

**An Investigation into Acculturative Factors Surrounding the
Wellbeing of Chinese International Students Studying in the UK**

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Abstract

This interdisciplinary sequential mixed methods study employed traditional statistical methods and data science techniques to investigate acculturative factors affecting the wellbeing of Chinese international students in the UK. First, it systematically identified common acculturative stressors for these students and highlighted research gaps in areas such as acculturative stress, coping strategies, mental health, and wellbeing, particularly in the context of COVID-19. Next, a cross-sectional survey was conducted among 452 Chinese international students across England, Scotland, Wales, and Northern Ireland, capturing participants from diverse academic majors, degree levels, durations of stay in the UK, and English proficiency levels. The quantitative data were analysed using Ordinary Least Squares regression and Structural Equation Modelling to quantify the frequency and impact of key acculturative stressors: perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, and homesickness. Results indicated that these factors had a significant impact on student wellbeing and were particularly pronounced during the COVID-19 pandemic. Both task-oriented and emotion-oriented coping strategies were significantly associated with better wellbeing outcomes. Following the cross-sectional survey, a thematic analysis of 30 qualitative semi-structured interviews was conducted to provide a more in-depth understanding of the acculturative stressors and coping strategies. COVID-19 played a dominant role, revealing a significant influence in the quantitative analysis and a polarising effect in the qualitative findings. Mindfulness and disengagement became notable coping strategies among students. Moreover, the qualitative study also incorporated Chinese philosophical concepts to explore and analyse the acculturative stressors and coping strategies experienced by students. By bridging the research gaps and providing recommendations, this research aims to promote a more inclusive and supportive educational environment.

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*Even as the years slip by, the heart with which I began remains
unchanged, ever trusting in magic ✨*

Chapter 1. Introduction

1.1 Research Context

In an age of globalisation, studying or living abroad has become an increasingly sought-after experience (Phua et al., 2017; Yang, 2018; Hofhuis et al., 2019), and this trend has turned higher education into a highly globalised industry. Since the early 1990s, the United Kingdom has become one of the appealing regions for foreign students, and the massive influx of overseas students has brought great diversity to the campus and made significant contributions to the country's economic, cultural, and academic development (Gill, 2007; Forbush & Foucault-Welles, 2016). According to Higher Education Student Statistics (UK, 2018/19) released by Higher Education Statistical Agency (HESA), China sent more students to the UK than any other overseas country, and Chinese international students accounted for 35% of all non-EU students in 2018/19. The number of Chinese international students in 2018/19 was 34% higher than that in 2014/15, and this five-year span witnessed the number increasing from 89,540 to 120,385 (HESA, 2020). For international students themselves, encountering a new culture and making adjustment to an unfamiliar environment can be an exciting and rewarding experience because it is an opportunity for them to enhance their intercultural intelligence, awareness, communication competence, as well as global mindedness (Rienties & Tempelaar, 2013; Roy et al., 2019); however, acculturation can be a very stressful process which is often accompanied by various challenges that can lead to negative psychological outcomes (Zhou, Zhang, & Stodolska, 2018), such as poor academic performance, low identification with the host culture, and even termination of the sojourn (Taušová et al., 2019). Various acculturation and adjustment difficulties inevitably make 'studying abroad' a quite challenging and stressful process, thus turning international students into a group that are extremely vulnerable to psychological depression or poor mental health and wellbeing. Common mental health

symptoms associated with acculturative stress include depression, anxiety, alienation, high levels of anger, as well as fear of making mistakes (Valenzuela, Palacios & Intindola, 2015).

In the past decades, international students' acculturation and mental health issues have received considerable attention from scholars and researchers (see for example, Wang & Mallinckrodt, 2006; Li & Gasser, 2005; Zhang & Goodson, 2011). Evidence shows that international students from Asian countries tend to suffer more from acculturative stress when they study in Western societies, because they may encounter and have to deal with more challenges brought about by cultural differences (Yang & Clum, 1994; Mori, 2000). Further, the Chinese international students, due to their collective cultural background, tend to employ forbearance coping to deal with acculturative stress (Wei et al., 2012). Forbearance coping is a stress-coping strategy which refers to minimising or concealing mental problems in an effort to maintain social harmony (Moore & Constantine, 2005). This strategy is common among the international students coming from collective cultures, because people in collective cultures are taught not to cause burdens to their social networks (Kim et al., 2008). Rather than asking for social & wellbeing support, they suffer and endure acculturative stress by themselves. For example, Noh and Kaspar (2003) found the 'forbearance coping' strategy led to more serious depressive symptoms among Koreans. Nonetheless, there lacks strong evidence to show how Chinese international students, as a special group that uses forbearance coping to deal with mental problems, endure acculturative stress while studying in the UK. It should also be pointed out that international students from Asian countries should not be treated and measured as a homogenous group, since there also exist subgroup differences among the students from different Asian countries (Ra & Trusty, 2017). Hence, the research aims to narrow down the research focus by targeting the Chinese international students studying in the UK.

1.2 Statement of Purpose

Despite the growing body of empirical research on the wellbeing of Chinese international students, scholarly attention to this population remains disproportionately allocated. A substantial proportion of acculturation research concerning Chinese international students has focused on those studying in the United States and Australia, as evidenced by seminal studies such as Wei et al. (2007), Yan & Berliner (2013), Bai (2016), and Forbush & Foucault-Welles (2016). Although a few researchers have explored aspects of acculturative stress of Chinese international students in the United Kingdom (e.g., Wang, 2017; Cheng, Friesen, & Adekola, 2019; Jiang, 2018; He, 2021), the majority of the literature has concentrated on isolated stressors or coping strategies, with limited integration of the process of acculturation within the broader context of mental health and wellbeing. Existing studies either focus on acculturation processes without adequately exploring their implications for psychological wellbeing and mental health, or investigate mental health and wellbeing outcomes without sufficiently considering the role of acculturation experiences and context. Crucially, there is a notable absence of comprehensive empirical studies that integrate acculturation, coping strategies, mental health, and wellbeing among these students. Furthermore, the COVID-19 pandemic has exacerbated these challenges, underscoring the urgent need for research that addresses the compounded impacts of the crisis on their psychological wellbeing.

The purpose of this research project is to understand the acculturation factors affecting Chinese international students in the UK, the coping strategies they employ to deal with acculturative stress, and how these dynamics have been impacted by the COVID-19 pandemic. Although the body of research in this area is growing, most existing studies primarily utilise qualitative methods (e.g., Hu, 2017; Law, 2021; Lou, 2023). Among the few that adopt a mixed methods approach (e.g., Redfern, 2016; Wang, 2017; Qi et

al., 2018), quantitative analyses are largely limited to basic statistical tests such as t-test, ANOVA and factor analysis, with the application of mathematical models being exceedingly rare. To bridge these gaps, this study adopts a mixed-methods approach, starting with a quantitative questionnaire to quantify the extent of acculturative stressors, coping strategies, and the impacts of the COVID-19 pandemic. This will be followed by in-depth qualitative semi-structured interviews to gain a deeper understanding of students' experiences and perspectives. Furthermore, this research is interdisciplinary, drawing upon theories and concepts from educational psychology and public health to provide a holistic perspective on the challenges faced by Chinese international students and the factors that contribute to their successful adaptation.

1.3 Research Questions

Building upon the research background and position as outlined, this research aims to investigate the wellbeing and mental health problems of Chinese international students in the UK. To achieve this, five research questions have been formulated:

1. *What acculturative stressors can affect the wellbeing of Chinese international students in UK universities?*
2. *To what extent can the identified acculturative stressors predict the wellbeing of Chinese international students?*
3. *How can COVID-19 pandemic affect the wellbeing of Chinese international students in the UK?*
4. *What strategies do Chinese international students usually employ to reduce their acculturative stress and facilitate their intercultural adaptation?*

1.4 Research Significance

This research is considered to have both significant theoretical and practical implications.

Theoretically, it addresses several important gaps in the existing literature on Chinese international students' acculturation experiences and wellbeing, particularly in the context of the COVID-19 pandemic. This study constructs an integrated theoretical framework incorporating acculturative stress, coping strategies, and mental health outcomes. Notably, it also considers the impact of the COVID-19 pandemic, which has been largely overlooked in previous research. By doing so, this study provides a more comprehensive understanding of the complex relationships among these factors. To achieve this, the study employs a mixed-methods research design, combining primary and secondary data, as well as quantitative and qualitative methods, to gain a holistic understanding of the wellbeing status of Chinese international students and the Chinese community in the UK. Furthermore, the primary data for this study encompass a wide-ranging geographic coverage across the United Kingdom, including England, Scotland, Wales, and Northern Ireland, thereby ensuring the wide applicability of the research findings. Additionally, the study spans various academic levels from undergraduate to doctoral students and includes diverse demographic profiles with different ages, genders, majors, language proficiencies, and durations of stay in the UK, attributes that are rarely combined in previous research. Moreover, the quantitative analysis employs a range of mathematical models such as Ordinary Least Squares, Ordered Logistic Regression and Structural Equation Modelling. The application of multiple comparative mathematical models in a single study is rare in existing literature, enhancing the rigor of the research and providing a novel contribution to the field by allowing more reliable findings and facilitating a deeper understanding of the interrelationships among the studied variables.

Practically, the findings of this research have wide-ranging implications for stakeholders. For both prospective and current Chinese international students, this study provides crucial insights into the potential challenges they may face during their acculturation process, particularly during global health crises like the COVID-19

pandemic. It offers guidance on effective coping strategies to maintain their wellbeing and mental health, and enhances awareness of mental health issues, encouraging them to seek support when needed. This is especially important given that many Chinese students may not prioritise mental health due to sociocultural traditions. Additionally, this research profoundly impacts universities and professional counselling bodies in the UK by highlighting the unique needs of Chinese international students and informing the development of culturally sensitive support services, crucial in challenging times. Furthermore, the findings are invaluable for policymakers and international education organisations, enabling the creation of evidence-based policies and plans that effectively support this growing student population, both in the UK and globally.

1.5 Structure of the Thesis

Chapter 1 provides an overview of the research context, introducing the current state and trends within the field. It defines the purpose of the research, highlights existing research gaps, and outlines the specific research questions to be addressed. The chapter underscores the significance of the research, detailing its potential contributions to theoretical advancements and practical applications in the field.

In *Chapter 2*, the systematic literature review method is applied to select 24 articles that fulfill the criteria. Through thematic analysis, this chapter systematically identifies and categorises the acculturative stressors faced by Chinese international students, addressing **the first research question**. The findings from the literature review establish a solid theoretical base for designing the questionnaire and for the data collection and analysis in the subsequent primary empirical study. Furthermore, the chapter explores how acculturative stressors and coping strategies are currently applied within the scholarly literature.

Chapter 3 details the research design of this study. First, it discusses the philosophical

worldview of pragmatism as the theoretical basis. Subsequently, the research design is introduced, followed by the selection of the sample for primary data, the design of bilingual questionnaires, and the selection and definition of variables. On this basis, the chapter demonstrates the collection and analysis processes of both quantitative and qualitative data. Lastly, ethical considerations are discussed, emphasising the importance of validity, reliability, and trustworthiness in this research.

Chapters 4 and 5 address **research questions two, three, and four**. **Chapter 4** focuses on the quantitative analysis and findings from primary data. First, descriptive statistics are used to preliminarily analyse the demographic characteristics of the sample, descriptive statistics of variables, and bivariate and multivariate relationships. Then, diagnostic tests, model estimation, and hypothesis testing are conducted. On this foundation, Ordinary Least Squares, Ordered Logit Model, and Structural Equation Modelling are employed to analyse the primary data. **Chapter 5** presents the findings and discussion of the qualitative analysis of the primary data, aiming to provide a deeper understanding and verification of the quantitative results.

Chapter 6 is the conclusion chapter of the research. It first summarises the contributions to knowledge, including filling research gaps, addressing research questions, and presenting findings beyond the initial inquiries. While acknowledging the study's limitations, the chapter also explores its implications, providing detailed directions for future research and practical recommendations.

Chapter 2. Literature Review

2.1 Theoretical Frameworks

2.1.1 Acculturation

Acculturation has long been a central concept in cross-cultural psychology and related fields. Redfield et al. (1936, p.149) conceptualised acculturation as ‘those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups’. Building on this, Graves (1967) distinguished between group-level and individual-level acculturation, and then referred to the latter type as ‘psychological acculturation’. His work underscored that cultural contact not only transforms collective cultural norms but also deeply affects individual attitudes, behaviors, and identities. With the acceleration of globalisation and internationalisation, the concept ‘acculturation’ has become increasingly popular, resulting in many associated concepts and seminal theories (Schwartz, et al., 2010; Smith & Khawaja, 2011; Lin, et al., 2012; Domes & Geeraert, 2014; Bierwiazzonek & Waldzus, 2016). Alongside it, there emerged a proliferation of concepts and terms such as ‘ethnic identity’, ‘integration’, ‘biculturalism’, ‘multiculturalism’ and ‘resocialisation’. Such terms have been used interchangeably with the concept of acculturation or as an alternative, and no consensus has been reached to give an explicit definition of acculturation. Currently, one of the most cited definitions is given by John W. Berry (2005, p.698), who defined it 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’. This definition emphasises the bidirectional nature of acculturation: changes occur both within and between different cultural groups, affecting norms, values, and practices at the collective level, as well as identity, stress, and coping mechanisms at the individual level (Berry, 2005). Consequently, acculturation is widely viewed as a multifaceted

phenomenon, incorporating sociocultural, psychological, and behavioural processes that unfold over time.

2.1.2 Berry's Acculturation Framework

Indeed, acculturation is a rather complex and multifaceted phenomenon. Over the years, acculturation researchers have proposed various frameworks to identify and elaborate on the key components of acculturation, such as the dual acculturation framework (Berry, 2003), the Relative Extended Acculturation Model developed by Navas et al. (2005) and the Multidimensional Individual Difference Acculturation Model by Safdar et al. (2013). Berry's acculturation framework is the theory that underpins the current doctoral project. According to Berry, the process of acculturation first involves contacts between members of different cultural groups. Then, the inter-cultural contacts will unavoidably lead to both psychological changes at the individual level and cultural changes at the group level, which is what Graves (1967) argued. Consequently, the changes eventually result in different forms of adaptation. Berry (2003) proposed an acculturation framework to illustrate acculturation components and relationships.

Berry's acculturation model links cultural-level and psychological-level acculturation phenomena. At the group level, Berry (2019) explained that researchers should understand the key features of the original cultural groups (A, B and so on) before they came into contact, as well as the nature of the major contact. Thus, to better understand a certain process of acculturation and the flow of acculturative influence among different cultural groups, it is important to note that the cultural groups that are brought to the acculturation arena have their own differential power and cultural features. Then, as the model displays, these contacts result in dynamic cultural changes to both groups, leading to the emergence of an ethnocultural group during the process of acculturation, which represents a new cultural entity blending characteristics of the interacting cultures. At the individual level, researchers should consider the psychological acculturation that all individual members in the cultural groups may undergo, as well

as their adaptation to the new situations. Individual acculturation changes are the psychological changes they experience, including behavioural changes, acculturative stress, acculturation strategies and eventually various forms of adaptation.

2.1.3 Acculturative Stress

While at the individual level, adjustment can be made with minimal difficulty, acculturative changes can also be very challenging. In this case, sojourners may experience acculturative stress manifested in anxiety, uncertainty and depression (Berry, 2006). According to the stress and coping theory, psychological stress refers to ‘a particular relationship between the person and the environment that is appraised by the person as exceeding their resources and endangering their wellbeing’ (Lazarus & Folkman, 1984, p.1). Acculturative stress is a type of stress experienced by sojourners when they find the new cultural environment beyond their control given currently available resources. Acculturative stress is a less desirable outcome of acculturation. Berry (1970) first introduced the concept of acculturative stress as an alternative to culture shock, and defined it as a response specifically response to the challenges of intercultural living. Berry proposed replacing ‘culture shock’ with ‘acculturative stress’ because the term ‘shock’ essentially carries negative connotations (Berry & Sam, 2016). The use of culture shock implies that culture contact can only lead to negative consequences (e.g. difficulties and challenges). Compared with shock, the term ‘stress’ puts more emphasis on the efforts made by people to overcome certain challenges (Lazarus & Folkman, 1984; Lazarus, 1997). According to Berry’s acculturation model, sojourners are potentially able to use various coping strategies to deal with acculturation challenges, thus achieving a certain form of adaptation (Berry, 2006). Adaptation may range from ‘very negative’ through to ‘very positive’ (Berry, 2006). Thus, sojourners’ acculturation experiences can be both beneficial and detrimental. If people can handle acculturative stress, they can gain new opportunities and novel experiences during the acculturation process; however, when acculturative stress increases to a significant level,

it can lead to depressive symptoms and even more serious mental consequences (Hovey & King, 1996).

2.2 Systematic Literature Review

To answer the first research questions, **What acculturative stressors can affect the wellbeing of Chinese international students in UK universities**, a systematic literature review was conducted. Efforts were made to retrieve all relevant studies in existing literature that empirically examined the acculturative stressors experienced by Chinese international students and the stress coping strategies by the group to enhance wellbeing when they are studying abroad. This included registering the protocol on PROSPERO, defining the research question, conducting a comprehensive database search, applying inclusion and exclusion criteria, and synthesising the findings to provide a detailed, structured analysis of the data.

2.2.1 Retrieval Procedures

Seven databases were searched: PsycINFO, OVID, PubMed, Web of Science, ERIC, Science Direct, and MEDLINE. All the research papers included in this review met four prescribed inclusion criteria: (a) education and/or health related research; (b) primary research papers; (c) research focusing on the group of Chinese international students; (d) peer-reviewed articles written in English. In addition to these inclusion criteria, the review also excludes protocol papers, commentaries, and dissertations. All possible combinations of search terms, including their variations, were used in the review to identify the maximum number of relevant studies (See Figure 2.1). The search terms used in this review included international students, Chinese, UK, wellbeing, mental health, acculturation, adjustment, adaptation, acculturative stress, and acculturative stressors. Among these 282 articles, 49 were excluded because they were protocol papers, commentaries, or dissertations. The remaining 233 articles underwent a more detailed review of their abstracts, conclusions, and, when necessary, methods sections.

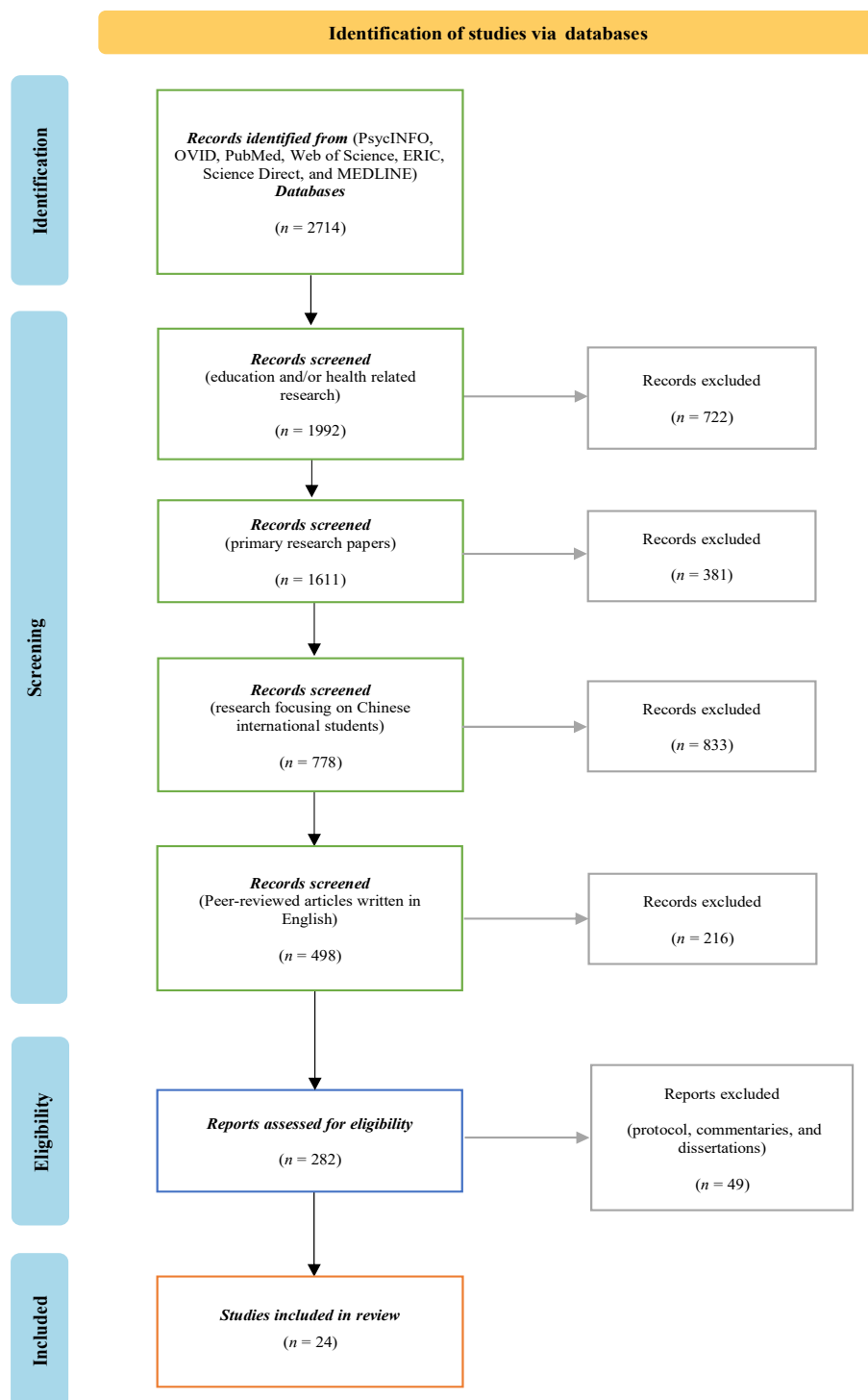


Figure 2.1 Data Retrieval Flow Chart

As a result, 209 additional papers were excluded for reasons such as lack of a specific focus on Chinese international students in the UK, insufficient data on mental health and wellbeing outcomes, or failure to meet the primary research criteria. This in-depth screening process resulted in the identification of 24 studies that met all the prescribed inclusion criteria and were subsequently included in this systematic review.

2.2.2 Data Extraction

Prior to the extraction of data, a data extraction form ([Appendix A](#)) has been generated, which was used to facilitate the data search in this systematic review. This form was designed to capture essential information from each included study, such as research aims, sample nationality and size, study design, data collection instruments, and key findings. For quantitative studies, the form included fields to record statistical methods like t-tests, ANOVA, or factor analysis, and noted whether the results were statistically significant. Qualitative data were analysed using thematic analysis to identify central themes related to acculturative stress. In cases of mixed-methods research, both quantitative and qualitative data extraction methods were applied as appropriate. All procedures and quality control measures are documented in the protocol registered with [PROSPERO](#).

