方式。I am not accustomed to the English way of thinking (e.g. critical thinking, analytical thinking).	
2.达到导师的期望很难。It is difficult for me to reach my supervisor's expectation.	
3.我担心能否按时毕业。I am worried whether I can graduate as scheduled.	
4.和同伴相比我有压力。I feel pressured when making comparison with peers.	
5.作业的要求我不是完全理解。I could not follow the English instruction for assignments.	
6.我喜爱小组工作。I like group work in the UK university.	
7.作业量很大，难以应付。Handling the academic workload is challenging for me.	

Please add anything you want to share your thought on_____

291

Section VII: Social support   社会支持

请标明您对下列陈述的认同程度
1没有支持， 2支持不足， 3一般， 4有支持， 5有很好的支持

Please state how much support you received using the 5 point scale.

1	*2*	*3*	*4*	*5*
Very poorly supported	*Poorly supported*	*Neutral*	*Well supported*	*Very well supported*

Statement	Score
1. 遇到问题和危机时候，有人帮助。Someone will give me good advice about a problem or crisis.	
2. 我可以得到家人的支持和情感帮助。 I can get the emotional support from my family.	
3. 我认为大学提供的服务有帮助. I consider the university support service helpful.	
4. 朋友在你需要的时候给的帮助很重要。 My friend's support is important when I need some help.	
5. 当我非常郁闷的时候有人交谈。 I have someone to console me when I feel very upset.	

如果您对以上陈述有任何想法要分享或者进一步解释的话，请告诉我们

Please add anything you want to share your thought on_____

谢谢您Thank you

Appendix VII Invitation letter for qualitative study

Health & Medicine | Lancaster University

Dear participants,

You are invited to participate in a research that aims to gain a deeper understanding of Chinese international students' well-being. Participation is voluntary.

This research has been ethically approved by Lancaster University Health Research Ethics Sub-Committee and confidentiality is guaranteed. Please read the following information before deciding whether or not to participate.

What does participation involve?

Participation involves taking part in an interview which is expected to take approximately 30-60 minutes. You will be asked about your perception of health and well-being while you are studying at the University of Lancaster. You may be asked questions about your health related experience in China as well.

Right to withdraw

You can withdraw at any time of the interview without any consequence. You data will not be used in the research.

Confidentiality

Responses for the interview will not be reported in any way that could cause individuals to be identified. All information collected will be used solely for the purpose of this study. The answer will be anonymous and will be stored safely in the locked drawer in the researcher's office at the university and destroyed after the completion of the research.

For further information

Requests for the summary of the study findings are welcome, in the meantime, if you have any questions regarding to this study, please do not hesitate to email me at: d.a.wang@lancaster.ac.uk.

Thank you for your time and help.

293

Appendix VIII Invitation letter for quantitative study

Health &
Medicine | Lancaster University

Dear participants,

You are invited to participate in a research that aims to gain an understanding of Chinese international students' well-being. If you are interested in how well (or bad) other Chinese international students are doing since they come to the UK, join the study! If you want to know how your well-being is, join us! If you want to know how you can do better with your time in the UK, join us! Participation is voluntary. Simply scan the QR code below.

This research has been ethically approved by Lancaster University Faculty of Health and Medicine Research Ethics Committee (FHMREC) and confidentiality is guaranteed. Please read the following information before deciding whether or not to participate.

What does participation involve?

Participation involves taking part in a questionnaire survey which is expected to take approximately 5- 10 minutes. You will be asked about your perceptions of health and well-being while you are studying at the University of Lancaster.

If you are interested, please scan the QR code below:

Right to withdraw

You can withdraw at any time before you hand in the questionnaire without any consequence. You data will not be used in the research.

Confidentiality

Responses for the questionnaire will not be reported in any way that could cause individuals to be identified. All information collected will be used solely for the purpose of this study. The answer will be anonymous and will be stored safely in the locked drawer in the researcher's office at the university and destroyed after the completion of the research.

For further information

Requests for the summary of the study findings are welcome, in the meantime, if you have any questions regarding to this study, please do not hesitate to email me at: d.a.wang@lancaster.ac.uk.

Thank you for your time and help.

Appendix IX: Sample of coding qualitative data (English and Chinese version)

This appendix comprises the coded transcript of the interview conducted with Xu Meng (S). This was the 10th interview conducted in the overall process.

The column to the right of the transcript lists the initial codes assigned to the text. Reference to the codes listed demonstrates the style of coding used in the initial data analysis. That is, line-by-line coding.

In the transcript certain changes have been made in an effort to protect the anonymity of the interviewee.

Key: R = Researcher   S = Student   *(Xu Meng, female, 24)*