2.2.3 Types of Studies

A total of 24 empirical studies have been selected for a systematic review, with the majority of the studies employing quantitative designs ($n = 19$). Only three of these were mixed-methods studies, and two were qualitative. It is noteworthy that the majority of the reviewed studies focusing on the acculturative stress of Chinese international students were conducted in the US. This finding underscores the continued existence of a research gap concerning the acculturative stress experienced by Chinese international students in UK universities.

Table 2.1 Preconceived Themes and Codes used in Thematic Analysis

Themes	Initial Codes
Perceived cultural distance	<ul style="list-style-type: none"> · Culture shocks · Different social norms · Adherence to home culture · Value conflicts · Collectivism versus individualism · Way of thinking
Social integration	<ul style="list-style-type: none"> · Social environment adaptation · Lack of interactions · Social connectedness · No social support · Marginalisation and isolation · No native/foreign friends · Rejection
Perceived discrimination	<ul style="list-style-type: none"> · Negative feedback · Hatred · Stereotypes · Prejudiced attitude · Unequal treatment. · Sarcastic attitude
Academic integration	<ul style="list-style-type: none"> · Learning difficulties · Heavy workload · Different learning environments · Teaching centred versus student-centred · Lack of critical thinking · Academic failures · Scores
Language barriers	<ul style="list-style-type: none"> · Communication skills · Self-assurance in English · Language speed · Accents · English fluency
Homesickness	<ul style="list-style-type: none"> · Absence of families · Hometown · Desire to go back · Old friends · Miss(ing)

This review employs thematic analysis to identify, analyse, and report the underlying themes or patterns within the data. Although themes can be conceptualised in various ways, in this research, themes are defined as recurring patterns of meaning that are unified or underpinned by a core concept (Braun & Clarke, 2019). A deductive approach is employed to analyse the themes within the data from the reviewed papers (Boyatzis, 1998). Prior to familiarisation, the reviewer proposed six preconceived themes based on existing knowledge and theories of acculturation. The preconceived themes include perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers and homesickness. After familiarisation, initial codes were generated in relation to the coded extracts. Having reviewed all the research papers and identified a list of initial codes, the reviewer categorised these codes to see whether they matched the preconceived themes. [Table 2.1](#) shows the identified codes under each theme.

2.3 Acculturative Stressors

Some scholars have noted that various factors in the host culture can serve as significant acculturative stressors, thereby exacerbating individuals' psychological and emotional burden (Smith & Khawaja, 2011; Yan & Berliner, 2013). For instance, inadequate language proficiency not only restricts international students' social interaction but also impedes academic performance (Zhang & Goodson, 2011). Discrimination and perceived prejudice have likewise been consistently identified as key contributors to students' negative acculturation outcomes, such as depression and anxiety (Lee & Rice, 2007; Poyrazli & Lopez, 2007). Moreover, practical pressures like financial constraints or unfamiliar academic expectations may further compound international students' stress levels (Russell et al., 2010). While these stressors can vary in intensity across cultural contexts and international students' backgrounds, they collectively underscore the complexity of the acculturation process. Consequently, it is essential to examine how different types of acculturative stressors interact with international students'

coping strategies and resources, as these interactions will shape the overall trajectory of their adaptation (Berry, 2006). In light of this, the following section provides a more detailed overview of the major acculturative stressors identified in the extant literature. This discussion will serve as a foundation for understanding how acculturative stressors influence Chinese international students' experiences.

2.3.1 Perceived Cultural Distance

Perceived cultural distance, defined as the recognised differences in norms, beliefs, religions, values, and habits between two cultures, represents a remarkable acculturative stressor (Gyamerah et al., 2024). It has been demonstrated to predict sojourners' ill-being effectively during their acculturation process (Geeraert & Demoulin, 2013; Guan et al., 2018; Taušová et al., 2019). Berry (1997) noted that the cultural differences between home and host cultures can lead to severe conflicts, challenging sojourners' adjustment and mental health. Evidence shows that the greater distance between two cultures, the more difficulties intercultural travellers may experience (Redmond, 2000; Ward, Bochner, & Furnham, 2001; Guan et al., 2018). When there exists greater cultural distance, intercultural travellers may find it increasingly difficult to participate in activities in the host culture because of cultural unfamiliarity (Galchenko & Van de Vijver, 2007). In the literature, there are different conceptualisations and measurements of cultural distance, among which Hofstede's (1980) psychological model lays the theoretical basis for many cultural distance studies. According to Hofstede's model, there are six dimensions of culture, which are individuality vs. collectivism, power distance, masculinity vs. femininity, uncertainty avoidance, long-term orientation vs. short-term orientation, and indulgence vs. restraint (Hofstede Insights, n.d.). In those studies that have examined the cultural distance between the Western and East Asian societies, individualism-collectivism and power distance are two dimensions that have been most frequently researched. Hofstede (2001) pointed out that China, as a typical example representing the East Asian countries, have

a higher score in terms of collectivism and power distance, which significantly contrasts to the countries in EU or the North America. Similar findings can also be found in the research conducted by Li and Kaye (1998) and that by Cao and colleagues (2016). Li et al. (2016) in a qualitative study also confirmed that the differences in language/communication, culture, academic study and learning between the home and host cultures can influence their psychological adjustments.

2.3.2 Social Integration

Social network refers to ‘a set of nodes (e.g. persons, organisations) linked by a set of social relationships (e.g. friendship, transfer of funds, overlapping membership) of a specified type’ (Nohria & Eccles, 1992, p.4). The resources embedded in a person’s social network (that can be mobilised through social ties in the network) is known as social capital (Lin, 2005). When international students study and live in the host society, they need to develop a new social network and accumulate social capital there. For example, Neri and Ville (2008) compared the development of a new friendship network in a new environment as the renewal of one’s social capital. These two researchers called co-national social ties as bonding social capital, and the social network developed with host nationals and multi-nationals as bridging social capital. Social integration measures how well intercultural travellers develop and maintain a social network in the host culture (Galchenko & van de Vijver, 2007). Compared to the permanent residents or local citizens in the host society, sojourners (including international students) are often at a disadvantage because they have discounted ability to participate politically, economically, culturally, socially within the community (Paltridge, Mayson, & Schapper, 2012). Normally, international students have three distinct social networks: co-national network (referring to the friendships international students develop and maintain with the people having the same nationality with them), multi-national network (social networks with international students from other countries), and host-national network (social networks with the people within the community in the host

country), among which the first network seemed to be the most common and the most well-maintained (Furnham & Alibhai, 1985). This phenomenon, known as ‘developing close-knit compatriot social network’, has been explored in accumulating research (Cao, Zhu & Meng, 2016). Spencer-Oatey et al. (2017) found that despite high levels of satisfaction among Chinese students with their compatriot networks, they experience serious impediments in developing meaningful relationships with host and other international students, largely due to cultural differences and individual factors such as language proficiency and motivation. However, empirical evidence shows that having friendships with host nationals can predict a significantly higher level of life satisfaction and contentment, as well as a reduced level of negative emotions such as homesickness (Hendrickson, Rosen, & Aune, 2011). By contrast, the international students whose friendship networks feature a higher ratio of co-nationals have a lower level of satisfaction, and discounted feelings of social connectedness. However, the study conducted by Pan et al. (2007) provided mixed results. This group of researchers collected data from 227 Chinese international students who studied at the University of Melbourne. Pan et al. (2007) admitted that the process of re-building social networks in the host community is challenging, so acculturation is always accompanied by frustration and psychological distress. However, they further noted that the challenges international students experienced during the process of re-building social networks do not necessarily lead to significant negative emotional effect. Individuals who choose separation may face less acculturative stress than those whose strategy is integration.

2.3.3 Perceived Discrimination

Sojourners including international students, as ethnic minorities, are often subject to discrimination when they are living in a new culture (Nilsson et al., 2008; Chavajay & Skowronek, 2008; Todorova et al., 2010; Tsai & Wei, 2018), and such discrimination can influence their wellbeing by causing mental distress to them (Brittian et al., 2015). For Chinese international students, they suffer from two main types of discrimination:

race-based discrimination and language-based discrimination (Sun et al., 2021). Discrimination is a multi-faceted phenomenon, manifesting itself through different actions, such as explicit racial stereotypes or bias, omissions and inactions (Yoo et al., 2010). An empirical study conducted by Meng et al. (2019) indicated that 29% of the Chinese international students experienced different levels of discrimination in Belgium. Tsai and Wei (2018) also documented that Chinese international students suffer from racial discrimination in the US. When international students are exposed to constant discrimination, their wellbeing and mental health can be negatively influenced in the long run (e.g. Brown et al., 2000; Banks et al., 2006; Burgess et al., 2007), causing symptoms of depression (Tummala-Narra et al., 2012) and anxiety (Sosoo et al., 2019). For example, Carter et al. (2019) conducted a meta-analysis of 242 studies and reached the conclusion that racial discrimination is significantly correlated with poor mental health. Lee and Ahn (2011) narrowed down the population to Asian (including the Chinese) students in Western societies and conducted a meta-analysis of 22 studies. The analysis results showed that the relationships between racial discrimination and depression was statistically significant (Lee & Ahn, 2011). In addition, Chinese international students also suffer from language-based discrimination (Wei et al., 2012). Wei et al. (2012, p.340) defined language-based discrimination as the experience of 'being discriminated against because English is one's second language or one speaks English with an accent'. Language-based discrimination takes different forms, such as ignoring or rejecting one's opinions because of language use. Wei et al. (2012, 2015) found that language-based discrimination is significantly associated with poor mental health like depression and anxiety symptoms, since such discrimination makes international students feel ignored, disrespected, or perceived as inferior (Swagler & Ellis, 2003).

2.3.4 Academic Integration

Since international students are required to use their second/foreign language to acquire knowledge and complete assignments and that the educational environment there may differ significantly from the environment in their home country, they usually experience decreased confidence, disappointment and a feeling of loss, especially when they find that academic achievements are mismatched with their expectations (Mori, 2000). Meanwhile, many international students suffer from great pressure because they have to work hard to meet the expectation from their family or the sponsoring university (Yamada et al., 2014). Tremendous academic pressure can put them under a constant emotional strain, thus making them to live a stressful and unbalanced life. In addition, many researchers, such as Barron (2006), claimed that the learning style preference of many international students differs from that adopted by their domestic peers. Ozer (2015) explained learning-style mismatch issues are correlated with cultural distance. For example, international students coming from a culture that values individualism tend to be more competition-oriented and more independent in learning, while students with a collectivist cultural background are prone to be compliant in group work and quiet in class discussions (Ozer, 2015; Wang & Mallinckrodt, 2006). Chinese international students' academic integration problems have been researched by Yan and Berliner (2009), who found that the group of Chinese international students being observed have verbal passiveness and habitual silence in class. This is because Chinese students, grown up in a collectivist society, are taught to show respect to authorities, obey classroom rules and worship harmony. Therefore, it is not strange that Watkins and Biggs (1996) found Chinese students found it a quite demanding job to make themselves adjusted to an educational environment that emphasises independent learning, critical thinking, and less supervision.

2.3.5 Language Barriers

To achieve intercultural adaptation, language is a factor that is of particular importance (Gallaher, 2013; Wilczewski & Alon, 2023). Whether international students can successfully interface with the host culture largely depends on their ability to communicate effectively in the second language (e.g. Gudykunst & Hammer, 1988). For example, Masgoret and Ward (2006) explored the relationships between four variables between second language proficiency, communication competence, effective intercultural interaction, and sociocultural adaptation. According to this research, one's language capacity including language proficiency and communication competence, supplemented by their intercultural interactions, are core components that promote international students to achieve sociocultural adaptation. Although it is well-known to all language proficiency facilitates intercultural adaptation, many international students from Asian countries have serious problems in communication in the UK (Li & Kaye, 1998). Andrade (2006) explored what factors influenced international students' adjustment to the host culture in English-speaking universities and found that language incompetence has become one primary factor that prevented international students from making sociocultural and academic adjustment. Spencer-Oatey and Xiong (2006), Chinese international students in the UK have troubles in understanding English jokes and humours. Although English is the second language for both Chinese international students and the students from EU countries, Wang et al. (2012) found that Chinese students have more language problems than their EU counterparts when they were trying to make intercultural adaption. As shown by these studies, language barriers, as a source of stress that affects international students in a significant way, can exert an influence on their sense of wellbeing. In empirical research conducted by Yeh and Inose (2003), the researchers examined whether English fluency is a significant predictor of acculturative stress among Chinese international students. The research findings confirmed the researchers' hypothesis, which suggested that the English fluency of

Chinese international students could significantly predict their levels of acculturative stress.

2.3.6 Homesickness

When confronted with the challenges of cross-cultural adaptation, international students studying abroad often experience emotional isolation, which is further exacerbated by the distress caused by intense feelings of homesickness (Smith & Khawaja, 2011; Poyrazli & Lopez, 2007; Thurber & Walton, 2012; Zhao et al., 2023). Homesickness can be defined as a psychological reaction to the absence of attachment objects and the separation from home (Archer et al., 1998). When people show a desire for the familiar surroundings at home, they are likely to suffer from homesickness (Poyrazli & Lopez, 2007). International students may be affected by homesickness and experience a decreased sense of wellbeing for different reasons, such as encountering culture shock, meeting new people, getting disconnected with one's old social network, facing a different socio-political system, or having unfulfilled life expectations, etc. (Poyrazli & Devonish, 2020). Compared to other acculturative stressors (which are primarily sociocultural factors), homesickness is a negative mental status that directly influences sojourners' wellbeing and psychological health. Homesickness can bring many other negative feelings to sojourners, such as depression, loneliness, anxiety, sadness, alienation and hopelessness (Pedersen, 1995; Ward, Bochner & Furnham, 2001; Constantine et al., 2005). Driven by a feeling of homesickness, many international students quite long for having in-person contact with their family and friends (Maundeni, 2001); however, when their wishes cannot be realised, they may feel at loss and isolated. The influence of homesickness on sojourners can last for a long period (Lu, 1990), and it does not necessarily decrease as sojourners live for a longer period in a new sociocultural environment. Nonetheless, Van Tilburg et al. (1997) once pointed out that international students who can get social support in the host society are less likely to suffer from long-term homesickness; in other words, those who failed to

achieve social integration are more likely to be influenced by serious homesickness. However, in the literature, no studies have specifically examined the influence of homesickness on Chinese international students, but there are studies (e.g. Zhang & Jung, 2017) that investigated how homesickness, as an acculturative stressor, is correlated with other acculturative stress dimensions, such as perceived discrimination, fearfulness, stress due to changes, etc. For example, Zhang and Jung (2017) found that the international students who have more serious language barriers and a higher level of perceived discrimination are more likely to experience homesickness.

2.3.7 COVID-19 Pandemic

Historically, the reported issues of mental health disorders would be on a rising trend following disasters, e.g. natural disasters, terrorist attacks, or viral outbreaks (Belleville et al., 2019). The Severe Acute Respiratory Syndrome (SARS) was a widely acknowledged mental health catastrophe in 2003 (Maunder, 2009). Following a series of quarantine measures, the 2003 SARS epidemic led to severe psychological outcomes worldwide (Lancee, Maunder, & Goldbloom, 2008; Nandi et al., 2008; Maunder, 2009). The rule also applied to the COVID-19 pandemic. As of January 2022, there has been enough empirical evidence to show that the COVID-19 pandemic is not only an unprecedented threat to public safety, but also a great challenge to people's psychological and mental health. For example, during the early stages of COVID-19 evolution, longitudinal and cross-sectional studies from China (e.g. Gao et al., 2020; Wang et al., 2020; Tian et al., 2020) showed that there had been high levels of distress in the general Chinese population.

In the UK, the effects of COVID-19 pandemic on people's psychological wellbeing and mental health can be very profound and long-lasting (O'Conner et al., 2020). Since the outset of the pandemic breakout, the UK government has implemented restrictions of varying stringency to mitigate the spread of the coronavirus. Whilst it was necessary to

use such measures to prevent the pandemic from deteriorating, the lives of ordinary people were greatly disrupted by these containment measures (Dawes et al., 2021). As noted previously, the country's containment measures included self-isolation, social distancing, mobility constraints, and the lockdown of non-essential business activities. Although the drivers of worsening mental health are many, social isolation is one of the most significant. More severe mental symptoms and illnesses (e.g. anxiety and depression) were experienced by people during lockdowns. During lockdowns, people were forced to keep distance from each other, and had limited access to get social support from their social networks (Tindle & Moustafa, 2021). Being trapped in social isolation, individuals tend to experience increased feelings of anxiety, loneliness, depression, and frustration; however, for those who lack social support & resilience and those who are unable to effectively cope with negative feelings, they are more likely to suffer from poor mental health and psychological wellbeing (Dawson & Golijani-Moghaddam, 2020).

Although the general population in the UK is reported to be mentally affected by COVID-19, the mental health effects of the pandemic vary among different groups of people. According to the Government's surveillance report, some social groups are more vulnerable to COVID-19 mental health effects, including women, young adults aged between 18 and 34, adults in deprived neighbourhoods, adults with poor employment and income conditions, adults with pre-existing mental health conditions, ethnic minorities, as well as those who once experienced local lockdowns. Ethnic minorities, particularly Chinese international students, have faced not only the widespread stresses of the pandemic but also considerable challenges due to escalating racial attacks and discrimination. Such adverse experiences have intensified their mental health burdens, illustrating a troubling intersection of pandemic-related stress and racial discrimination (França, Gaspar, & Mathias, 2024; Wu, Qian, & Wilkes, 2020; Zhang, Bow, & Bow, 2020). Studies conducted by, for example, Daly et al. (2021),

Falkingham et al. (2020) and Kwong et al. (2020) further confirmed this. The mental health of university students, mostly belonging to the group of young adults aged between 18 and 34, has attracted some scholarly attention (e.g. Babb et al., 2021; Ihm et al., 2021).

In fact, prior to the outbreak of COVID-19 pandemic, anxiety and depression had already been common concerns for university students (McFarland et al., 2019). For example, a study by Hart Abney et al. (2019) revealed that up to 30% of university students were mentally affected by anxiety and depression. The global COVID-19 crisis further worsened the problem. According to Ihm et al. (2021), in 2020, over half of university students in the UK experienced mental health deteriorations, manifested as anxiety, depression, augmented psychological stress, and even post-traumatic stress disorder. In particular, schooling disruptions (e.g. the emergency transition from on-campus education to online learning) have found to be a key stressor for students (Elmer et al., 2020; Sharma et al., 2020; Horita et al., 2021). Influenced by this, university students in the UK had to make a shift to online learning. However, remote learning seemed to be problematic for many university students because it resulted in an erosion of many protective factors that attending school offers, such as social contact, daily routines, sense of belonging, emotional support from peers and teachers, and even access to physical exercises (Ma & Miller, 2020). Moreover, international students have been found to be particularly vulnerable to psychological distress during the pandemic due to additional challenges such as travel restrictions, anti-Asian racism, and reduced access to university facilities and resources (Lai et al., 2020; Xu et al., 2021). Despite the growing research on university students' mental health amid COVID-19, there remains a lack of focus on the psychological and academic adjustment experiences of Chinese international students in the UK.

2.4 Acculturative Stress Coping

2.4.1 Stress and Coping

According to the Transactional Stress Coping Model of Lazarus and Folkman (1984), which views stress as a result of the interaction between a person and their environment, stressful life experiences can disturb the balance in individuals' psychological functioning, thus having a negative impact on their mental wellbeing. Consequently, facing a stressful situation, individuals tend to evaluate the potential environmental threats and mobilise available coping strategies to restore the balance. Coping, as defined by Lazarus and Folkman (1984, p.141), refers to 'constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person'. Lazarus (1990) explained that coping strategies have an important influence, either by mediating or moderating, on the interactions between individuals and the external environment, thus shaping how stress affects them. Coping involves both cognitive and behavioural responses to negative events, which enables individuals to control the stress originating from the environment (Lazarus, 1990). According to Berry's acculturation framework (1997), the process of acculturation adaptation and adjustment, which is critical for individuals adapting to new cultural environments, involves several components including acculturation experiences, appraisal of these experiences, coping strategies, immediate effects or outcomes, and long-term outcomes. Research indicates that the coping strategies adopted by sojourners serve as a key moderator in the acculturation process, potentially influencing its outcomes (Wei et al., 2012). Empirical studies confirm that effective stress coping strategies significantly influence how individuals experience stressful life events, ultimately affecting their overall mental wellbeing (Connor-Smith & Compas, 2002; Jose & Huntsinger, 2005). As Ra and Trusty (2015) explained, individuals tend to select various coping strategies based on the type of stress they encounter, with choices also influenced by their personalities and the characteristics of

their surrounding environment. Further research by Sapranaviciute, Perminas and Pauziene (2012) highlights that domestic and international students employ different stress-coping strategies. Although international students face common stressors, such as academic burnouts, their challenges are often compounded by a lack of social support and communication barriers, making these issues more difficult to manage (Sovic, 2008). Additionally, the effectiveness of coping strategies, and thus their impact on psychological outcomes, varies depending on the individual's specific circumstances and available resources (Bhowmik, Cheung, & Hue, 2018). Research into stress coping mechanisms offers the potential to develop targeted interventions and treatment plans that address various forms of acculturative stress, thereby supporting those affected.

2.4.2 Typology of Coping Strategies

Stress coping encompasses a variety of strategies including problem solving, avoiding the problem, confronting the problem aggressively, reappraising the situation, and seeking social support (Sinha, Willson, & Watson, 2000). Research literature shows that scholars have employed diverse approaches to categorise stress coping strategies (e.g., Rothbaum, Weisz, & Snyder, 1982; Lazarus & Folkman, 1984). Rothbaum, Weisz, and Snyder (1982) distinguished primary and secondary strategies of stress coping. Primary coping strategies are task-oriented, which aim to manage stress through exerting control over the stress-evoking components in the external environment. By contrast, secondary coping refers to the strategies used to make a cognitive reframing of stressful life events and situations, such as positive reinterpretation and acceptance (e.g., Morling & Evered, 2006).

Lazarus and Folkman (1984), in their Transactional Stress Coping Model, made a distinction between problem-focused coping and emotion-focused coping. Problem-focused coping includes both externally-oriented forms of coping and inwardly-focused forms of coping (Lazarus & Folkman, 1984). The externally-oriented form of coping is

similar to what Rothbaum, Weisz, and Snyder (1982) described as primary coping. It refers to the strategies used to change or manage the environment that triggers the stress. Problem-focused coping involves behaviours such as problem identification, solution generation, and action implementation (Lazarus & Folkman, 1984). Additionally, problem-focused coping can be inwardly focused, which is similar to what Rothbaum, Weisz, and Snyder (1982) defined as secondary coping. It refers to managing stress by changing one's perceptions, motivation, and/or cognition, including behaviours such as changing one's goals, setting new behavioural norms, and learning new skills (Ra & Trusty, 2015). The second coping type identified by Lazarus and Folkman (1984) is emotion-focused coping, referring to the management of emotional reactions to a specific stressor in the external environment. It includes strategies such as avoidance, wishful thinking, relaxation, self-blame, and distancing (Lazarus & Folkman, 1984). In addition to the types of coping mentioned above, Endler and Parker (1990, 1994), based on Lazarus and Folkman's model, identified a third type, which they termed avoidance-oriented coping. It is a strategy to disengage oneself from stressful problems or situations (Amirkhan, 1990).

However, some researchers have criticised the coping typology approach created by Lazarus and Folkman (1984). For example, Carver et al. (1989, p.267) argued that Lazarus and Folkman's distinction between problem-focused coping and emotion-focused coping is 'too simple'. This distinction is often operationalised in studies by categorising coping strategies as either cognitive-behavioural or affective. Even though Folkman (1984) noted the interrelationship between problem-focused coping and emotion-focused coping, problem-focused coping overlooks some specific affective activities within the category. It has been argued that affective responses may be involved in problem-focused coping; for example, individuals tend to reappraise a problem before coming up with solutions to address it (Heppner & Krauskopf, 1987). Therefore, Heppner et al. (1995) reconceptualised coping. According to them, problem-

focused coping involves ‘cognitive, behavioural, and affective coping activities aimed at altering the cause of a stressful problem’. Heppner et al. (1995) further made a distinction between reflective-style coping, suppressive-style coping, and reactive-style coping. Reflective coping refers to the tendency to examine the causal relationship(s) that can explain the happening of a stressful event, as well as to formulate a plan to address it; suppressive coping is defined as the tendency to deny the problem and avoid any coping responses; reactive coping involves cognitive and emotional responses that may distort coping activities or deplete individuals (Heppner et al., 1995).

Generally, problem-focused coping is deemed more adaptive and effective for managing stress and is associated with fewer psychological symptoms, contributing to a healthier mental status (Holahan & Moos, 1987). In contrast, research shows that emotion-focused coping is associated with negative psychological symptoms, such as phobic anxiety, depression, and somatisation (Holahan & Moos, 1987; Watson & Sinha, 2008). However, as the fit hypothesis suggests, the relative effectiveness of coping strategies depends on the specific type of stressors (e.g., Christensen et al., 1995; Zakowski et al., 2001; Park, Folkman, & Bostrom, 2001; Park, Armeli, & Tennen, 2004). The externally-oriented form of coping is preferred in high control situations (Folkman & Lazarus, 1980), whilst internally-focused coping or emotion-focused coping, is beneficial when the external situation is relatively uncontrollable and unchangeable (Compas et al., 2001; Connor-Smith & Compas, 2004).

2.4.3 Individualism, Collectivism, and Coping

An individual’s choice of coping strategies depends not only on the effectiveness of the strategy, but also on some cultural considerations. One’s cultural background plays a key role in influencing the process of acculturation and coping (Lazarus & Folkman, 1984), so ethnically, racially and nationally diverse groups and individuals have different coping preferences, patterns and processes of coping (e.g., Chun, Moos, &

Cronkite, 2006; Kuo, 2011). For example, Africentric coping is a typical coping style among African Americans (Utsey, Adams, & Bolden, 2000), and forbearance coping among Asians (Yeh, Arora, & Wu, 2006). Misra and Castillo (2004), in studying how American and international students at the college level manage academic stress, found that American students used more behavioural coping strategies (e.g., smoking, excessive drinking, substance abuse, and crying), while international students used cognitive strategies more often.

Although the influence of culture on behavioural and psychological aspects of acculturation has long been acknowledged, Wong and Wong (2006) observed that the specific dynamics between cultural norms and the stress-coping process were not explicitly defined until the early 2000s, prompted by new studies in cultural-coping strategies (Utsey, Adams, & Bolden, 2000). In a research paper, Kuo, Roysircar and Newby-Clark (2006) used some culture-specific idioms to illustrate how culture influences one's stress-coping style and process. North Americans, when confronted with stress, are often advised to 'take the bull by the horns' or 'pick themselves up by their own bootstraps', idioms that underscore the culture's emphasis on individual responsibility in managing stress. By contrast, individuals from Asian countries, which are predominantly collectivistic societies, tend to adopt stress-coping strategies that emphasise their interdependent tendencies, such as seeking support from family, friends, and community networks (Lam & Zane, 2004, as cited in Kuo, Roysircar, & Newby-Clark, 2006). Taking Chinese society as an example, it is widely acknowledged that many Chinese people find solace and guidance in aphorisms such as 'sharing a common destiny' and 'riding in the same boat', which epitomise the cultural values of collective responsibility and mutual support in times of adversity.

The concepts of individualism and collectivism are often cited and widely used to explain the cultural differences that exist between Eastern and Western societies (Yeh,

Arora, & Wu, 2006). Since Hofstede's seminal research in 1980, which initially mapped countries on four dimensions (including individualism-collectivism) and was later extended to six dimensions, these two concepts have gained increasing popularity. As a matter of fact, individualism-collectivism can be understood at both the country level and the individual level. Hofstede's model, currently encompassing six dimensions, serves as the theoretical basis for understanding individualism and collectivism at the country level, reflecting the extent to which a country is individualistic or collectivistic. In Hofstede's initial (1980) model, individualism and collectivism were positioned as polar opposites along a single dimension (Li, Vazsonyi, & Dou, 2018). In the contemporary world, individualism prevails in Western societies, including most countries in North America, Europe and Australia; conversely, non-Western cultures are often associated with collectivism, especially the Asian cultures (Singelis, 1994). Individualism-collectivism can also be understood at individual level. The terms idiocentrism and allocentrism are often used as alternatives to individualism and collectivism (Triandis et al., 1985).

While definitions of individualistic and collectivistic cultures vary at the country level, Triandis (1995) provided a comprehensive framework that synthesises these various approaches into a cohesive understanding of this cultural dimension. Triandis (1995) defines the individualism and collectivism through four critical attributes: goals, self-conception, relationships, and the determinants of behaviour. In collectivistic cultures, individuals are often encouraged, or even required, to prioritise in-group goals over personal ambitions, cultivate an interdependent sense of self, engage in communal relationships, and adhere strongly to social norms that guide personal behaviour (Matsumoto, Yoo, & Fontaine, 2008; Markus & Kitayama, 1991). Conversely, in individualistic cultures, there is a strong emphasis on pursuing personal ambitions over group objectives, developing an independent construal of self, fostering direct interpersonal exchanges, and valuing personal attitudes as key determinants of

behaviour (Markus & Kitayama, 1991; Yamaguchi, 1994; Kim et al., 1994; Oyserman, Coon, & Kimmelmeier, 2002). Specifically, self-descriptions within individualistic cultures emphasise personal uniqueness and autonomy, while those in collectivistic cultures prioritise connectedness and relational harmony (Singelis, 1994). Evidence suggests that self-construals exert an influence on individuals' coping styles and behaviours (e.g., Bailey & Dua, 1999; Schaubroeck, Lam, & Xie, 2000; Lam & Zane, 2004), affecting how they respond to both personal and communal challenges.

2.4.4 Specific Coping Strategies

2.4.4.1 Forbearance

Individuals in societies characterised by collectivistic cultures primarily prioritise maintaining social harmony with others, often placing group cohesion above personal desires (Markus & Kitayama, 1991). This tendency is culturally bound, as individuals are consistently encouraged to make sacrifices at the individual level, prioritise the needs of others, and endure distress independently (Marsella, 1993). Influenced by this cultural norm, individuals in collectivistic cultures, such as the Chinese, often choose to forbear their personal issues to preserve social harmony and prevent embarrassment or interpersonal conflicts (Ben-Ari & Lavee, 2004). Morling and Fiske (1999, p.382) termed it 'harmony control', defining it as 'an active, intentional endeavour in which people recognise the agency in contextual, social, or spiritual forces and attempt to merge with these forces.' Driven by this tendency towards harmony control, individuals often accept any outcomes that may arise (Morling & Fiske, 1999). Given its role in maintaining social harmony, forbearance is regarded as a crucial coping strategy within collectivistic cultures, where individuals often minimise or conceal their concerns to preserve group cohesion.

Coping research has found that forbearance coping is a stress-coping strategy commonly used by many international students from China or other Asian countries (Wei et al. 2012). Forbearance coping refers to the effort to minimise or conceal the concerns and problems that they have encountered in order to maintain social harmony (Moore & Constantine, 2005; Yeh, Arora, & Wu, 2006). Kim, Sherman and Taylor (2008), based on a review of empirical studies, confirmed that individuals with Asian cultural heritages tend to use the forbearance coping strategy and that they feel more reluctant to seek support compared to Europeans or Americans. This hesitancy is due to concerns in collectivistic cultures about the relational consequences brought about by the support-seeking behaviour (Wei et al., 2012). Kim et al. (2008) analysed this cultural tendency, noting that assumptions inherent in collectivistic cultures discourage burdening social networks while encouraging sensitivity to the needs of others.

In contrast, the individualistic cultural perspective suggests that people have valid reasons to proactively manage their wellbeing, leading them to seek social support more cautiously. Many empirical studies, such as those by Noh et al. (1999) and Noh & Kaspar (2003), have explored the relationship between forbearance coping and depressive symptoms within non-Chinese cultural contexts, often finding significant correlations. For example, Noh and Kaspar (2003) found that the forbearance coping strategy predicted more depressive symptoms among Korean individuals. Wei et al. (2012) conducted a study to examine the association between forbearance coping and psychological distress, considering the impact of heritage culture identification and acculturative stress as moderators. The results indicated that Chinese international students who frequently use forbearance coping are at a higher risk of psychological distress, particularly those with weak identification with their heritage culture and who experienced high level of acculturative stress.

2.4.4.2 Social Connectedness with Host Nationals

Social connectedness refers to ‘the subjective awareness of being in close relationship with the social world’ (Lee & Robbins, 1995, p. 233). This sense of connectedness is especially crucial for international students as they navigate unfamiliar cultural environments and establish new social networks abroad, which can heavily influence their wellbeing and overall adjustment (Meng et al., 2018; Smith & Khawaja, 2011; Sun et al., 2021). Research by Lee et al. (2001) and Lee and Robbins (1998) demonstrates that high social connectedness reduces the likelihood of interpersonal behavioural challenges, such as dysfunctional behaviours, and mitigates mental health issues. Moreover, Li & Gasser (2005) identify that maintaining social ties with host nationals serves as an effective coping strategy, facilitating sociocultural adjustment and reducing acculturative stress among international students by providing a support network and familiarising them with local norms and customs. This enhancement in adjustment is explained by Pettigrew’s theory of intergroup contact (2008), which proposes that meaningful interaction between groups reduces prejudices, and Ward et al.’s (2001) culture learning theory, which suggests that such interactions boost the acquisition of essential cultural knowledge. Pettigrew and Tropp (2006) assert that optimal intergroup contact is achieved when group members engage in cooperative activities with common goals and equal status. Such positive interactions enhance effective communication and mutual understanding while diminishing prejudices and stereotypes. In this case, maintaining frequent intergroup contact facilitates international students’ psychosocial adaptation and adjustment processes.

In addition, according to the theory of culture learning, people from different cultures exhibit distinct communication patterns. For example, they tend to choose different polite usages, apply different conflict resolution methods, and follow varied sociocultural rules and conventions (Ward et al., 2001). To enhance their understanding of the host culture, international students should actively increase their social

interactions with host nationals and observe their communication patterns (Pekerti et al., 2020). Ultimately, this engagement can lead international students to feel more comfortable with intercultural communication and develop their ability to identify with host nationals. Moreover, maintaining social connections with local residents, particularly students, can provide a sense of familiarity and emotional support, which has been shown to alleviate homesickness, reduce depressive symptoms, and contribute to overall psychological wellbeing (Hendrickson et al., 2011; Yan & Berliner, 2011). An empirical study conducted by Zhang and Goodson (2011) examined the mediating and moderating effects of social connectedness with host nationals on the psychosocial adjustment of Chinese international students. This research indicated that sustained social connectedness with host nationals effectively moderated the relationship between cultural adherence and depressive symptoms among Chinese international students. Greater cultural integration by Chinese international students to the host culture correlates with stronger connections to the host society, thereby facilitating the acquisition of sociocultural knowledge and skills, and aiding in the management of stress and emotional strains (Zhang & Goodson, 2011). However, it is important to note that the relationship between social connectedness and mental health is bidirectional rather than purely causal, as depression may also lead to decreased motivation and opportunities for social interaction, thereby exacerbating feelings of isolation (Cruwys et al., 2013; Nguyen et al., 2021).

2.4.4.3 Social Support

Seeking social support is a positive way to cope with the acculturative stress experienced by international students, characterised by challenges in adapting to a new cultural environment (Ye, 2007; Brunsting et al., 2018; Ra, 2024). Social support can be provided in various forms, such as emotional support, informational support, or tangible assistance (Salem, Bogat, & Reid, 1997; Wright, 2002; Bender et al., 2019). From a social communication perspective, social support enhances personal control

over life experiences, helping recipients manage situational uncertainties (Albrecht & Adelman, 1987; Brunsting et al., 2021). The literature often focuses on two key forms of support for international students, emotional and informational, which address their emotional wellbeing and informational needs during adaptation (Thuen, 1995; Rose & Campbell, 2000). Emotional support often refers to the supportive messages received from social networks (Shu et al., 2020). Examples of emotional support include empathic or esteem-enhancing messages that affirm international students' worth and promote emotional adjustment. These messages demonstrate the support providers' understanding of the sufferer's distress and their empathy towards them (Ye, 2007). Informational support, conversely, involves providing guidance, advice, and practical suggestions that help international students navigate the challenges of a new educational system and cultural norms (Uchino, 2004). This support is beneficial as it offers strategies that help international students manage academic, social, and cultural difficulties and stress. The literature has recognised the positive impact of social support on mental health particularly in buffering international students against the psychological stresses of cultural adjustment (Hefner & Eisenberg, 2009; Marangell & Baik, 2022). For instance, Ye (2006) confirmed that social support has a 'stress-buffering property,' which is crucial in mitigating the adverse effects of stressful events such as cultural shock and isolation on the mental health of international students.

As Information and Communication Technologies (ICTs) become more accessible, everyone, including international students, can communicate with others effortlessly across distances (Xiao, 2013). This development is particularly advantageous for international students, providing them with a wider array of options to obtain social support. Salem et al. (1997) suggested that individuals reluctant to seek conventional social support might prefer online mutual assistance. Chinese international students have recently formed various online support networks, such as WeChat groups, Bulletin Board Systems (BBS), and social media newsgroups. These social support networks

provide a platform for Chinese international students to share their experiences and challenges of studying and living abroad. Ye (2007) explored the relationship between interpersonal support, usage of online social groups, and acculturative stress among Chinese international students. The study identified a negative correlation between interpersonal support networks and the levels of perceived acculturative stress. Specifically, the study revealed that Chinese international students who were more satisfied with their social support experienced less hostility, discrimination, and stress due to cultural adjustments. Moreover, those who received substantial online informational support reported lower levels of acculturative stress (Ye, 2007; Cao et al., 2018).

2.4.4.4 Green Space

The positive correlation between green space exposure and wellbeing has been well acknowledged in academia (Frumkin, 2001; Groenewegen, et al., 2006; Maller et al., 2006; Abraham et al., 2010; Völker et al., 2018). As part of a broader research effort on green space, a substantial body of empirical studies has been focused on the nexus between access to nature and mental wellbeing (Kaplan, 2001; Sullivan et al., 2004; Maller et al., 2006; Douglas, 2012; Bratman et al., 2012). Abundant evidence is now available to show how green space is associated with ameliorated mental stress, and meanwhile the implications for urban planning have begun to emerge (Lee & Maheswaran, 2010; Gascon et al., 2015; Kondo et al., 2018). For health equity, parks and green open spaces are provided to urban dwellers. Green open spaces and parks are now among the most widely available green forms in cities; however, most research to date has just focused on investigating the impact of forests, woodlands, bushland, and garden on mental health. Meanwhile, among the studies on green open spaces, many investigated how physical activities influence people's physical health, or how the mental benefits of green space access influence health outcomes (e.g., Ying et al., 2015; Zhou et al., 2017). For example, previous studies have shown that spending time in

green spaces contributes to more engagement in physical activities (de Vries et al., 2011), faster illness recovery (Ulrich, 1984; Ulrich et al., 1991), recovery from concentration fatigue (Hartig et al., 2003), improved immune function (Cavaleiro Rufo et al., 2020); better cardiovascular and respiratory health (Lane et al., 2017; Cavaleiro Rufo et al., 2020), better cognitive functions (de Keijzer, 2018), as well as reduced morbidity and obesity (Maas et al., 2009; Nielsen & Hansen, 2007; Richardson & Mitchell, 2010; Gascon et al., 2016; Twohig-Bennett & Jones, 2018). More research efforts are needed to shed light on how green open spaces can help improve dwellers' mental health, so Gascon et al. (2015, p.4355) in a systematic review called for more detailed and evidence-supported explanations on the mechanisms through which green spaces may promote better mental health.

Despite this, some studies in the existing literature acknowledged that people's physical and visual contact with green spaces plays a positive role in improving the overall mental health outcomes (van den Berg et al., 2010; Beil & Hanes, 2013; Wood et al., 2017; Hazer et al., 2018; Herrera et al., 2018; Jennings & Gaither, 2015; Ward Thompson et al., 2012; Houlden et al., 2018; Tsai et al., 2018; Wendelboe-Nelson, 2019; Pearson & Craig, 2014). One of the most well-known theoretical frameworks that has often been cited to explain the impact of nature on wellbeing is Roger Ulrich's psycho-physiological Stress Reduction Theory (Ulrich et al., 1991). According to Ulrich's theory, both direct (e.g., green space visits) and indirect contacts (e.g., viewing over natural settings) with nature can help people with high levels of stress relax, feel relieved and develop a more positive state of mind (Ulrich et al., 1991). As explained by Ulrich et al. (1991), humans are naturally inclined to seek natural stimuli to help them calm down.

Empirically, researchers have sought to quantify the positive effects of green spaces. Research generally indicates that spending time in green spaces relieves mental stress

(Triguero-Mas, 2017), improves stress biomarkers (Ribeiro et al., 2019), reduces rumination (Bratman, 2015), and mitigates negative moods such as frustration, anger and aggression (Aspinall et al., 2015; Roe & Aspinall, 2011), while also alleviating somatisation symptoms (Triguero-Mas, 2017). The mechanisms behind these benefits are complex and multifaceted. Hartig et al. (2014) identify four pathways through which green spaces support human health: physical, mental, physiological, and social. These pathways are interdependent, with blurred distinctions. For instance, visiting green spaces promotes social interactions that help urban dwellers strengthen community ties, forge new social identities, and gain a sense of achievement (Bedimo-Rung et al., 2005; Maas et al., 2009; Wolch et al., 2014). This social interaction not only strengthens communities but also enhances mental wellbeing. Similarly, green spaces boost mental health by facilitating physical activities (Markevych, 2017). When individuals are engaged in more physical activities, it is more likely that they will experience restoration from stress and mental fatigue (Markevych, 2017). This illustrates the dynamic interplay among the four pathways.

The World Health Organisation (2016) identifies proximity as a key form of nature accessibility. Even if individuals do not frequently visit these areas, living close to natural environments still contributes to improved health outcomes. Nielsen (2007) found a correlation between the distance from a person's home to the nearest green space and their stress level. The closer an individual's home is to green spaces, the lower their self-reported stress level tends to be (Nielsen, 2007). For instance, a study by van den Berg et al. (2010) in the Netherlands revealed that residents with access to green spaces within 3 km experienced less impact from stressful life events, like financial troubles or unemployment. Some studies have particularly explored how green spaces affect groups vulnerable to health issues, such as ethnic minorities, senior citizens, and deprived communities (Ward Thompson et al., 2011; 2012). There is broad consensus that contact with green spaces improves mental health across in a wider range

of sociodemographic groups (Maas et al., 2006; Sarker et al., 2018). Given that green spaces promote mental restoration, they could be an effective strategy for university students to mitigate campus life stressors. However, current research on green spaces often overlooks university students, a group particularly vulnerable to mental health issues (Holt et al., 2019). Zhao and Patuano (2022) also noted that the growing yet understudied population of Chinese international students merits further research into their use of green spaces. International students face numerous acculturative stressors during their adaptation and transition. Yet, insufficient research has focused on how green spaces can help these students manage acculturative stress.

The issue is complicated by the fact that demographic and cultural variations exist in the use of green spaces, meaning that the benefits vary across different sociocultural contexts and among people with diverse demographic characteristics (Zhao & Patuano, 2022). How individuals make use of green spaces is dependent on their cultural backgrounds. Walker, Deng, and Dieser (2001) explained that culture shapes green space use patterns by influencing individuals' self-constructs and cognitive processing. Individuals from different cultural backgrounds tend to place different values on fitting in or being unique (Gentin, 2011). As reviewed in the section on collectivistic coping, individualism and collectivism differ in four aspects: goals, self-conception, relationships, and behavioural determinants. For example, people in an individualistic culture tend to develop independent self-construals, whilst those with a collectivistic background have interdependent self-construals (Singelis, 1994). An independent self-construal pays more attention to separateness and self-uniqueness, but interdependent self-construals from a collectivistic culture would value connectedness (Singelis, 1994). Influenced by this, people with different cultural backgrounds are motivated in different ways to participate in outdoor activities (Walker, Deng, & Dieser, 2001).

Zhao and Patuano (2022) conducted a study using 186 Chinese international students in Edinburgh as the sample to examine how the use of local green spaces influenced their mental health and perceived stress. The study revealed a strong correlation between green space usage and improved mental health among international students, corroborating the existing evidence in the literature. Specifically, Zhao and Patuano (2022) found that both the length of stays in green spaces and the frequency of visits positively correlated with reduced perceived stress, independent of age, gender, or duration of stay in the host culture. This study by Zhao and Patuano (2022) was a significant contribution to the existing literature, since they made an effort to bring the nexus between green space use and international students' mental health to scholarly attention. However, there were limitations. As pointed out by Yang et al. (2019), when most researchers were trying to unravel the influence of green spaces on mental health, they failed to distinguish between different stress types. This critique applies to Zhao and Patuano's study. According to the stress-diathesis theory, stress can be classified into different types: some are controllable, whilst some others are hard to manage (Monroe & Simons, 1991). The research findings could have been more convincing if Zhao and Patuano (2022) considered the influence of green space use on different types of stress.

Chapter 3. Research Design

3.1 Philosophical Assumptions

Qualitative and quantitative research designs are viewed as different research paradigms (Kuhn, 1996), since these two types of research carry with them different philosophical assumptions (Maxwell & Mittapalli, 2010). In the field of philosophy, positivism and constructivism represent two diametrically opposed schools of thought. Traditionally, and in most cases, quantitative research has been associated with and supported by positivism, a philosophical stance that argues that the reality can be measured, observed, quantified, and then analysed by rigorous statistical methods (Mack, 2010). Positivist science focuses on identifying causal relationships, typically established by demonstrating constant conjunctions and empirical regularities. This approach relies on repeated observations and experiments to infer causality from consistent patterns of association. Because of this focus on systematic and replicable methods, quantitative studies are often viewed as ‘scientific’ (Johnson et al., 2007; Kvale, 1995). Although various philosophical assumptions underpin qualitative research, constructivism is a well-accepted one. Constructivism, sometimes also known as interpretivism, is a school of thought that focuses on how the social world is constructed and interpreted by each individual within it (Charmaz, 2014; Lincoln, Lynham, & Guba, 2011). Constructivists emphasise the feelings, perceptions, ideas, and thoughts of people who act in social situations (Schwandt, 2007). Advocates of constructivism believe that the researcher’s task is to understand the social constructions of knowledge and meaning. In this regard, the research backed up by constructivism cannot be value-free. As values of the researcher as well as participants are an integral part of qualitative research, it is often labelled as ‘subjective’ or ‘non-scientific’ (Ma, 2012).

Although the philosophical assumptions underlying qualitative and quantitative research traditions often appear contradictory, or even incompatible, this does not imply that researchers completely embrace these assumptions in their entirety when designing and conducting their studies. As a response to the limitations of strict conformity to one paradigm, an increasing number of researchers are adopting mixed methods, combining quantitative and qualitative approaches in the same project. Pragmatism, the philosophical foundation of mixed methods research, advocates integrating diverse approaches (Teddlie and Tashakkori, 2009). The pragmatic approach rejects conventional dualisms, such as values versus facts and rationalism versus empiricism, seeking a balance between positivism and constructivism. For pragmatists, knowledge is both individually constructed and influenced by social reality (Robson, 2011). Consequently, researchers who adopt pragmatism typically combine quantitative data, or numerical information, with qualitative data, which includes interpretations of people's ideas and perceptions, to effectively explore their research topics.

3.2 Research Design

This research is a sequential mixed method study that features a multi-stage methodological design, combining both quantitative and qualitative methods within this same project. Often, in a mixed methods research project, the quantitative and qualitative strands run either concurrently or sequentially (Johnson, Onwuegbuzie, & Turner, 2007). How different methods are combined in mixed methods research is largely determined by research aims and questions (Creswell & Plano-Clark, 2017). Compared with single-method research approaches, mixed methods research, in most cases, can provide a deeper and more comprehensive view of the subject matter (Greene, 2007; Johnson, Onwuegbuzie, & Turner, 2007). Greene, Caracelli and Graham (1989) summarised five rationales behind doing mixed methods research: *complementarity* (utilising one approach to elaborate on another), *triangulation* (comparing and converging the findings generated by different methods), *initiation* (exploring

contradiction and paradox via different approaches), *development* (developing subsequent investigation based on one research segment), and *expansion* (examining different aspects of the subject under investigation). This study used the mixed methodological design for *complementarity, triangulation, and development*.

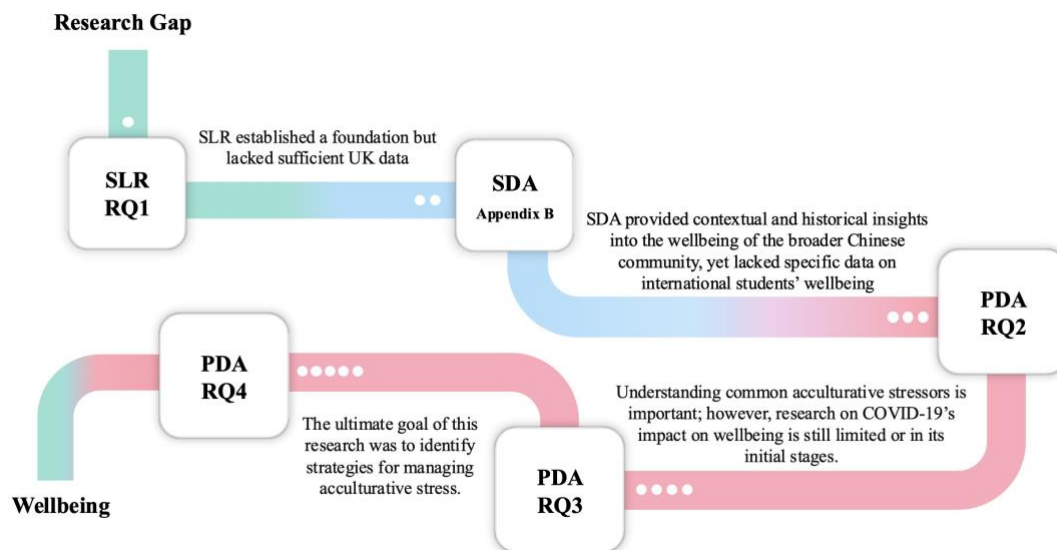


Figure 3.1 A Mind Map about Research Design

The systematic literature review (SLR) provided a solid ground for the whole research, since the wellbeing problems and mental health issues among Chinese international students have received much scholarly attention in the existing literature. Nonetheless, most acculturation studies were conducted in non-UK countries, such as Australia, the United States, New Zealand, and European countries (e.g., Li & Gasser, 2005; Wang & Mallinckrodt, 2006; Zhang & Goodson, 2011), suggesting that SLR alone cannot provide satisfactory answers to the research questions. However, the findings from the SLR can inform the SDA and the primary study in the subsequent stages 2 and 3. Analysis of large-scale, longitudinal, household data from the Understanding Society helped shed light on the wellbeing status of the Chinese community in the UK over time, which provides valuable contextual and historical information about the wellbeing of Chinese international students, which is crucial as issues concerning health and

wellbeing, as well as illness and disease are often historically deep (Farmer, 1996) and ethnographically invisible (Kleinman, 1997). With the SLR having identified common acculturative stressors and the SDA having revealed the Chinese community wellbeing status, the primary data were then collected and analysed to test the extent to which these identified acculturative stressors and the COVID-19 crisis predicted the wellbeing problems of Chinese international students. It also explored the strategies that Chinese international students typically used to cope with acculturative stress, particularly post-pandemic.

First, this study aimed to find out what acculturative stressors can negatively influence the wellbeing of Chinese international students in the UK. The first research question was investigated by the method of systematic literature review, as detailed in [Chapter 2](#), as well as primary data collection, as explored in [Chapter 5](#). The researcher employed the method of systematic literature review to summarise what acculturative stressors were common among all Chinese international students as a whole. On the basis of this, the research further used primary qualitative data to triangulate the results of the systematic review to determine whether there were differences between common acculturative stressors faced by Chinese international students in general and the specific stressors that were typical among the Chinese international students in the UK.

Second, the investigation was designed to measure the magnitude of association between the identified acculturative stressors and the wellbeing of the target population. These second, third and fourth research questions were answered quantitatively in [Chapter 4](#), employing statistical methods including Ordinary Least Squares (OLS) and Structural Equation Modeling (SEM), to assess the impact of each identified acculturative stressor on the wellbeing of Chinese international students. As Creswell and Clark (2017) described, this process constitutes ‘development’, where quantitative analysis builds upon the thematic systematic literature review conducted in the previous

segment. Specifically, the investigation into each acculturative stressor's influence on wellbeing was informed by these quantitative findings, preparing for an in-depth qualitative analysis.

Third, the research was conducted to explore whether the outbreak of COVID-19 negatively influenced the wellbeing of Chinese international students in the UK, as well as how it influenced these students. To answer the third question, the research collected quantitative data to measure the impact of the COVID-19 pandemic on the wellbeing of Chinese international students and then used qualitative interviews to further explore and elaborate on these numerical results. The COVID-19 pandemic, as an unprecedented global health crisis, has heightened people's vulnerability to mental health symptoms such as anxiety and coping responses to stress, under quarantine measures further amplifying these feelings globally (Chatterjee, Malathesh & Mukherjee, 2020). Moreover, the discourse on social media has further complicated this scenario by stigmatising COVID-19, pejoratively labelling it as the 'Chinese virus' (Roberto, Johnson, & Rauhaus, 2020; Xu et al., 2021), which can exacerbate the psychological distress experienced by Chinese international students. Despite now being in the post-pandemic era, scholarly research has largely remained focused on the medical and socio-economic implications of the outbreak. Comprehensive studies in the literature that investigate how COVID-19 has affected the wellbeing of Chinese international students in the UK, as well as identify necessary interventions to support their mental health, are limited or in the early stages. In this research, a detailed analysis of this topic is presented in Section 5.7 of Chapter 5.

Finally, the research aimed to explore the strategies that Chinese international students typically employed to reduce their acculturative stress and facilitate their intercultural adaptation. This fourth research question was addressed by both quantitative and qualitative methods. Prior to the collection of qualitative data, the research utilised the

questionnaire to collect the respondents' attitudes towards five commonly used acculturation strategies. After that, the researcher conducted interviews to ask the interviewees to contribute insightful suggestions on acculturation based on their personal experiences. In [Section 5.8](#), the researcher categorised strategies into three types: task-oriented coping, emotional-oriented coping, and avoidance-oriented coping. The study further investigated how collectivism and individualism informed these strategies. Moreover, this research not only bridged existing research gaps but also offered practical recommendations for Chinese international students and UK universities.

Additionally, collecting original or primary data can be both time-consuming and costly, often constraining the size of samples and rendering them susceptible to bias arising from incomplete data or non-representative sampling (Cheema, 2014; Davis-Kean & Jager, 2012; Queirós et al., 2017). As Robson (2011) suggests, the addition of secondary data can improve internal validity by allowing corroboration between different data sources, thereby reducing the potential influence of distorted or exaggerated responses rooted in 'prestige bias' (Thomas, 2013). Although stringent ethical measures, including guarantees of anonymity and confidentiality, were taken to ensure reliability in the primary data, these measures alone cannot entirely eliminate bias. The independent secondary data thus served to offset potential biases, leading to more credible findings and robust inferences. In this research, the UKHLS, sourced independently through the UK Data Service, was used to complement and triangulate the primary data collected. The UKHLS covers a wide array of domains, including health, economic behaviour, education, and family life, while integrating sophisticated measurement techniques and weighting procedures to enhance representativeness and reliability. This allows for robust analyses of the Chinese community's wellbeing over time. It is hoped that the analysis of secondary data, detailed in [Appendix B](#), will attract more public attention to the wellbeing issues of Chinese international students in the UK.

3.3 Sampling

Determining an appropriate sample in social research is a common concern for researchers, and the most important issue to be considered is whether the sample is representative of a known population. As this project explored the wellbeing of Chinese international students in the UK, the research aimed to achieve statistical generalisation (increasing the generalisability of research findings) by incorporating participants from four regions of the UK: England, Scotland, Wales, and Northern Ireland. Regional differences might have caused students to suffer distinct stressors that impact their stress levels. The research methodology accounted for these regional variations during data collection. Recruiting students from diverse academic levels, ages, majors, lengths of stay in the UK and genders as participants was intended to increase the trustworthiness of the final implications drawn from the research. To avoid privacy breaches, the research anonymised the universities and participants when presenting the findings. Given the need for a large number of participants, this research employs both self-selection sampling and snowballing as non-probability sampling methods to facilitate participant recruitment. A total of 866 online questionnaires were distributed to Chinese international students in UK universities via the Qualtrics platform. Of these, 452 were fully completed, yielding a response rate of 52.19%. After collecting the quantitative data from the online questionnaires, 234 respondents indicated their interest in participating in a follow-up semi-structured interviews by providing their contact details, including WeChat, QQ, or email addresses. From the pool of willing participants, 30 individuals were chosen through stratified random sampling based on their length of study in the UK, ensuring that the selection was proportional to each stratum's size. Subsequently, the selection was balanced for gender, major, and degree to ensure a diverse and representative sample. Detailed information on these 30 interviewees, including further academic and demographic specifics, is presented in Table 3.1.

Table 3.1 Demographic Information of Interview Participants

Length in UK	ID	Gender	Major	Degree	Ielts Score	Age	Location
<i>1–6 months</i>	1	Male	Science	Undergraduate	6–6.5	23–27	England
	2	Male	Science	PhD	6–6.5	23–27	England
	3	Female	Arts	Masters	7–7.5	32+	England
	4	Female	Commerce	Undergraduate	5–5.5	18–22	England
	5	Female	Arts	Undergraduate	5–5.5	18–22	Wales
<i>7–12 months</i>	6	Female	Arts	Masters	7–7.5	23–27	England
	7	Male	Science	Masters	6–6.5	23–27	England
	8	Female	Arts	Masters	7–7.5	18–22	England
	9	Male	Science	PhD	6–6.5	23–27	England
	10	Female	Arts	Masters	6–6.5	18–22	Northern Ireland
	11	Male	Science	Masters	5–5.5	23–27	England
	12	Female	Commerce	Masters	6–6.5	18–22	Scotland
	13	Male	Science	Undergraduate	6–6.5	18–22	England
	14	Female	Arts	Masters	≥8	23–27	England
	15	Male	Commerce	Undergraduate	6–6.5	18–22	England
	16	Male	Science	Masters	7–7.5	23–27	Scotland
<i>1–2 years</i>	17	Female	Commerce	Undergraduate	6–6.5	18–22	England
	18	Non-binary	Arts	Undergraduate	6–6.5	18–22	England
	19	Female	Science	Undergraduate	7–7.5	18–22	England
	20	Male	Science	PhD	7–7.5	23–27	England
	21	Female	Arts	Masters	7–7.5	23–27	England
	22	Male	Commerce	PhD	7–7.5	18–22	Scotland
<i>2–3 years</i>	23	Male	Commerce	Masters	6–6.5	23–27	Scotland
	24	Female	Arts	Masters	7–7.5	23–27	England

	25	Male	Science	PhD	7–7.5	28–32	Scotland
	26	Female	Commerce	Masters	6–6.5	23–27	England
<i>3+ years</i>	27	Female	Commerce	PhD	6–6.5	23–27	England
	28	Male	Science	PhD	6–6.5	23–27	Wales
	29	Male	Arts	PhD	6–6.5	28–32	Scotland
	30	Male	Commerce	Undergraduate	7–7.5	18–22	England

3.4 Research Instrument and Procedure

3.4.1 The Bilingual Questionnaire

Addressing a sample population of Chinese international students in the UK, the present study recognises the role of linguistic competence in the interpretation and comprehension of questionnaires (Harkness, 2003). Despite the requirement for a certain level of English proficiency to study abroad, the inherent influence of participants' native language—Chinese—on their understanding of a questionnaire solely administered in English is acknowledged. This complexity is amplified due to the high-context nature of Chinese culture, wherein meaning is encoded within the context and subtle cultural nuances (Hall, 1976), a marked contrast to the explicit communication style favoured in low-context cultures prevalent in English-speaking nations.

In light of these considerations, a bilingual questionnaire was designed (Dovchin, 2020; Ji et al., 2004; McCrae et al., 1998). The rationale behind this design is twofold: enhancing participant comprehension and acknowledging the inherent cultural diversity in psychological research. The inclusion of a Chinese translation alongside the English questions not only facilitates comprehension but also fosters a sense of familiarity, potentially promoting increased engagement with the questionnaire (Harzing, 2005). Moreover, the design offers equal opportunity for comprehension in both languages,

thus countering any potential bias in responses due to language preference.

The translation process of the questionnaire was sequential, thorough, and culturally sensitive. This process started with an initial self-translation into Chinese, followed by a back-translation into English to preserve the semantic integrity of the original questions (Brislin, 1970). Recognising that translation is not just a linguistic task, but also involves deeper cultural adaptations, relevant cultural nuances were carefully addressed. For example, the construct of ‘a sense of belonging’ in Western cultures might be associated with individualism and personal attachment to a community or group, whereas in Chinese culture, it might embody deeper familial and societal connections, anchored in a more collectivist tradition. Nevertheless, the intricate nature of this process raises potential challenges and biases. For instance, the inherent subjectivity in translation might introduce biases, potentially distorting the meaning of the questionnaire. To mitigate this risk, Google Translate, an objective machine translation tool was used for cross-verification of the translations, ensuring consistency (Dovchin, 2020; Ji et al., 2004; McCrae et al., 1998). Finally, in order to confirm the reliability of the translation and evaluate its cultural suitability, a preliminary pilot test was conducted before the questionnaire’s wider distribution. This additional verification step allowed for necessary adjustments to be made, thus enhancing the effectiveness and integrity of this research instrument.

3.4.2 Acculturative Stress Measurement

When reviewing the literature, it was found the acculturative stress of international students were measured by different instrumental scales. Sandhu and Asrabadi (1998) designed the Acculturative Stress Scale for International Students (ASSIS), containing 36 items under seven subscales, which are homesickness (4 items), perceived social discrimination (8 items), perceived hate/rejection (5 items), fear (4 items), guilt (2 items), stress due to culture shock and change (3 items), and non-specific items (10

items). Some follow-up studies (e.g. Constanine et al. 2004; Wei et al., 2007) showed that the ASSIS instrument has high internal consistency reliability (0.87-0.93). However, this scale has a problem: it does not include academic stressors, one significant challenge and source of stress for international students. Yang and Clum (1995) developed the Index of Life Stress for Asian Students (ILS). It consists of 31 items under five subscales, which are cultural adjustment, financial concerns, language difficulty, academic concerns, and outlook for the future. As shown by the name, these two researchers did not differentiate acculturative stress from the general idea of life stress; also, the instrument treats Asian students as a whole, which means the within-group differences among the students from different countries are overlooked. One weakness of ASSIS and ILS is that these two sets of scale were developed in English, so Chinese research participants may find it stressing to use English instruments to measure their acculturative stress levels.

The following two instruments were both developed in Chinese. Pan et al. (2008) developed a relatively new scale based on a sample of 400 Chinese students in HongKong to measure their acculturative stress, which is known as the Acculturative Hassles Scale for Chinese Students (AHSCS). This scale contains 17 items under four categories: academic work, language deficiency, social interaction, and cultural difference. Although this scale has been reported to have high internal consistency reliability with a Cronbach's alpha of 0.88, it is doubtful whether this scale developed based in HongKong can be applied to measure the Chinese international students in Western societies, such as the UK. Pan et al. (2010) admitted that their AHSCS does not include perceived discrimination as an acculturative stressor, which is one of the greatest sources of stress for Chinese international students in Western societies (e.g. Mori, 2000), for cultural and geographical reasons. A more recent scale Acculturative Stress Scale for Chinese Students (ASSCS) was developed by Bai (2016), which was used to measure the acculturative stress of Chinese international students in the US.

This is a five-factor model, covering language insufficiency (10 items), social isolation (8 items), perceived discrimination (7 items), academic pressure (4 items), and guilt toward family (3 items) as main sources of acculturative stress.

Based on the review of literature, this research developed a new scale, known as Acculturative Stress Index for Chinese International Students (ASICIS), to measure the acculturative stress experienced by Chinese international students in the UK. The ASICIS scale contains seven sources of acculturative stress, which are perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, and COVID-19 pandemic. More details of the ASICIS scale are shown in [Appendix F](#) (part II). Before the scale was used in the research, the internal consistency of this newly developed scale was checked. As Cortina (1993) suggested, the alpha coefficient should be greater than 0.65, a measurement indicating that the checked items could be included to form a single index. In this research, the alpha coefficient was 0.855, indicating a high level of internal consistency among the items. Further details are provided in [Section 4.4.2.5](#).

3.5 Pilot Study

The pilot study, a critical component of thorough research design (Thabane et al., 2010), aims to test and refine the effectiveness, adequacy, and feasibility of the research tools (questionnaires and interviews) and the adaptability of the research methods (Arain et al., 2010). Conducted prior to the primary data collection, such studies assist the anticipation and resolution of potential issues, enhancing the efficiency and quality of data collection (Leon, Davis & Kraemer, 2011). This process also permits an early assessment of the prospective success of the research tools, thereby safeguarding the credibility and reliability of the main research phase (Van Teijlingen & Hundley, 2001). The pilot study participants were not included in the formal data collection to ensure the integrity and independence of the primary research data.

In the initial stage of age-related data collection, pilot participants were asked to specify their exact age in the questionnaire. However, feedback from the preliminary pilot study involving 15 participants indicated a preference against this approach, with participants perceiving the direct disclosure of their age as potentially uncomfortable. Interestingly, six out of the 15 pilot participants responded with the tongue-in-cheek phrase ‘forever 18’, a cultural reference to the concept of unending youth prevalent in Chinese culture. However, this humorous response, while illuminating, detracted from the scholarly seriousness of the questionnaire. In response to this feedback, the method for collecting age-related data in the questionnaire was revised to enhance its acceptability and ensure the validity of the data. Instead of requiring pilot participants to indicate their precise ages, they were provided with four age groups to select from: 18-22, 23-27, 28-32, and those aged 32 and above.

In the section related to the classification of academic majors, the questionnaire’s original design provided only three categories: Commerce, Science, and Arts. Specifically, three pilot participants expressed uncertainty regarding how their specific major matched with the given categories. Two additional pilot participants, although they had selected a category, expressed doubt about their choice during the feedback stage. To address these concerns and enhance data representation, the questionnaire was refined to incorporate an ‘Others’ category, accompanied by a provision for respondents to explicitly specify their academic major. This adjustment not only ameliorated the categorisation uncertainty experienced by the participants, but also facilitated the collection of a more detailed, diverse range of data related to majors. In the subsequent data analysis phase, these self-reported major names enabled a more contextually precise manual categorisation, thereby enhancing the accuracy, reliability, and applicability of the data.

In the preliminary design of the questionnaire, the section assessing acculturative stressors (Part II) closely followed the format of the established surveys ASSIS (Sandhu and Asrabadi, 1994; Wei et al., 2007) and AHSCS (Pan et al., 2010). This segment, comprising 35 items each linked to a distinct stressor, was characterised by the items' random distribution throughout the questionnaire without explicit categorisation. The approach was predicated on the assumption that an uncategorised structure would foster comprehensive item assessment, mitigating potential response biases. Nevertheless, feedback from the pilot study indicated that 11 out of the 15 pilot participants experienced a sense of monotony and visual fatigue, perceiving the items as seemingly endless. In response to these comments, revisions were implemented in the questionnaire design, primarily involving a reorganisation of items according to the associated stressors. This amendment was intended to present the items in a more organised, categorised manner, thereby enhancing participant comprehension and facilitating the response process. Decisions on revisions were based on a thorough evaluation of this feedback, prioritising changes that could most effectively alleviate participant weariness while maintaining the reliability of the data collected.

The item 'Asking professional psycho-counsellors for help facilitates my adaptation to the host culture' from the coping strategy (Part III) section was designated for elimination, as it emerged from the pilot study that none of the participants had utilised such services. This underscores the essential interplay between theoretical importance and practical applicability when determining the suitability of a survey item, and also suggests that items of this nature may contribute limited meaningful data to the dataset.

In the endeavour to capture a comprehensive understanding of the experiences of Chinese international students studying in the UK, the questionnaire included questions that, while thematically similar, focused on different aspects. For instance, 'I feel guilty that I cannot take care of my parents at home' and 'I feel guilty to leave my family and

friends behind’ both address the sense of guilt experienced by international students who are unable to look after their loved ones while studying abroad. Despite their similarity, the former question specifically concentrates on parental care, while the latter extends to a wider circle of family and friends. Likewise, ‘I have limited social life’ evaluates whether international students feel their social interactions are constrained, while ‘I do not have new social network here’ measures their ability to form new social bonds. These questions offer a thorough understanding of the students’ social experiences in a new environment. However, feedback from six participants in the pilot study suggested that the inclusion of similar-themed questions led to a degree of respondent fatigue. Additionally, three pilot participants reported that due to the subtle distinctions between these questions, they selected identical responses. Given these observations, it was resolved to retain only one question from each pair of similar questions. This adaptation was designed to decrease the length of the questionnaire and subsequently alleviate respondent burden, thereby enhancing the overall efficiency of the survey. Although this approach may lead to the loss of some level of detail in the data, it is anticipated that the consequent improvement in data interpretability and comprehensibility would enhance the overall quality of the data. The potential impact on the final research outcomes is expected to be minimal.

3.6 Variable Definitions and Descriptions

3.6.1 Dependent Variable

To assess the wellbeing and mental health of Chinese international students in the UK by focusing on three key emotional experiences as dependent variables: feelings of loneliness (‘I feel lonely in the UK’), helplessness (‘I feel helpless when I am in trouble’), and boredom (‘I feel bored here’). These emotional experiences — loneliness (Smith & Khawaja, 2011), helplessness (Mori, 2000) and bored (De Man et al., 2021) — are key in evaluating the challenges associated with cross-cultural adaptation. The

presence of such feelings indicates potential mental health disorder or wellbeing issues, often stemming from acculturative stress. These emotional states, therefore, not only reflect the international students' psychological adjustment in a new cultural setting but also serve as indicators of acculturative stress.

Loneliness manifests as a predominant experience among international students within cross-cultural educational environments. According to a UK study by Wawera and McCamley (2020), over seventy percent of international students have encountered varying degrees of loneliness since their arrival in the country. This experience transcends mere isolation or alienation, presenting more complex characteristics in a cross-cultural context. Specifically, it encompasses a lack of connection with the host country's cultural and linguistic context, leading to what is referred to as 'cultural loneliness' (Sawir et al., 2008). Owing to their departure from familiar social networks and environments, international students are predisposed to experiencing heightened levels of social and cultural loneliness in their novel living conditions (Zhai, 2002; McLachlan & Justice, 2009). Inducing or exacerbating this issue are factors such as cultural differences, language barriers, and homesickness (Hendrickson, Rosen, & Aune, 2011). In the absence of adequate social support, loneliness has the potential to negatively impact international students' overall wellbeing and precipitate mental health issues (Wang et al., 2018).

Helplessness is often associated with the concept of 'Learned Helplessness' in psychological research. As proposed in Martin Seligman's (1972) theory, individuals may develop a persistent state of helplessness, particularly when they are consistently faced with situations perceived as uncontrollable. In this research, international students, facing continuous challenges such as academic integration, social discrimination, and financial burdens, while also lacking familiar social support systems, may undergo a worsened sense of a seemingly unchangeable predicament (Sumer, 2009; Ye, 2006;

Zhang & Goodson, 2011). Additionally, helplessness is not an isolated emotional experience. In the analysis of cultural adaptation and wellbeing among international students, feelings of loneliness and helplessness are not only prevalent but often interlinked, potentially exacerbating each other (Chen, 1999; Russell, Rosenthal, & Thomson, 2010; Sümer, Poyrazli, & Grahame, 2008; Uda & Francis, 2022). Prolonged experiences of helplessness and loneliness have the potential to intensify psychological distress, culminating in a variety of wellbeing problems and mental health issues, including conditions such as anxiety and depression (Garcia et al., 2021).

Boredom is defined as a state of relatively low arousal and dissatisfaction arising from an insufficient stimulation situation (Mikulas & Vodanovich, 1993, p.3). This subjective deceleration of temporal perception typically emerges during repetitive and monotonous tasks, unengaging activities, or an environment that are incongruent with an individual's needs and interests (Martin, Sadlo, & Stew, 2006). For international students in new cultural and environmental contexts, there is often a lack of sense of purpose, diminished motivation, and reduced activity levels due to difficulties in integrating with local activities, the dry and abstruse nature of course content, or the monotony of daily routines (Gu, Schweisfurth, & Day, 2010; Ye, 2005; Ye, 2006). Compounded by a sense of dissonance with social environments and struggles in adapting to unfamiliar living habits, these students often experience unmet expectations and needs, thereby negatively impacting their overall wellbeing (Cao, Zhang, & Meng, 2023; Smith & Khawaja, 2011; Zhou, Zhang, & Stodolska, 2018). This phenomenon has been particularly marked during the COVID-19 pandemic, aggravated by factors such as lockdowns and remote learning (Aguilera-Hermida, 2020; Ma & Miller, 2021). Many research studies indicate a positive correlation between boredom and wellbeing issues in the context of the COVID-19 pandemic (Afellat & Alipour, 2021; But, Li, & Tze, 2023; Cao, Zhang, & Meng, 2023; Weiss, Todman, Maple, & Bunn, 2022).

In this study, the composite score for measuring wellbeing issues was computed by summing the scores of three critical emotional dimensions. Each participant's responses was calculated to form a composite index.

3.6.2 Independent Variables

Perceived Cultural Distance

Perceived cultural distance refers to the differences in values, beliefs, and social norms between two cultures as perceived by international students.

Social Integration

Social integration measures the extent to which international students become familiar with the host society and develop a social network in their new environment.

Perceived Discrimination

Perceived discrimination refers to unfavorable or harmful actions that may prevent some groups from accessing basic necessities, benefits, rights, and opportunities that others enjoy. These attitudes and beliefs are often, but not always, unfavorable.

Academic Integration

Academic integration measures students' academic success, intellectual maturity, and overall perceptions of their academic experiences.

Language Barriers

Language barriers refer to the obstacles international students face when communicating in a second language.

Homesickness

Homesickness describes the psychological longing for familiar surroundings and attachment objects. It often occurs when individuals express a desire to return to their familiar home environment

3.6.3 Control Variables

Control variables refer to the characteristics of participants that may influence their psychological adaptation, therefore having an impact on how much acculturative stress they would experience. Variables in this study fall into two distinct categories: ordinal and nominal. Ordinal variables are those that present a meaningful sequence when arranged or ranked (Agresti, 2010). Examples in this study include age, degree, and language proficiency scores, each of which can be arranged in a specific order from low to high. Conversely, nominal variables encompass those attributes that do not submit to meaningful ordering or ranking (Stevens, 1946). Instances of such variables in this research include gender, major, location and length, where the categories neither infer nor adhere to any explicit order or hierarchy.

3.6.3.1 Ordinal Variables

Age

International students' capacity to acclimate to new surroundings may be influenced by their age, which can consequently affect their mental health and overall adaptation. Additionally, factors such as psychological maturity, coping mechanisms, and resilience could be determined by a student's age (Poyrazli et al., 2001; Lee et al., 2004; Poyrazli & Lopez, 2007; Zhang & Goodson, 2011). Younger students, for instance, may demonstrate a greater aptitude for learning new skills and forming social relationships, thus, potentially adapting more readily to new cultures (Zheng & Berry, 1991; Griner & Smith, 2006). In contrast, mature students might display stronger

academic leadership and emotional regulation abilities, contributing to their adaptation advantages (Berry & Sam, 1997; Ramsay et al., 2007). However, some other researchers (e.g., Pantelidou & Craig, 2006; Crockett et al., 2007; Pan et al., 2008; Jurcik et al., 2013) found no correlation between the sojourners' age and their psychological adaptation. In the current study, the questionnaire encompasses four age categories: *18–22, 23–27, 28–32, and above 32*.

Degree

The degree level not only reflects international students' educational experience and academic achievement, but also provides an indication of the kind of pressures they may experience in a foreign academic context (Pascarella & Terenzini, 2005; Brown & Holloway, 2008). *Undergraduate, postgraduate master's, and doctoral students* may confront different challenges that are inherently associated with their specific stage of progression. For example, undergraduate international students often struggle with adjusting to newfound independence and navigating rigorous academic requirements within the unfamiliar environment of a foreign culture, a situation potentially amplified by their initial experience of living away from home (Amado et al., 2020; Mena et al., 1987; Sullivan & Kashubeck-West, 2015). Master's students, on the other hand, grapple with advanced language proficiency requirements for academic discourse, higher expectations for independent research and critical thinking. They also face cultural and social adaptation challenges such as forming close friendships with locals, managing feelings of homesickness and loneliness, and maintaining their overseas studies and living arrangements (Cemalcilar & Falbo, 2008; He et al., 2012; Pan & Wong, 2011; Zhou et al., 2018). Doctoral students encounter intensified stressors, including the isolated and academically demanding nature of self-directed research, along with the complex task of conference presentations, research publications, and job hunting. These pressures are further magnified by intrinsic perfectionism and the challenges posed by an unfamiliar cultural context (Lee et al., 2004; Rice et al., 2012; Ng et al., 2017; Su et

al., 2021). However, extant studies rarely engage in a comparative analysis of cultural adaptation across three degree levels.

Language Proficiency

The language proficiency of international students has been closely associated with their intercultural adaptation outcomes (Yeh & Inose, 2003; Andrade, 2006; Smith & Khawaja, 2011). Zhang and Goodson (2011) pointed out English proficiency has been a key predictor of international students' acculturative stress, psychological symptoms, life satisfaction, and sociocultural adaptation. By evaluating Chinese international students' IELTS scores, researchers can measure their English proficiency and assess its influence on their cross-cultural adaptation process (Feast, 2002; Zhang & Brunton, 2007; Green, 2007). The questionnaire is designed to include four categories for language proficiency: **5–5.5, 6–6.5, 7–7.5, and 8 or higher**. The IELTS official guide states that international students need to achieve a B2 level or 6.5 to be deemed proficient in English. A higher level of English proficiency may enable students to cope with academic and social challenges more effectively, thus reducing cross-cultural adaptation stress (Yeh & Inose, 2003; Sherry et al., 2010; Hammer, 2023). Conversely, students with lower language proficiency might encounter greater obstacles in adjusting to new cultures, forming new social connections, and managing academic pressure (Poyrazli & Kavanaugh, 2006; Zhou et al., 2008; Zhang & Goodson, 2011).

3.6.3.2 Nominal Variables

Gender

Gender is a significant control variable that may influence mental health, wellbeing, and stress levels during cross-cultural adaptation. Some previous studies found a relationship between gender and psychological adaptation among sojourners (e.g., Misra et al., 2003; Pantelidou & Craig, 2006; Dao et al., 2007; Zhang & Goodson, 2011;

Sam et al., 2015; Demes & Geeraert, 2015; Mesidor & Sly, 2016). For instance, studies such as those by Demes and Geeraert (2015) and Misra et al. (2003) have found that female international students during the cross-cultural adaptation process, generally report higher stress levels than their male counterparts. Nevertheless, some research, such as the study conducted by Jurcik et al. (2013), reported no significant relationship between gender and psychological distress among sojourners. In this study, participants are categorised as *male, female, or non-binary/third gender* for analysis of cross-cultural adaptation, mental health, and life satisfaction among Chinese international students in the UK.

Major

Students from diverse majors, whether studying in the UK or abroad, invariably experience varied academic pressures, curricular requirements, and workloads, all of which potentially affect their adaptation and psychological wellbeing (Pritchard & Wilson, 2003; Miles et al., 2024). For instance, Yu and Moskal (2019) revealed that a high concentration of Chinese students major in business in the UK. It is suggested that these students may have limited opportunities for cross-cultural interactions, potentially aggravating their cultural adaptation stress. In contrast, Lipson et al. (2016) and Koo et al. (2021) found that students within the arts are more likely to exhibit symptoms of depression and anxiety, report suicidal ideation and non-lethal self-harm behaviours. Despite prior studies, such as those by Chataway and Berry (1989) and Ye (2006) have collected data on participants' majors, the explicit correlation between the chosen major and cultural adaptation stress was not thoroughly examined. This research categorises majors into three sections: *business, sciences, and arts*. It's worth mentioning that major does not exist in a vacuum, Iannelli and Huang (2014) explained that Chinese doctoral students tend to select science-based majors, whereas master's students predominantly choose those within the business and the arts.

Location

International students in the UK may encounter different cultural environments and obstacles depending on which university they have been enrolled or which city they choose to settle down (Berry, 2005). Considering that, in the study design, participants are categorised based on their location in the UK (***England, Scotland, Wales, or Northern Ireland***) to examine the potential impact of regional differences on cross-cultural adaptation. The distinctive socio-cultural environments and lifestyles prevalent in each region can influence the processes of students' adaptation and acculturation experiences (Ward et al., 2001; Smith & Khawaja, 2011). For example, the larger cultural diversity in England may require international students to interact with people from various cultural backgrounds, adding complexity to their adaptation process (Zhou et al., 2008). On the other hand, Chinese international students in Scotland may encounter unique challenges such as distinct English accents (Mehdizadeh & Scott, 2005; Zhou & Todman, 2009) and various cultural differences compared to their peers in England.

Length

The duration of residence in the host country may be a significant factor influencing the degree of cross-cultural adaptation (Bhaskar-Shrinivas et al., 2005; Caligiuri, 2000; Taylor et al., 2021). Grouping participants (***1–6 months, 6–12 months, 1–2 years, 2–3 years, and more than 3 years***) based on their duration of academic residence in the UK allows for an analysis of the potential significance of this factor in influencing cross-cultural adaptation, mental health, and life satisfaction (Berry, 1997; Berry, 2005; Cao et al., 2020). This categorisation also serves to filter international students, as most students studying in the UK for over two years are typically undergraduate or doctoral students, given that the duration of most master's programmes in the UK is usually one year. Moreover, the length of residence in the UK may influence not only students' cross-cultural adaptation skills but also their mental health. A longer stay may generally

suggest higher adaptation levels (Ward & Kennedy, 1999; Zhang & Goodson, 2011). As students spend more time studying in the UK, their cross-cultural adaptation skills may improve. Gradually, students may adapt to the new culture and make progress in coping with cross-cultural stress and establishing new social relationships (Berry, 1997; Berry, 2005). Conversely, due to the COVID-19 pandemic and related rumours on social media, students who have spent a more extended period in the UK may experience heightened stress (Cao et al., 2020).

This variable, representing the length of time studying in the UK, is crucial for the subsequent qualitative analysis, as it serves as a stratified variable that forms the basis for selecting interviewees, ensuring that the sample accurately reflects the distribution of this variable among the study participants.

3.7 Methods of Data Collection

3.7.1 Self-Administered Questionnaire

In the initial stage of this study, from March 30, 2022, to April 29, 2022, a self-administered questionnaire was employed to collect quantitative data. Altogether, the questionnaire consisted of three main sections. It started with the collection of demographic information (Part I), such as age, gender, major, language proficiency, location, etc. In the subsequent section (Part II), based on a review of secondary data and previous literature review, the researcher included seven acculturative stressor scales in the questionnaire, encompassing perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, and COVID-19 pandemic related stressors. Participants encountered a set of statements regarding their attitudes towards the identified stressors and were invited to rate the frequency of their experienced feelings in response to each statement using a Likert scale, with options including 'Never', 'Rarely', 'Sometimes', 'Often', and 'All the

time'. The questionnaire (Part III) concluded with an assessment where participants rated the effectiveness of some commonly used acculturative stress coping strategies on a scale from 0 (completely ineffective) to 100 (highly effective). When designing the questionnaire, the researcher opted for a quantifiable rating system instead of open-ended questions to minimise information loss and to gather more precise data.

Given that the project covered students from four different locations within the UK (England, Scotland, Wales, and Northern Ireland), distributing printed questionnaires directly to respondents posed challenges. This complexity was further compounded by the existing limitations of the COVID-19 pandemic, which restricted traditional face-to-face interactions. For convenience and safety, questionnaires were distributed online via the platform Qualtrics, utilising a combination of self-selection and snowballing methods. To enhance visibility and facilitate wider participation, the questionnaire was promoted across various social media platforms, including Xiaohongshu, WeChat groups, Douyin and so forth. For example, on Xiaohongshu, posts outlined the research's focus on wellbeing and cultural adaptation among Chinese international students in the UK, conveyed empathy and support, and invited interested participants to request the questionnaire link via private messages. The survey link was shared directly in WeChat groups targeting this demographic. On Douyin, brief text-based videos conveyed the study's aims, encouraging viewer engagement. This strategy not only allowed self-selection among Chinese international students in the UK with an interest in the research topic, but also enabled us to leverage snowball sampling by encouraging respondents to share the questionnaire within their networks. Additionally, the questionnaire was presented in a bilingual format, incorporating both English and Chinese for the convenience of respondents.

3.7.2 Semi-Structured Interview

After completing the quantitative data collection stage, the semi-structured interviews

were conducted from May 1 to June 1, 2022, to collect qualitative data. Carrying out interviews is an adaptable and flexible way of investigating a certain issue. Theoretically, interviews can be categorised into three types according to the degree of standardisation: fully structured interviews, semi-structured interviews, and unstructured interviews (Bryman, 2008). Compared with structured interviews, semi-structured interviews are more flexible, enhancing the potential for generating more useful data and allowing researchers greater freedom to deeply explore topics of interest to them or some issues that arise during the interviews (Merriam & Tisdell, 2015). Besides, in comparison with unstructured interviews, semi-structured interviews can proceed more logically because researchers need to formulate an interview guide that contains a checklist of the questions to be asked and a default wording for the questions (Denzin & Lincoln, 2011). Taking these benefits into consideration, the research employed semi-structured interviews to gather qualitative data, because this interview type can yield rich information due to its flexible and versatile yet logical nature.

Considering the research contained a dispersed group of participants and faced the constraints of the COVID-19 pandemic, all interviews in this project were conducted online to ensure the wellbeing and convenience of both interviewees and the researcher. While this mode of communication ensured safety and accessibility, it also presented specific challenges, such as unstable internet connections and limited ability to observe non-verbal cues. To address this limitation, additional emphasis was placed on the tone of voice, pauses, and verbal expressions to accurately assess emotions and reactions. Interviewers modulated their vocal pitch and volume as needed to better engage with interviewees, ensuring a more interactive and empathetic conversation. For example, the researcher might use a reassuring tone when discussing sensitive topics or express empathy through verbal affirmations to mirror emotions appropriately. Moreover, to relieve psychological pressure and external factors such as internet issues or environment noise, interviewees were encouraged to choose venues that were both

comfortable and ensured stable internet connectivity. Though the length of each interview session varied, the average length was maintained at around 60 minutes to prevent ‘respondent fatigue’ from excessively long interviews, which could potentially reduce the validity of the data (Adams, 2015). Due to the fact that the interviewees were Chinese international students, the interviews were conducted using their mother tongue, the Chinese language. These interviews were digitally recorded with participants’ informed consent using Sogou Recording Software. The recorded files were stored in a password-protected folder on the researcher’s personal laptop, which was accessible only to the researcher. To further enhance data security and comply with the University’s data management guidelines, copies of the recordings were also transferred to OneDrive provided by the University, and the copies were deleted once the transfer was verified. This procedure complied with the requirements outlined in the ethical approval granted by the University’s Research Ethics Committee (Ethics number: ETH2122-0510). Thus, the research process strictly followed data protection principles and maintained participant confidentiality throughout the study.

The interview began with warm-up or ice-breaking questions such as ‘When did you come to the UK?’ and ‘How important is the overseas learning experience to you or your family?’ to establish a relaxed and ease atmosphere. This was followed by an exploration of acculturative stressors and wellbeing in the context of UK higher education, where interviewees were encouraged to share their experiences and discuss the various stressors that had an impact on them. Next, the interview moved on to coping strategies for acculturative stress. It concluded with a wrap-up section that ensured no information was missed, while providing participants with an opportunity to clarify or add to their responses. Additionally, a detailed list of interview questions can be found in [Appendix G](#). All interviews were conducted in Mandarin, digitally recorded, and transcribed. The researcher performed a preliminary review to correct errors in the Chinese transcript. A more detailed discussion of the translation procedures

is provided in [Section 3.8.2.2](#).

3.8 Methods of Data Analysis

3.8.1 Quantitative Data Analysis

In this research, the quantitative data analysis utilised a range of statistical methods, including descriptive analysis, predictive analysis, diagnostic analysis, exploratory analysis, and so forth. A combination of software tools, such as R, Stata, SPSS, AMOS, and Python, was employed to explore both secondary data (UKHLS) and primary data (questionnaire).

For secondary data, descriptive analysis was applied to evaluate the wellbeing status of the Chinese community in the UK. This included examining the mean, standard deviation, minimum, and maximum scores of depressive symptoms for each wave to identify longitudinal trends, as well as assessing the frequency and percentage of five different levels of depressive symptoms (refer to [Appendix B.2](#) for more details). Due to the small sample size of the target population in the UKHLS, sampling weights were applied in the analysis to ensure the representativeness of the results. For further details, please see [Appendix B.4](#).

Regarding Primary data, initially, the study focuses on understanding the demographic features and key variables of all respondents, which involves determining both the total count and proportion of each group ([Section 4.1.1](#)), followed by exploring the overall distribution and variation of these key variables ([Section 4.1.2](#)). Thereafter, bivariate analysis is conducted to quantify correlations between variables, using scatterplots, histograms, and heatmaps for visualisation ([Section 4.1.3](#)). Besides, multivariate analysis of Variance Inflation Factor is used to detect multicollinearity ([Section 4.1.4](#)). Finally, guided by George E.P. Box's (1976) insight that 'All models are wrong, but

some are useful', this study employed four mathematical models, combining traditional statistical methods and data science to explore the wellbeing of Chinese international students in the UK. These models include Ordinary Least Squares (OLS) in [Section 4.2](#), Ordered Logistic Regression (Ordered Logit Model) in [Section 4.3](#) and [Appendix H](#), and Structural Equation Modelling (SEM) in [Section 4.6](#), incorporating Exploratory Factor Analysis (EFA) in [Section 4.4](#) and Confirmatory Factor Analysis (CFA) in [Section 4.5](#), along with XGboost.

3.8.2 Qualitative Data Analysis

The research employed thematic analysis (Braun & Clarke, 2012; Clarke, & Braun, 2017) to explore the wellbeing of Chinese international students in the UK, which is a data-analysis method designed to identify recurring themes within clusters of information (Guest, MacQueen, & Namey, 2011).

3.8.2.1 Abductive Approach

Abductive reasoning in qualitative research is a method of inference that starts from an observation and seeks to find the simplest and most likely explanation (Peirce, 1974; Earl, 2021). Abductive approach can be seen as a bridge between the deductive and inductive methods, combining elements of both approaches and allowing researchers to move between theory and data in an iterative manner (Timmermans & Tavory, 2012). The deductive method involves defining and interpreting themes based on pre-existing theoretical frameworks. In this method, analysis is not purely data-driven; rather, it is conducted by integrating the data with these frameworks to either corroborate or challenge existing theoretical propositions (Fereday & Muir-Cochrane, 2006). Researchers utilise these theories as lenses through which they view and interpret the data, allowing them to deduce themes that are informed by their analytical interests in the research field (Azungah, 2018). This approach ensures that the interpretation of data is firmly grounded in established theoretical insights (Boyatzis, 1998). In contrast, the

inductive method is entirely data-driven, allowing for the emergence of new themes and the observation of unexpected findings directly from the data itself (Braun & Clarke, 2019). Researchers employing this method do not rely on predetermined theories or categories; instead, they openly explore the data, identifying patterns and themes that facilitate theory generation (Liu, 2016). This process emphasises the originality and exploratory nature of the data, facilitating the generation of theoretical insights and allowing theories to naturally emerge from the data (Terry et al., 2017). Abductive method, as a dynamic process that involves generating and evaluating hypotheses, continuously refining interpretations until the most plausible explanation is reached, thus allowing for a flexible yet rigorous analysis (Dubois & Gadde, 2002; Kelle, 2007). By empowering researchers to creatively bridge observed data with theoretical frameworks, abductive reasoning often leads to novel insights that enrich the analytical depth and encourage the iterative refinement of theories (Richardson & Kramer, 2006; Reichertz, 2007).

In this study, a methodological synthesis of the abductive approach was applied to analyse semi-structured interview data. This methodological choice was driven by both the nature of the research questions and the limited body of literature on Chinese students' acculturative stress and coping strategies in the UK. Although the acculturation of international students has been widely studied, with a focus on countries such as the United States, Australia, and Southeast Asia, research on Chinese students in the UK, particularly regarding their coping strategies for acculturative stress, remains limited. In order to address these gaps and maintain openness to emerging insights, this study initially employed a deductive approach, formulating several core interview questions based on existing literature and the researcher's previous research experiences, as documented in earlier work (Jiang & Xiao, 2024). These deductively derived questions were designed to investigate known themes, such as forms of acculturative stress, coping mechanisms, and perceived challenges specific to Chinese

students. Additionally, open-ended questions were introduced to allow participants to voice unexpected experiences or concerns beyond the scope of pre-established theoretical categories. For instance, participants were asked, ‘Is there anything you would like to clarify or add, particularly regarding any stressors or challenges we haven’t discussed yet?’ This combination of theoretically grounded and exploratory questions was further detailed in the interview schedule, which is presented in Appendix G.

During the data analysis stage, the study incorporated a predefined theoretical framework to guide the initial coding while remaining attentive to new categories and themes that naturally emerged from participant narratives. This methodology was designed to balance theory-driven and data-driven analysis. The purpose of this strategy is to strike a balance between using a theoretical framework to inform data analysis and allowing sufficient room for the exploration of unanticipated patterns and themes within the data (Clarke & Braun, 2013; Braun & Clarke, 2021). By employing a two-stage analytical strategy within an abductive framework, the analysis iteratively moved between deductive coding of known themes and inductive recognition of novel findings. This approach ensured that while many participant statements corresponded with well-documented stressors, additional or more detailed stressors, such as difficulties navigating discipline-specific jargon or unexpected social norms, were coded as emergent themes and integrated into the evolving analytical framework.

3.8.2.2 Thematic Analysis Steps

Braun and Clarke’s (2006, 2022, 2023) six-phase approach was followed for the analysis of participant narratives. These six stages are: familiarising yourself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming the themes, and producing the report (Braun & Clarke, 2006, p.87). In this research, these stages were specifically adapted to deeply analyse Chinese international

students' narratives.

Familiarisation with data is a crucial initial step in thematic analysis. As Braun and Clarke (2006) emphasises, actively engaging with the data through repeated reading to identify meanings and patterns is central to this stage. Their 2021 guide further clarifies that the objective is to deeply understand the dataset and start identifying elements that may be relevant to the research question (Clarke & Braun, 2021). In the present study, verbatim transcription of the interview content was performed, followed by repeated listening to the recordings and detailed note-taking. This process facilitated deep engagement with the data, comprehensive understanding of the participants' narratives, and initial recognition of potential patterns and themes. As pointed out by Nowell et al. (2017), extensive exposure to data and an iterative process of analysis form the basis for the generation of insights and understandings that establish the foundation for trustworthy interpretations. Although time-consuming, this procedure assists in identifying and/or constructing the meanings of orally expressed content (Brinkmann & Kvale, 2015) and provides the groundwork for subsequent coding and theme development.

In this study, interviews with 30 participants were conducted in Mandarin Chinese. Language issues are critically important in cross-cultural research as different researchers may interpret the same lexical items differently within various contexts (Squires, 2009). This indicates that mere proficiency in advanced translation skills is insufficient to address the challenges of cross-linguistic research; a deep understanding of the cultures, research backgrounds, and personal experiences involved is equally vital. Being a native Chinese speaker and an insider researcher provides unique advantages in linguistic interpretation and cultural understanding. This background significantly enhances the ability to read, understand, record, and translate Chinese materials, offering unique insights and advantages in interpreting high-context

expressions such as ellipses, quotations, imagery, internet slang, and homophones used by the participants. This plays a key role in ensuring the fidelity of the translation, especially in high-context cultural settings. This approach allows for full utilising of familiarity with the linguistic and cultural nuances, further enhancing the translation's reliability. Additionally, to ensure the accuracy and authenticity of the data, all interviews were verbatim transcribed in the Mandarin used during the interviews and preserved in their original form. Chapter 5 presents the qualitative research findings, selected themes and codes were translated into English.

The use of Sogou Recording Software enhanced the efficiency and accuracy of the verbatim transcription process. After completing the interviews in Mandarin Chinese, the software automatically generated initial Chinese transcripts. The researcher carefully reviewed these audio recordings to correct transcription errors, remove filler words, and exclude non-essential conversational elements such as greetings and irrelevant discussions. This approach not only ensured the quality of the transcripts' textual data but also laid a solid foundation for subsequent coding and analysis stages. The study conducted semi-structured interviews, allowing flexibility in the sequence of questions based on participants' responses, while ensuring all predefined interview questions were addressed. The interview guide was pre-organised according to the theoretical framework, categorising questions to facilitate the organisation of data into preset categories during the analysis phase. Specifically, data were initially classified into seven main stressor categories (perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, and the COVID-19 pandemic) and three coping strategies (task-oriented, emotion-oriented and avoidance-oriented coping), with sub-codes generated based on specific responses. Throughout the coding process, regular consultations were held with a supervisor who is an experienced qualitative researcher to ensure the integrity and rigour of the analytical procedures. Cross-validation was conducted in the final stages to enhance the

reliability of the findings.

Following the completion of coding and theme development in Mandarin, the researcher translated the relevant excerpts into English for inclusion in this thesis. This two-step process—first coding in the participants’ original language, then translating selected parts at the end—helps preserve the meaning in high-context cultural expressions (Temple & Young, 2004; van Nes et al., 2010). As a native Chinese speaker, the researcher was able to capture important meanings and culturally specific references, ensuring an accurate reflection of participants’ perspectives. While this thesis presents only the English versions of the final themes and illustrative quotes, all coding and thematic categorisation were carried out using the original Chinese transcripts. This approach follows recommendations in cross-linguistic qualitative research to maintain integrity of meaning and cultural specificity throughout data analysis (Squires, 2009).

3.9 Ethical Considerations

3.9.1 General Ethical Principles

Ethical codes are explicitly expressed rules that regulate researchers’ behaviours; however, they can sometimes be unclear or inadequate. Under such circumstances, turning conscientiously to ethical principles is necessary for guidance. Ethical principles, derived from common moralities in social life, serve as general norms that guide the ethical decisions in social science research. This research received ethical approval from the University of Essex (Ethics number: ETH2122-0510), ensuring compliance with high ethical standards. Research issues are evaluated and considered from a perspective that respects human rights, dignity, privacy, and autonomy. Relationships with participants are established on principles of honesty and fairness, avoiding harm to individuals and preventing societal injustice. This research was guided

by four fundamental ethical principles: nonmaleficence, beneficence, autonomy, and fidelity, as outlined by Beauchamp & Childress (2001) and Sleat (2017).

First, in compliance with the principle of nonmaleficence, the study was designed to ensure that no harm was inflicted on participants in all aspects of the research. This was achieved by conducting thorough risk assessments ([Appendix E](#)) and implementing measures to mitigate any potential negative impacts identified. Second, consistent with the principle of beneficence, the study aimed to enhance participants' wellbeing. Guidance was offered for managing discomfort, including directing participants to the university's counselling services for specialised mental health support. Additionally, practical advice was provided to assist participants in handling academic pressures and life uncertainties, facilitating their adjustment to living abroad. This support was structured to ensure educational and emotional gains from the research, upholding ethical standards and ensuring voluntary participation. Third, respecting the principle of autonomy, participants were given full control over their involvement in the study. They were provided with detailed information upfront and could withdraw at any time without any consequences. Finally, fidelity was affirmed throughout the research by ensuring transparent communication and safeguarding participant data. A trust-based relationship with participants was maintained, characterised by loyalty, honesty, faithfulness, and trustworthiness, with all interactions following the highest ethical standards.

3.9.2 Ethical Considerations in Social Research

When conducting social science research that involves people, ethical considerations are particularly important (Bryman, 2008). To avoid potential harm to the participants and safeguard their interests, the research carefully addressed the following ethical issues: First of all, at the stage of preparation, the research prepared a Consent Form ([Appendix C](#)) and a Participant Information Sheet ([Appendix D](#)) that presented the key

information about the research. The Consent Form was developed to obtain informed consent from the participants, outlining their rights and the confidentiality measures in place (Manson & O'Neill, 2007). The Participant Information Sheet was given to each participant to ensure they fully understood the research background, the exact interview procedures, and the role they would play in the project, and most importantly how their privacy would be protected (Robson, 2011). Participants were encouraged to keep these documents as a record of their consent and contribution in the research. Additionally, the research ensured that all participants took part in the project voluntarily (Bryman, 2008). Participants retained the right to withdraw at any time, which meant they could stop their participation at any stage of the project. The final ethical issues to be considered were confidentiality and anonymity (Robson, 2011). Interviews were conducted without collecting direct identifiers, and the data were subsequently anonymised to maintain participant confidentiality. All the collected data were stored privately and carefully to ensure the information would not be accessible to unauthorised individuals.

3.9.3 Special Considerations

In this research, Chinese international students studying in the UK were identified as a vulnerable group due to their status as ethnic and social minorities within British society. It is a well acknowledged fact that some research participants are vulnerable groups, so special protections are needed to safeguard their wellbeing and welfare. However, vulnerability itself is a rather vague concept in the literature (Schroeder & Gefenas, 2009). No consensus has been achieved to define the central features of this concept, but there exist a variety of definitions in the literature. For example, Aday (2001) defined a 'vulnerable population' as a disadvantaged group that cannot protect themselves against intended or inherent risks or safeguard their own interests. Manti and Licari (2018) categorised vulnerability into three main types: physical vulnerability, psychological vulnerability, and social vulnerability.

Given the sensitive nature of ethical issues involving vulnerable groups, this study prioritised the special needs and requirements of Chinese international students. For instance, the Informed Consent Form and Participant Information Sheet were written in two languages (both Chinese and English) to allow participants to choose the option with which they felt most comfortable. To minimise the possibilities of coercion, participants were given sufficient time to consider their participation. During the interview process, a primary concern was ensuring that interviewees experiencing emotional difficulties were referred to appropriate support services, such as the university's student support centers or health services. This approach was implemented to ensure that all participants felt supported and that their welfare was a priority during their participation in the study.

Throughout the interview process, several instances of emotional distress were observed among the participants. Three interviewees reported that they had experienced mild depression, another had previously suffered from depression but had since recovered, and a fifth described their current psychological state as unsatisfactory. The researcher advised these individuals to seek assistance from university services or relevant institutions and provided support and comfort following the interviews. Emotional distress manifested during the discussions as two interviewees became tearful when addressing sorrowful topics. The researcher took on a supportive role, providing comfort and asking participants if they felt able to continue. The interview structure allowed for breaks at any moment, which facilitated a supportive environment and provided participants with the opportunity to compose themselves emotionally. After confirming their readiness to proceed and allowing time for them to regain composure, the interviews resumed. In another instance, although an interviewee became tearful, they expressed a desire to continue. The researcher then offered further support and assistance after the interview concluded, which included extended

conversations to alleviate emotional distress, ongoing care through social media (e.g., WeChat) to provide emotional support, personalised advice based on individual circumstances, and, in severe cases, recommendations to seek medical attention or consult with university counselling services or other professionals. During discussions on coping strategies, three participants mentioned unhealthy behaviours. Two of these participants were discussing behaviours observed in others, acknowledging them with a negative attitude, which did not necessitate extensive guidance or intervention from the researcher. For the participant who mentioned using smoking as a method of stress relief, the researcher provided a gentle reminder of the health implications of such behaviour after the interview.

Furthermore, in consideration of the potential for participants to have recalled acculturation experiences that were likely to be unpleasant or stressful, and mindful of the constraints imposed by the COVID-19 pandemic at that time, the researcher employed a methodologically sensitive approach to conducting interviews. This involved selecting online platforms (e.g., WeChat) that not only ensured a relaxing atmosphere but were also user-friendly and supportive of flexible interactions. Special attention was dedicated to monitoring the participants' emotional fluctuations. If participants showed emotional resistance to some topics, the researcher respected their feelings, skipped the questions, or reminded the participants of their right to withdraw from the study at any point. Such an approach is informed by the principles of non-maleficence and respect for autonomy, which are central to the ethical guidelines proposed by the Belmont Report (1979). As a brief summary, this research involved Chinese international students, a vulnerable group in the British society, as participants. The researcher was required to make greater efforts to protect the participants from potential harm and rights violations. Most importantly, the researcher treated participants as autonomous stakeholders and fulfilled all the responsibilities of an ethical researcher.

Chapter 4. Quantitative Analysis and Findings from Primary Data

4.1 Descriptive Statistics and Exploratory Data Analysis

4.1.1 Demographic Profile of Participants

Table 4.1 details the demographic characteristics of the 452 Chinese international students who participated in this research by completing and returning the questionnaire.

The majority of the participants (54.20%) were aged between 23–27 years, followed by those in the 18–22 age group (34.96%), indicating a younger demographic in the study. Students aged 28 and above represented a relatively small proportion (8.63%), with those 32 years and older accounting for only 10 participants (2.21%). In terms of gender distribution, female students represented the majority at 58.85%, while male students accounted for 40.71% of the respondents. Moreover, two participants (0.44%) identified as non-binary or third gender, underscoring the presence of gender diversity in the sample.

With regard to the educational background of the respondents, 29.65% were enrolled in undergraduate bachelor's programmes, 54.20% were pursuing postgraduate master's degrees, and 16.15% were engaged in doctoral studies. Regarding academic majors, the distribution among students was relatively balanced across the three disciplines, with the largest group, 35.84%, pursuing degrees in Arts, followed by 30.31% in Commerce, and 30.09% in Science. Importantly, a subset of participants (3.76%) reported majors in other groups, such as Pharmacy, TESOL, Criminology, Social Psychology, and Classical Saxophone Playing. During the data cleaning process, these responses were manually coded and assigned to the three main categories.

Table 4.1 Demographic Characteristics of Participants

		Count	Percentage
Age	18–22	158	34.96%
	23–27	245	54.20%
	28–32	39	8.63%
	32+	10	2.21%
Gender	Male	184	40.71%
	Female	266	58.85%
	Non-binary/Third Gender	2	0.44%
Major	Commerce	137	30.31%
	Science	136	30.09%
	Arts	162	35.84%
	Others	17	3.76%
Degree	Undergraduate Bachelor	134	29.65%
	Postgraduate Masters	245	54.20%
	Postgraduate PhD	73	16.15%
IELTS band scores	5–5.5	40	8.85%
	6–6.5	254	56.19%
	7–7.5	143	31.64%
	Above 8.0	15	3.32%
Location	England	344	76.11%
	Scotland	53	11.73%
	Wales	31	6.86%
	Northern Ireland	24	5.31%
Length of study in the UK	1–6 months	81	17.92%
	6–12 months	163	36.06%
	1–2 years	92	20.35%
	2–3 years	52	11.50%
	More than three years	64	14.16%

The vast majority of the students (91.15%) demonstrated a strong command of English, with IELTS scores of 6 or above, meeting or exceeding the typical language proficiency requirements set by UK universities. Among them, 254 participants (56.19%) achieved scores between 6–6.5, classified as Competent Users by IELTS standards, while 143 students (31.64%) scored between 7–7.5, regarded as Good Users. Particularly, 15 individuals (3.32%) distinguished themselves with exceptional scores above 8.0, indicating an outstanding level of English language proficiency that surpasses the basic

requirements for academic study in the UK.

Geographically, the distribution of respondents across the UK was uneven, with a clear concentration in England (76.11%), which can be attributed to the higher number of universities there compared to the other constituent countries. The remaining students were distributed across Scotland (11.73%), Wales (6.86%), and Northern Ireland (5.31%). In terms of the duration of their studies in the UK, the largest group is 6–12 months with 163 participants (36.06%), which aligns with the high proportion of postgraduate students in the study, reflecting the typical duration of many master's programmes. In comparison, fewer students reported shorter or longer durations: 17.92% studying for 1–6 months, 20.35% for 1–2 years, 11.50% for 2–3 years, and 14.16% for more than three years.

4.1.2 Descriptive Statistics of Variables

Descriptive statistics for each aspect of acculturative stress experienced by Chinese international students in the UK are presented in [Table 4.2](#).

Table 4.2 Descriptive Statistics of Key Variables

	N	Mean	SD	CV	Min	Max
Perceived cultural distance	452	11.883	2.683	0.226	4	20
Social integration	452	9.389	2.797	0.298	3	15
Perceived discrimination	452	9.159	2.910	0.318	4	19
Academic integration	452	15.978	4.363	0.273	6	29
Language barriers	452	16.967	4.767	0.281	6	30
Homesickness	452	10.281	3.395	0.330	4	20
COVID-19	452	14.093	4.021	0.285	5	25
Coping strategy	452	382.239	76.503	0.200	80	500

The mean values for each stressor are as follows: Perceived Cultural Distance (11.88 out of 20), Social Integration (9.39 out of 15), Perceived Discrimination (9.16 out of 19), Academic Integration (15.98 out of 29), Language Barriers (16.97 out of 30), Homesickness (10.28 out of 20), and COVID-19 (14.09 out of 25). These values indicate that Language Barriers and COVID-19 related stressors are the most prominent sources of acculturative stress, while Social Integration and Perceived Discrimination are the least prominent.

The minimum and maximum values for each aspect reveal the full range of experiences reported by the students. For instance, the range for Language Barriers is 6 to 30, while that for perceived cultural distance is 4 to 20. Indeed, while the theoretical maximum for Perceived Discrimination is set at 20, the actual maximum reported by participants reached 19. Similarly, Academic Integration presents a theoretical maximum of 30, yet the highest observed response was 29.

In analysing acculturative stressors among participants, Homesickness emerged as the most variably experienced factor, with the highest Coefficient of Variation (CV) at 0.330, reflecting significant individual differences in longing for home. Conversely, Perceived cultural distance recorded the lowest CV at 0.226, indicating a relatively uniform perception of cultural differences, suggesting a baseline of adaptability or awareness within the international students. Other stressors, including Perceived discrimination, Social integration, Language barriers, COVID-19, and Academic integration, displayed intermediate levels of variability (CVs ranging from 0.273 to 0.318), highlighting the diverse challenges faced by participants.

Coping strategies were evaluated separately from other stressors, with each of the five strategies being assessed through a single question rated on a scale from 1 to 100. The analysis of coping strategies among students has demonstrated that a majority of

students reported their coping strategies as effective for dealing with acculturative stress (Mean = 382.24). However, the data also revealed substantial individual differences (SD = 76.503, CV = 0.200), suggesting variability in how students perceive the effectiveness of these strategies. Despite the overall positive evaluation, the range of minimum and maximum values, from 80 to 500, emphasises the importance of considering differences among students when providing support and interventions.

4.1.3 Bivariate Analysis

The bivariate analysis section investigates the relationships among key variables*. It begins with the examination of Pearson correlation coefficients to explore and confirm the linear relationship between variables. This is followed by graphical representations through scatterplots for potential patterns along with histograms to understand the overall distribution characteristics of the data. Finally, heatmaps are used to provide a more visual understanding of the associations among variables.

4.1.3.1 Pearson Correlation Coefficients

Table 4.3 displays the Pearson correlation coefficients among various key variables related to the wellbeing of Chinese international students, which include the dependent variable wellbeing, and independent variables including perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, COVID-19 pandemic, and coping strategies. These coefficients show the strength and direction of the linear relationships between the pairs of variables. The positive or negative sign of the coefficients indicates the direction of the relationship, while the absolute value of the coefficients represents the strength of the linearity.

* In this investigation, the variables considered include Perceived Cultural Distance (abbreviated as cultural), Social Integration (abbr. social), Perceived Discrimination (abbr. dis), Academic Integration (abbr. aca), Language Barriers (abbr. lan), Homesickness (abbr. home), COVID-19 (abbr. cov), Coping Strategy (abbr. cop), Age, Gender, Major, Degree, Language Proficiency (represented by IELTS scores, abbr. ielts), Location in the UK (abbr. location), and Living Length in the UK (abbr. length). To maintain brevity and clarity in the presentation of results, abbreviations are utilised within the tables and figures. Nonetheless, the full names of these variables will be employed throughout the main body of the text to ensure understanding for readers.

Table 4.3 Pearson Correlation Coefficients among Key Variables

	wellbeing	cultural	social	dis	aca	lan	home	cov	cop
wellbeing	1								
cultural	0.408	1							
social	0.586	0.487	1						
dis	0.253	0.213	0.157	1					
aca	0.389	0.436	0.302	0.188	1				
lan	0.305	0.477	0.353	0.131	0.699	1			
home	0.423	0.228	0.309	0.209	0.218	0.165	1		
cov	0.274	0.302	0.225	0.294	0.239	0.214	0.377	1	
cop	-0.128	-0.087	-0.149	0.037	-0.009	-0.065	0.038	0.099	1

In accordance with the classification criteria defined by Cohen (1988), Hinkle et al. (2003), and Mukaka (2012), correlations are categorised as weak (0.10 to 0.29), moderate (0.30 to 0.49), and strong (0.50 to 1.00) effects. Results from this study demonstrate that a strong linear relationship (correlation of 0.699) between academic integration and language barriers suggests high collinearity between these two variables. Despite this, the analysis retains them separately due to their unique theoretical and practical implications. This implies that language barriers might contribute to academic pressure for students struggling to understand course materials or participate in class discussions (Astin, 1993; Benzie et al., 2017). However, academic pressure can also arise from factors unrelated to language barriers, such as heavy course loads, high expectations from instructors or parents, or adjusting to new teaching methods (Tinto, 2012). Conversely, students with language difficulties may not experience significant academic pressure if they receive adequate support from teachers, peers, academic resources, or develop effective coping strategies (Zimmerman & Schunk, 2001).

4.1.3.2 Scatterplot Matrix and Histogram

Examination of the scatterplot matrix (see [Figure 4.1](#)) indicates relationships of varying degrees of linearity between the dependent variable and the independent variables. To be specific, the scatterplot matrix uncovers strong linear associations between perceived cultural distance (cultural) and both language barriers (lan) and academic integration (aca), as well as a noteworthy linear relationship between academic integration (aca) and language barriers (lan). Furthermore, a moderate linear association can be observed between social integration (social) and perceived cultural distance (cultural). For the variables COVID-19 (cov) and homesickness (home), the scatterplots exhibit a noticeable linear pattern, and a similar observation applies to the relationship between COVID-19 (cov) and perceived cultural distance (cultural). Moreover, the scatterplot matrix reveals less pronounced linear associations and a higher degree of clustering or concentration in specific areas for certain variable pairs. Reflecting on these observations, Ordinary Least Squares regression, Structural Equation Modelling, Kernel Regression, and machine learning have been utilised in this analysis. Ordinary Least Squares, a parametric model, presumes a linear relationship between variables, a presumption evidenced in some of the variable pairs. Conversely, Kernel Regression and machine learning techniques, which often employ non-parametric methods, do not necessitate strict assumptions about data distribution, thus allowing for increased flexibility in capturing potential non-linear relationships. This becomes particularly valuable for less linear or more dispersed variable pairs as observed in the scatterplot matrix.

Histograms (refer to [Figure 4.1](#)) are provided to illustrate the distribution of individual variables. The dependent variable, wellbeing, appears to be approximately normally distributed, with minor deviations due to the discrete nature of the values. The independent variables exhibit a variety of distribution patterns. Specifically, perceived cultural distance (cultural), academic integration (aca), language barriers (lan), and

COVID-19 (cov) demonstrate normal distributions, suggesting a symmetrical dispersion of these stressors around their mean values among the participants. Conversely, some variables such as social integration (social) and homesickness (home) show slight left-skewed distributions. While this skewness is not pronounced, it suggests a modest concentration of lower stress levels among the participants. Furthermore, perceived discrimination (dis) stands out with its significant left-skewed distribution, indicating a high prevalence of low levels of perceived discrimination among the participants. On the other hand, the distribution of coping strategy (cop) is markedly right skewed. This suggests that most participants found the coping strategies presented in the survey to be effective.

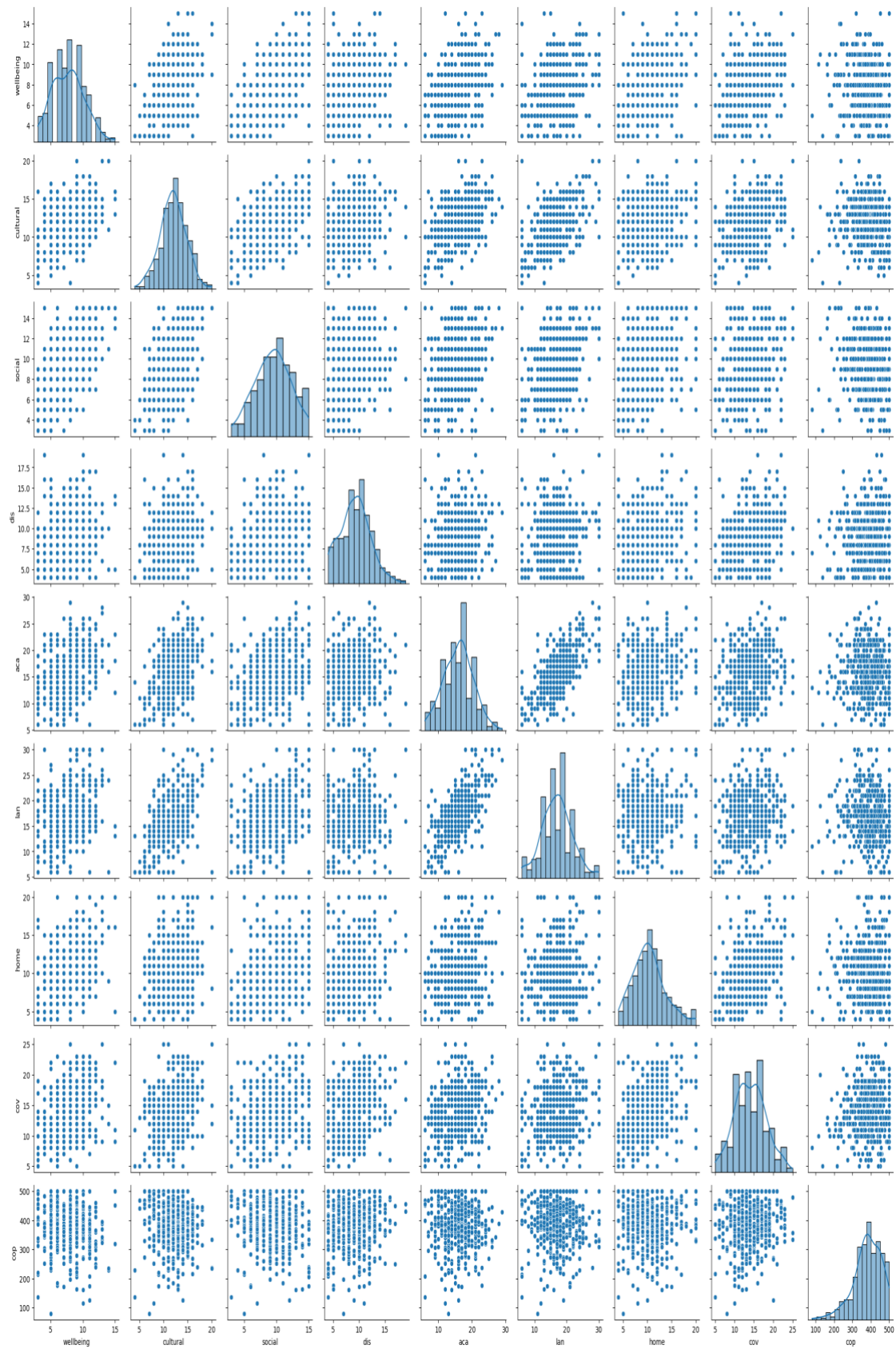


Figure 4.1 Scatterplot Matrix of Wellbeing and Independent Variables with Histogram

4.1.3.3 Heatmap Visualisation

The heatmap ([Figure 4.2](#)) presents a visual depiction of the relationships among various factors influencing the wellbeing, acculturative stressors, COVID-19, and coping strategies of Chinese international students. By utilising colour intensity to represent the strength of correlations, this method of visualisation facilitates a more intuitive comprehension of the data compared to relying solely on numerical values. The intensity of each cell's colour corresponds to the correlation strength between the variables, with darker shades denoting stronger positive correlations and lighter shades indicating weaker or negative correlations.

A strong positive correlation ($r = 0.59$) is observed between social integration (social) and wellbeing, highlighting the importance of fostering a sense of belonging in the host country for students' mental health. Similarly, perceived cultural distance (cultural) demonstrates a moderate positive correlation with wellbeing ($r = 0.41$), emphasising the influence of cultural differences on students' wellbeing. Notably, the correlation between cultural and social integration ($r = 0.49$) suggests that cultural distance may affect the degree of social integration among students. Furthermore, the relationship between cultural distance and language barriers (lan) exhibits a moderate positive correlation ($r = 0.48$), indicating a potential link between perceived cultural distance and language challenges faced by students.

A robust positive correlation ($r = 0.70$) is evident between language barriers (lan) and academic integration (aca), highlighting the importance of language proficiency in students' academic adjustment. The heatmap also reveals a weak negative correlation ($r = -0.13$) between coping strategy (cop) and wellbeing, indicating that certain coping strategies may be less effective in promoting students' mental health, thus warranting further investigation.

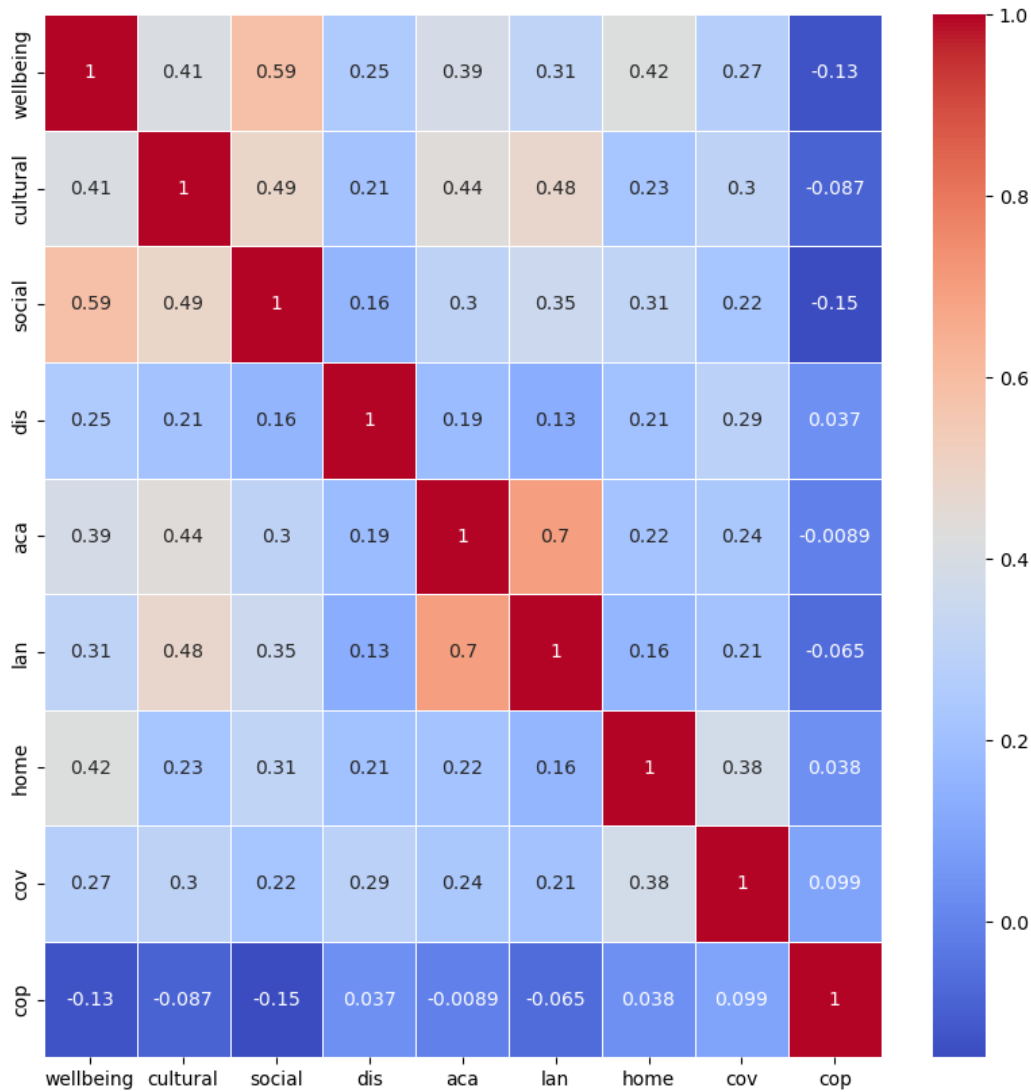


Figure 4.2 Heatmap of Correlations Among Factors Affecting Chinese International Students' Wellbeing

Additionally, a moderate positive correlation ($r = 0.38$) can be observed between the ongoing COVID-19 pandemic (cov) and homesickness (home), implying that the pandemic may have exacerbated feelings of homesickness among Chinese international students. Lastly, perceived discrimination (dis) demonstrates a weak positive correlation ($r = 0.25$) with wellbeing, signifying that, although not as influential as social integration and cultural distance, this factor still contributes to shaping students' wellbeing and mental health.

4.1.4 Multivariate Analysis

Multicollinearity, a condition where predictors in a model are mutually interconnected, has the potential to undermine the stability and reliability of coefficient estimates (Hair, Anderson, Tatham, & Black, 1998). The Variance Inflation Factor (VIF), a commonly used measure, was employed to assess multicollinearity among the predictors (Belsley, Kuh, & Welsch, 1980). Conventionally, a VIF value of 1 denotes an absence of correlation, while values above 5 or 10 indicate high multicollinearity, dependent on the degree of analytical conservativeness (O'Brien, 2007). In this research, the dataset yielded a mean VIF of 1.88, and the predictor 'language proficiency' produced the maximum VIF value of 3.83, both substantially below the threshold of 5 (see [Figure 4.3*](#)). This suggests a generally low degree of multicollinearity. In summary, multicollinearity does not exert a significant distortionary effect on the analysis, thereby indicating that the interpretation of relationships between predictors and the response variable is not substantially skewed by high intercorrelations.

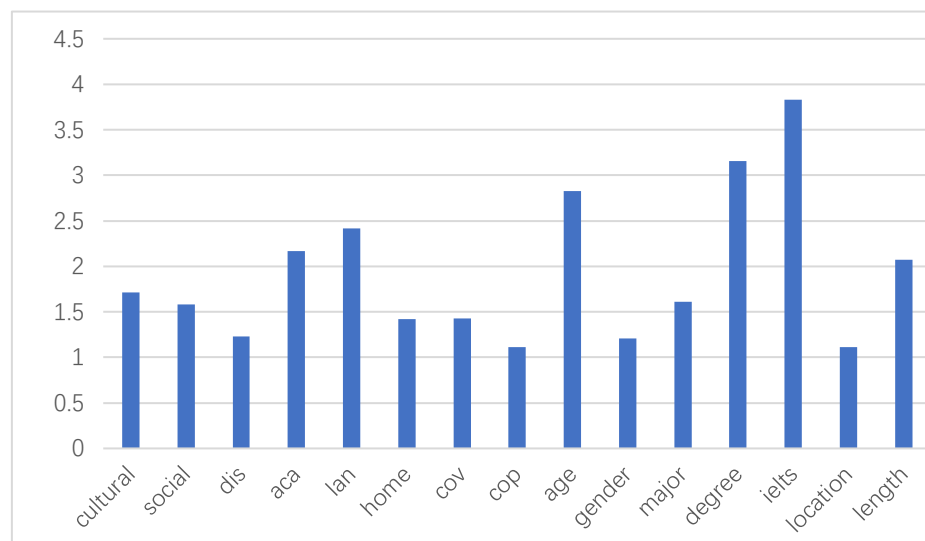


Figure 4.3 Variance Inflation Factors for Predictor Variables

* Figure 4.3 illustrates the Variance Inflation Factors (VIF) for each predictor variable incorporated in the regression analysis. For categorical predictors, VIF was computed separately for each category, with the category exhibiting the highest VIF selected as representative.

4.2 Ordinary Least Squares

4.2.1 Ordinary Least Squares Methodology

4.2.1.1 Utilising OLS Regression in the Research Context

In this study, the Ordinary Least Squares (OLS) regression method is employed to systematically investigate the impact of acculturative stressors, the COVID-19 pandemic, and coping strategies on wellbeing. The following research questions are addressed:

Research Question 2:

To what extent can the identified acculturative stressors predict the wellbeing of Chinese international students?

Research Question 3:

How can COVID-19 pandemic affect the wellbeing of Chinese international students in the UK?

Research Question 4:

What strategies do Chinese international students usually employ to reduce their acculturative stress and facilitate their intercultural adaptation?

Table 4.4 Stepwise Expansion of Research Questions and Associated Variables

	Research Question 2	Research Question 3	Research Question 4
Dependent variable	wellbeing	wellbeing	wellbeing
Independent variable	acculturative stressors	acculturative stressors + COVID-19	acculturative stressors + COVID-19 + coping strategy
Control variable	age, gender, major, degree, ielts, location, length		

As illustrated in [Table 4.4](#), the three research questions build upon one another by

progressively expanding the scope of independent variables considered. RQ3 extends the analysis of RQ2 by incorporating the COVID-19 pandemic as an additional independent variable, whilst RQ4 further includes coping strategies.

4.2.1.2 Model Specification and Equation

Drawing upon Research Question 4, the Ordinary Least Squares specification can be formally presented as follows:

$$\begin{aligned} \text{Wellbeing} = & \beta_0 + \beta_1 * \text{perceived cultural distance} + \beta_2 * \text{COVID19} + \beta_3 \\ & * \text{coping strategy} + \beta_4 * \text{age} + \beta_5 * \text{gender} + \beta_6 * \text{major} + \beta_7 \\ & * \text{degree} + \beta_8 * \text{ielts} + \beta_9 * \text{location} + \beta_{10} * \text{length} + \varepsilon \end{aligned}$$

Where:

➤ **Dependent variable:**

Wellbeing represents the wellbeing problem of Chinese international students.

➤ **Independent variables:**

perceived cultural distance serves as an example of acculturative stressors in this model (other acculturative stressors, such as Social Integration, Academic Integration, Homesickness, etc., can be incorporated similarly).

COVID19 represents the variable related to the COVID-19 pandemic.

coping strategy denotes the coping strategy variable.

➤ **Control variables:**

Age, Gender, Major, Degree, Language Proficiency (IELTS), Location in the UK (Location), and Living Length in the UK (Length)

➤ **Other components of the equation:**

β_0 is the intercept term.

β_1 to β_{10} are the coefficients of the independent and control variables, indicating the strength of their relationships with wellbeing.

ε symbolises the error term.

4.2.1.3 Parameter Estimation and Interpretation

To estimate the parameters in the Ordinary Least Squares models and analyse the relationships among the dependent variable (wellbeing), independent variables (perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, COVID-19, coping strategy), and control variables (age, gender, major, degree, language proficiency, location in the UK, and living length in the UK), the statistical software Stata and were utilised. The 'reg' command in Stata and the 'lm()' function in R were employed for parameter estimation. These commands provided the necessary tools to perform linear regression analysis and obtain essential output, such as coefficients (β values), p-values, and other statistical measures for understanding the relationships among the variables.

Upon obtaining the regression output, several aspects should be considered for interpreting the results. Firstly, the signs and magnitudes of the coefficients offer insights into the direction and strength of the relationship between the independent and dependent variables. A positive coefficient indicates a positive relationship, where an increase in the independent variable leads to an increase in the dependent variable. Conversely, a negative coefficient suggests a negative relationship. The magnitude of the coefficient reflects the strength of the relationship, with larger coefficients implying a stronger association. Secondly, the p-values associated with each coefficient are employed to determine the statistical significance of the relationship. Smaller p-values (typically less than 0.05) indicate a statistically significant relationship, suggesting that the observed association is unlikely to have occurred by chance alone. Thirdly, confidence intervals provide a range of values within which the true population parameter is likely to be located. A narrow confidence interval indicates greater precision in the estimate, while a wider interval suggests more uncertainty. Lastly, model fit statistics, such as R-squared, adjusted R-squared, and the F-statistic, are essential for assessing the overall fit of the model. R-squared represents the proportion of variance in the dependent variable explained by the independent variables, while the

adjusted R-squared accounts for the number of predictors in the model. The F-statistic tests the overall significance of the model and is utilised to compare the fit of different models.

4.2.1.4 Model Diagnostics and Hypothesis Testing

Initially, the linearity of the relationship between independent and dependent variables was carefully analysed. Scatterplots were created using Python's seaborn package and Stata to offer a preliminary indication of linearity. In Python, the 'scatterplot()' function from the 'seaborn' package was used, while in Stata, the 'scatter' command was employed. Correlation matrices were generated using the 'pwcorr' command in Stata, providing insight into the strength and direction of the linear relationships between variables. Subsequently, the 'poly' command in Stata was employed to further investigate the relationship, considering both continuous and categorical variables. In addition, the 'ggpairs' function from the GGally package in R facilitated the visualisation of linearity. This comprehensive approach to assessing linearity allowed for a deeper understanding of the relationships between the independent and dependent variables in the analysis.

Following this, the key assumptions of linear regression, such as independence, homoscedasticity, and normal distribution of error terms, were examined. Variance inflation factors (VIF) for each independent variable were calculated in Stata to detect potential multicollinearity issues. In Stata, the 'vif' command was used after running the regression model using the 'reg' command. The 'vif' command automatically calculates the VIF values for each independent variable included in the model, allowing for the identification of potential multicollinearity issues.

To visually assess the normality and homoscedasticity of the residuals, a combination of residual plots and QQ plots were generated using the 'geom_point()' and 'geom_smooth()' functions from the ggplot2 package in R, along with the 'qqnorm()'

and ‘qqline()’ functions from the base package. This graphical approach provided an initial, intuitive understanding of the distribution and variance of residuals. In addition, the Shapiro-Wilk test and the Kolmogorov-Smirnov test were conducted using the ‘shapiro.test()’ and ‘ks.test()’ functions from the base package in R, respectively. These tests provided a statistical confirmation of the normality of residuals, a critical assumption for linear regression. Further, to evaluate the stability of the model, heteroscedasticity tests were performed. The Breusch-Pagan test, a method to assess the constancy of error term variance across different levels of the independent variables, was executed in Stata using the ‘hettest’ command. In R, the ‘bptest()’ function from the ‘lmtest’ package was used to conduct the Studentized Breusch-Pagan test. These tests collectively ensured the robustness of the model by verifying the homoscedasticity assumption.

Upon running the model with the ‘reg’ command in Stata and the ‘lm’ command in R, T-tests and F-tests were employed to assess the significance of the model. T-tests determine whether individual regression coefficients are significantly different from zero, thereby establishing the impact of each independent variable on the dependent variable. F-tests, on the other hand, measure the overall predictive power of the regression model by comparing the explained variance of the model to the unexplained variance. By employing these model diagnostics and hypothesis testing methods, the constructed Ordinary Least Squares model was ensured to exhibit a high degree of reliability and accuracy. Detailed results of these tests will be presented in the Results chapter.

4.2.2 Ordinary Least Squares Diagnostics, Estimation and Hypothesis Testing

4.2.2.1 Residual Plot and QQ Plot

Figure 4.4 illustrates the residuals resulting from the application of the Ordinary Least

Squares model. The residuals plot shown that residuals are primarily uniformly distributed around the zero line, demonstrating symmetry. The QQ plot shows points closely follow the theoretical line, further suggesting that the residuals are normally distributed. Fundamentally, the characteristics exhibited in both plots align with the assumptions inherent to the Ordinary Least Squares model.

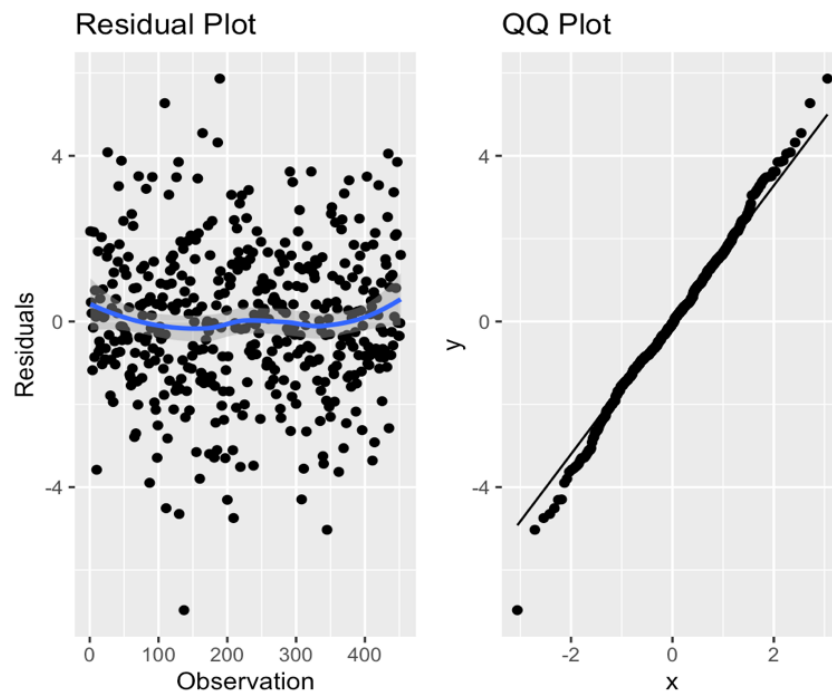


Figure 4.4 Residual Plot and QQ Plot of the Ordinary Least Squares Model
Residuals

4.2.2.2 Shapiro-Wilk Test

Supplementing the visual diagnostics, the Shapiro-Wilk test was employed to statistically confirm the normality of the Ordinary Least Squares model residuals (Shapiro & Wilk, 1965). The test returned a W statistic of 0.996, indicating a strong alignment with a normal distribution, as values nearing 1 typically denote conformity to normality. The p-value of 0.147, exceeding the conventional 0.05 threshold, does not provide sufficient evidence to reject the null hypothesis of normality.

4.2.2.3 Kolmogorov-Smirnov Test

As a robust non-parametric measure, the Kolmogorov-Smirnov test is uniquely advantageous in providing a stringent and more rigorous assessment of normality, as it makes no assumptions about the distribution of data (Kolmogorov, 1933; Smirnov, 1948). The test yielded a D statistic of 0.036, a value close to 0, signifying a minimal divergence from the theoretical normal distribution. The associated p-value of 0.614, exceeding the conventional 0.05 threshold, does not provide compelling evidence to reject the null hypothesis of normality.

4.2.2.4 Breusch-Pagan Test

The Breusch-Pagan test, renowned for its unique capability in detecting heteroscedasticity, was utilised to validate the assumptions of the Ordinary Least Squares model and to safeguard against the generation of inefficient and biased estimates (Breusch & Pagan, 1979). The test yielded a BP statistic of 6.489 with 8 degrees of freedom. The associated p-value of 0.592, exceeding the conventional 0.05 threshold, provides insufficient evidence to reject the null hypothesis of constant variance.

4.2.2.5 T-test

The T-test, a statistical method (Student, 1908), was utilised to evaluate the null hypothesis, which states that the coefficient of each predictor is not significantly different from zero. In this study, the predictors included six types of acculturative stressors, COVID-19, coping strategies, and seven control variables. The T-tests resulted in the rejection of the null hypothesis for all predictor variables at a 95% confidence interval, implying their substantial role in affecting students' wellbeing. The comprehensive numerical results of the T-tests, which include coefficients, T-values, and p-values, will be presented in the following Results section.

4.2.2.6 F-test

The F-test is utilised to assess the collective effect of all predictor variables within a model on the outcome variable (Fisher, 1935). In this study, six models associated with RQ4 serve as examples. Their respective F-statistics were 6.09, 12.68, 3.71, 6.06, 4.54, and 6.20, each accompanied by a p-value less than 0.001. These models significantly exceed models without any predictor variables in accounting for the variance in the dependent variable. This indicates that the predictor variables in the models, which include acculturative stressors and coping strategies, significantly influence the prediction of student wellbeing.

4.2.3 Ordinary Least Squares Results

The Ordinary Least Squares (OLS) regression method is utilised to systematically investigate the relationships between wellbeing problems, acculturative stressors, the COVID-19 pandemic, and coping strategies. The section is organised into four parts. The first part presents an overview of the OLS models, followed by subsequent sections that explore specific research questions.

4.2.3.1 Overview of the OLS Models

The overview of the OLS models establishes a comprehensive understanding of the relationships between control variables, acculturative stressors (with perceived cultural distance as an example), COVID-19 pandemic, and coping strategies on wellbeing problems.

In [Table 4.5](#), Model 1 serving as the base model, illustrates the relationships between control variables (age, gender, major, degree, language proficiency, location, and length of stay in the UK) and dependent variable (wellbeing problems). The results show no significant associations between these control variables and wellbeing.

Table 4.5 Coefficients (95% Confidence Intervals) on Wellbeing from Ordinary Least Squares (initial model)

Variables	Model 1 Base model	Model 2 Model 1 + PCD	Model 3 Model 2 + COVID-19	Model 4 Model 3 + Coping strategy
PCD		0.407*** (0.324 - 0.489)	0.359*** (0.274 - 0.444)	0.344*** (0.260 - 0.429)
COVID-19			0.112*** (0.0564 - 0.167)	0.122*** (0.0663 - 0.177)
Coping strategy				-0.00351* (-0.00628 - -0.000738)
Age (ref:18–22)				
23–27	0.502 (-0.263 - 1.268)	0.535 (-0.159 - 1.230)	0.543 (-0.140 - 1.226)	0.569 (-0.111 - 1.248)
28–32	0.86 (-0.276 - 1.997)	0.8 (-0.232 - 1.832)	0.749 (-0.266 - 1.764)	0.8 (-0.210 - 1.810)
32+	-0.0215 (-1.750 - 1.707)	-0.00928 (-1.578 - 1.560)	0.232 (-1.315 - 1.779)	0.343 (-1.198 - 1.883)
Gender (ref: Male)				
Female	0.0237 (-0.469 - 0.516)	-0.313 (-0.765 - 0.139)	-0.349 (-0.795 - 0.0957)	-0.379# (-0.822 - 0.0645)
Non-binary / third gender	-1.277 (-4.839 - 2.286)	-0.0956 (-3.338 - 3.147)	0.185 (-3.006 - 3.377)	0.1 (-3.073 - 3.273)
Major (ref: Commerce)				
Science	-0.133 (-0.749 - 0.483)	-0.0357 (-0.595 - 0.524)	-0.0235 (-0.574 - 0.527)	-0.0915 (-0.641 - 0.458)
Arts	0.176 (-0.419 - 0.770)	0.0761 (-0.464 - 0.616)	-0.00456 (-0.537 - 0.528)	-0.0621 (-0.593 - 0.469)
Degree (ref: Undergraduate Bachelor)				
Postgraduate Masters	-0.850* (-1.657 - -0.0424)	-0.936* (-1.669 - -0.203)	-0.998** (-1.720 - -0.277)	-0.926* (-1.646 - -0.207)
Postgraduate PhD	-0.726 (-1.815 - 0.364)	-1.071* (-2.062 - -0.0799)	-0.956# (-1.932 - 0.0204)	-0.839# (-1.814 - 0.135)
Language Proficiency (ref: IELTS 5–5.5)				
IELTS 6–6.5	-0.3 (-1.160 - 0.560)	-0.225 (-1.005 - 0.556)	-0.164 (-0.932 - 0.605)	-0.122 (-0.887 - 0.642)

Ielts 7–7.5	-0.452 (-1.387 - 0.483)	-0.169 (-1.019 - 0.682)	-0.117 (-0.954 - 0.720)	-0.0843 (-0.917 - 0.748)
Ielts 8.0+	-0.685 (-2.213 - 0.842)	-0.315 (-1.703 - 1.074)	-0.336 (-1.701 - 1.030)	-0.267 (-1.625 - 1.092)
Location (ref: England)				
Scotland	0.277 (-0.461 - 1.016)	0.0412 (-0.631 - 0.713)	0.0278 (-0.633 - 0.689)	0.0298 (-0.627 - 0.687)
Wales	0.246 (-0.696 - 1.188)	0.101 (-0.755 - 0.956)	-0.0055 (-0.848 - 0.837)	-0.00101 (-0.839 - 0.837)
Northern Ireland	0.151 (-0.897 - 1.199)	0.16 (-0.792 - 1.111)	0.258 (-0.678 - 1.195)	0.297 (-0.635 - 1.228)
Length (ref: 1–6 months)				
6–12 months	0.233 (-0.453 - 0.919)	0.221 (-0.401 - 0.844)	0.22 (-0.392 - 0.833)	0.226 (-0.383 - 0.834)
1–2 years	-0.187 (-0.971 - 0.596)	-0.0935 (-0.805 - 0.618)	-0.25 (-0.954 - 0.454)	-0.268 (-0.968 - 0.432)
2–3 years	0.168 (-0.769 - 1.106)	0.413 (-0.440 - 1.265)	0.227 (-0.616 - 1.070)	0.174 (-0.665 - 1.013)
More than 3 years	0.0421 (-0.850 - 0.934)	0.880* (0.0525 - 1.707)	0.800# (-0.0139 - 1.615)	0.755# (-0.0556 - 1.565)
Constant	8.097*** (7.110 - 9.083)	3.284*** (1.958 - 4.611)	2.353*** (0.969 - 3.736)	3.682*** (1.952 - 5.412)
Observations	452	452	452	452
R-squared	0.025	0.199	0.227	0.238
Confidence interval in parentheses				
*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1				

Model 2 builds upon Model 1 by incorporating perceived cultural distance to evaluate its impact on wellbeing problems. The analysis uncovers a significant positive relationship between perceived cultural distance and wellbeing problems; a one-unit increase in perceived cultural distance is associated with a 0.407 (95% CI: 0.324, 0.489) increase in wellbeing problems at a 0.1% level of significance.

Model 3, building on Model 2, introduces a control for COVID-19. When accounting for COVID-19, the significant positive association between perceived cultural distance and wellbeing problems remains, though the coefficient decreases from 0.407 to 0.359.

This finding indicates that the influence of perceived cultural distance on wellbeing problems may vary due to the changing impact of COVID-19.

Model 4 further expands on Model 3 by including a coping strategy variable while still examining the relationship between perceived cultural distance and wellbeing problems. The association remains significant; however, the coefficient decreases to 0.344 (95% CI: 0.260, 0.429) at a 0.1% level of significance compared to Models 2 and 3.

Across all models, the effects of control variables, such as age, gender, major, degree, language proficiency, location, and length of stay, differ, but in most instances, they do not attain statistical significance. The only exception is the contrast between postgraduate master's and undergraduate bachelor's degrees, where the coefficients in Model 1, Model 2, Model 3, and Model 4 are significant at $p < 0.05$ or $p < 0.01$ levels.

Lastly, attention is drawn to the R-squared values that represent the explanatory power of each model. Model 1, with only control variables, accounted for a modest 2.50% of the variance in wellbeing problems. With perceived cultural distance included, Model 2's R-squared value increased to 19.90%. Adding COVID-19 in Model 3 raised this value further to 22.70%. Finally, by integrating coping strategies, Model 4 explained 23.80% of the variance. This gradual increase in R-squared values across the models signifies an improvement in their explanatory power with each additional variable. However, Model 4, the most comprehensive of all, accounted for less than a quarter of the variance. This deficiency suggests the potential existence of other influential factors, not yet included in the model, that could significantly impact the understanding of wellbeing problems.

4.2.3.2 Research Question 2 (acculturative stressors predicting Chinese international students' wellbeing)

This section presents the results of six OLS models that explore the extent to which identified acculturative stressors can predict the wellbeing of Chinese international students (RQ2), while accounting for control variables such as age, gender, major, degree, language proficiency, location, and length of stay. Each model accounts for one independent variable in conjunction with the control variables.

From the [Table 4.6](#), it is evident that all acculturative stressors significantly impact wellbeing. Specifically, in Models 1 to 6, the coefficients of these factors are significant ($p < 0.001$), indicating a crucial role in predicting wellbeing.

Model 1 demonstrates a significant positive effect of perceived cultural distance on wellbeing problems (coefficient = 0.407, 95% CI: 0.324, 0.489) at a 0.1% level of significance. Model 2 reveals a robust positive association between social integration and wellbeing problems 0.533 (95% CI: 0.465, 0.602) at a 0.1% level of significance. Model 3 highlights a significant positive relationship between discrimination and wellbeing issues 0.224 (95% CI: 0.146, 0.302) at a 0.1% level of significance. Model 4 uncovers a noteworthy positive association between academic integration and wellbeing problems 0.242 (95% CI: 0.189, 0.294) at a 0.1% level of significance. Model 5 indicates a positive influence of language barriers on wellbeing issues 0.186 (95% CI: 0.134, 0.238) at a 0.1% level of significance. Lastly, Model 6 shows a considerable positive impact of homesickness on wellbeing problems 0.315 (95% CI: 0.251, 0.378) at a 0.1% level of significance. Among the six stressors, social integration has the strongest positive association with Chinese international students' wellbeing, while language barriers have the weakest positive association. The analysis reveals no significant relationships between wellbeing and gender, major, language proficiency and location, suggesting that these factors might not play a crucial role in determining the wellbeing of Chinese international students.

Regarding age, the results indicate a significant association between age groups and students' wellbeing problems. In Model 6, students aged 23–27 and 28–32 demonstrate significantly higher levels of wellbeing issues compared to their younger counterparts aged 18–22, with coefficients of 0.826 (95% CI: 0.130, 1.522) and 1.102 (95% CI: 0.0711, 2.133), respectively, at the 5% significance level.

Concerning degree, the findings reveal that master's students experience a significant decrease in wellbeing compared to undergraduate students. In Models 1, 4, and 5, the coefficients for master's students are -0.936, -0.838, and -0.818, respectively, with a 5% significance level. For doctoral students compared to undergraduate students, wellbeing is significantly lower in Models 1 and 2, with coefficients of -1.071 and -1.115, respectively, at the 5% significance level. In terms of the length of studying in the UK, students who have been studying for more than three years exhibit a significant increase in wellbeing compared to those who have been studying for 1–6 months. Specifically, in Model 1, the coefficient for students with a length of studying in the UK of over three years is 0.880 (95% CI: 0.0525, 1.707), significant at the 5% level.

Table 4.6 Coefficients (95% Confidence Intervals) on Wellbeing from OLS (base model)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	0.407*** (0.324 - 0.489)					
Social integration		0.533*** (0.465 - 0.602)				
Perceived discrimination			0.224*** (0.146 - 0.302)			
Academic integration				0.242*** (0.189 - 0.294)		
Language barriers					0.186*** (0.134 - 0.238)	
Homesickness						0.315*** (0.251 - 0.378)
Age (ref:18–22)						
23–27	0.535 (-0.159 - 1.230)	0.258 (-0.360 - 0.876)	0.419 (-0.321 - 1.159)	0.461 (-0.242 - 1.164)	0.541 (-0.185 - 1.267)	0.826* (0.130 - 1.522)
28–32	0.8 (-0.232 - 1.832)	0.514 (-0.403 - 1.432)	0.63 (-0.472 - 1.731)	0.604 (-0.441 - 1.649)	0.857 (-0.222 - 1.935)	1.102* (0.0711 - 2.133)
32+	-0.00928 (-1.578 - 1.560)	0.505 (-0.890 - 1.899)	-0.142 (-1.813 - 1.529)	-0.281 (-1.869 - 1.306)	-0.0707 (-1.710 - 1.569)	0.747 (-0.827 - 2.320)
Gender (ref: Male)						
Female	-0.313	-0.254	0.145	-0.255	-0.337	0.0948

	(-0.765 - 0.139)	(-0.653 - 0.144)	(-0.333 - 0.623)	(-0.711 - 0.201)	(-0.815 - 0.141)	(-0.352 - 0.541)
Non-binary / third gender	-0.0956	-1.626	-0.834	-1.166	-0.985	-0.596
	(-3.338 - 3.147)	(-4.499 - 1.246)	(-4.280 - 2.613)	(-4.437 - 2.105)	(-4.365 - 2.395)	(-3.827 - 2.635)
Major (ref: Commerce)						
Science	-0.0357	-0.0186	-0.0599	-0.0558	-0.119	-0.218
	(-0.595 - 0.524)	(-0.515 - 0.478)	(-0.656 - 0.536)	(-0.621 - 0.510)	(-0.703 - 0.465)	(-0.776 - 0.340)
Arts	0.0761	-0.0164	0.11	0.116	0.121	-0.0603
	(-0.464 - 0.616)	(-0.496 - 0.463)	(-0.465 - 0.685)	(-0.430 - 0.662)	(-0.443 - 0.685)	(-0.601 - 0.480)
Degree (ref: Undergraduate Bachelor)						
Postgraduate Masters	-0.936*	-0.489	-0.767#	-0.838*	-0.818*	-0.722#
	(-1.669 - -0.203)	(-1.141 - 0.164)	(-1.548 - 0.0143)	(-1.579 - -0.0968)	(-1.584 - -0.0524)	(-1.454 - 0.00980)
Postgraduate PhD	-1.071*	-1.115*	-0.476	-0.6	-0.876#	-0.78
	(-2.062 - -0.0799)	(-1.995 - -0.236)	(-1.532 - 0.581)	(-1.600 - 0.400)	(-1.910 - 0.157)	(-1.767 - 0.207)
Language Proficiency (ref: Ielts 5–5.5)						
Ielts 6–6.5	-0.225	-0.171	-0.316	0.0711	-0.0662	-0.137
	(-1.005 - 0.556)	(-0.864 - 0.523)	(-1.147 - 0.515)	(-0.723 - 0.865)	(-0.885 - 0.752)	(-0.917 - 0.643)
Ielts 7–7.5	-0.169	-0.378	-0.542	0.351	0.136	-0.0928
	(-1.019 - 0.682)	(-1.132 - 0.376)	(-1.446 - 0.363)	(-0.525 - 1.227)	(-0.766 - 1.038)	(-0.943 - 0.758)
Ielts 8.0+	-0.315	-0.419	-0.748	0.787	0.627	-0.547
	(-1.703 - 1.074)	(-1.651 - 0.812)	(-2.225 - 0.728)	(-0.652 - 2.225)	(-0.868 - 2.122)	(-1.931 - 0.837)
Location (ref: England)						
Scotland	0.0412	-0.106	0.1	0.213	0.328	0.53
	(-0.631 - 0.713)	(-0.703 - 0.492)	(-0.616 - 0.817)	(-0.466 - 0.891)	(-0.373 - 1.028)	(-0.141 - 1.201)
Wales	0.101	0.0522	0.13	0.109	-0.00521	0.133

	(-0.755 - 0.956)	(-0.707 - 0.812)	(-0.781 - 1.041)	(-0.756 - 0.975)	(-0.901 - 0.891)	(-0.721 - 0.987)
Northern Ireland	0.16	-0.16	0.251	0.0126	0.0488	0.16
	(-0.792 - 1.111)	(-1.006 - 0.685)	(-0.763 - 1.264)	(-0.950 - 0.975)	(-0.946 - 1.043)	(-0.789 - 1.110)
Length (ref: 1–6 months)						
6–12 months	0.221	0.222	0.246	0.313	0.319	0.198
	(-0.401 - 0.844)	(-0.331 - 0.775)	(-0.418 - 0.909)	(-0.317 - 0.943)	(-0.332 - 0.970)	(-0.424 - 0.819)
1–2 years	-0.0935	-0.0522	-0.419	0.0803	0.0597	-0.128
	(-0.805 - 0.618)	(-0.684 - 0.580)	(-1.181 - 0.342)	(-0.642 - 0.802)	(-0.687 - 0.806)	(-0.838 - 0.583)
2–3 years	0.413	0.225	0.0741	0.482	0.53	0.327
	(-0.440 - 1.265)	(-0.530 - 0.981)	(-0.832 - 0.981)	(-0.381 - 1.345)	(-0.364 - 1.425)	(-0.523 - 1.177)
More than 3 years	0.880*	0.598	-0.0894	0.479	0.801#	0.0738
	(0.0525 - 1.707)	(-0.124 - 1.320)	(-0.952 - 0.774)	(-0.345 - 1.303)	(-0.0713 - 1.673)	(-0.734 - 0.882)
Constant	3.284***	3.171***	6.091***	3.755***	4.586***	4.407***
	(1.958 - 4.611)	(2.155 - 4.188)	(4.907 - 7.275)	(2.446 - 5.064)	(3.228 - 5.944)	(3.244 - 5.569)
Observations	452	452	452	452	452	452
R-squared	0.199	0.368	0.092	0.18	0.125	0.202

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

Table 4.6 presents a series of separate multivariate models, each examining the association between one of the six acculturative stressors and the wellbeing of Chinese international students, while controlling for other relevant variables. This step facilitates the identification of the potential magnitude and direction of the impact of each stressor on wellbeing when isolated from other variables. It reveals the original associations of each factor with wellbeing problems, providing initial insights into their roles in the wellbeing of international students. However, separate multivariate models are unable to capture the interactions and compound effects among acculturative stressors. In real-life situations, international students often face multiple stressors simultaneously, and these stressors interact with each other in complex environments.

Table 4.7 presents a series of nested models that sequentially introduce acculturative stressors, demonstrating their unique contributions and cumulative effects on international students' wellbeing. In the initial stages, each individual acculturative stressor significantly impacted wellbeing, indicating a strong independent effect. However, as subsequent models progressively introduce other relevant factors, the significance of certain stressors such as language barriers diminishes. This suggests that the independent influence of these factors on mental health may be overshadowed by other, more prominent stressors when multiple acculturation challenges are present simultaneously. The final nested model, Model 6, demonstrates that while all factors are considered collectively, not all stressors equally influence wellbeing problem. Some stressors, such as social integration, consistently show high significance across all models. The increase in R-squared values with the addition of more variables indicates an improvement in the model's overall fit to the data.

Table 4.7 Coefficients (95% Confidence Intervals) on Wellbeing from Nested OLS Models

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived Cultural Distance	0.407*** (0.324 - 0.489)	0.173*** (0.0903 - 0.255)	0.144*** (0.0611 - 0.226)	0.0922* (0.00859 - 0.176)	0.100* (0.0156 - 0.185)	0.0871* (0.00510 - 0.169)
Social integration		0.456*** (0.379 - 0.533)	0.448*** (0.372 - 0.523)	0.422*** (0.347 - 0.497)	0.429*** (0.353 - 0.504)	0.380*** (0.304 - 0.455)
Social discrimination			0.118*** (0.0525 - 0.184)	0.0949** (0.0301 - 0.160)	0.0959** (0.0311 - 0.161)	0.0669* (0.00327 - 0.131)
Academic Integration				0.115*** (0.0663 - 0.163)	0.136*** (0.0769 - 0.194)	0.120*** (0.0625 - 0.177)
Language Barriers					-0.0358 (-0.0929 - 0.0212)	-0.0261 (-0.0815 - 0.0292)
Homesickness						0.155*** (0.0989 - 0.211)
Age (ref:18–22)						
23–27	0.535 (-0.159 - 1.230)	0.307 (-0.300 - 0.914)	0.265 (-0.335 - 0.864)	0.261 (-0.324 - 0.847)	0.248 (-0.338 - 0.833)	0.444 (-0.127 - 1.016)
28–32	0.8 (-0.232 - 1.832)	0.539 (-0.362 - 1.440)	0.427 (-0.464 - 1.318)	0.353 (-0.518 - 1.224)	0.326 (-0.546 - 1.197)	0.525 (-0.322 - 1.372)
32+	-0.00928 (-1.578 - 1.560)	0.434 (-0.937 - 1.804)	0.361 (-0.992 - 1.714)	0.223 (-1.100 - 1.546)	0.216 (-1.106 - 1.538)	0.576 (-0.710 - 1.863)
Gender (ref:male)						
Female	-0.313	-0.357#	-0.265	-0.354#	-0.318	-0.262

	(-0.765 - 0.139)	(-0.751 - 0.0376)	(-0.657 - 0.128)	(-0.739 - 0.0316)	(-0.707 - 0.0719)	(-0.640 - 0.115)
Non-binary / Third Gender	-0.0956	-1.075	-0.919	-1.045	-1.071	-0.791
	(-3.338 - 3.147)	(-3.907 - 1.758)	(-3.716 - 1.878)	(-3.778 - 1.687)	(-3.802 - 1.660)	(-3.438 - 1.855)
Major (ref: commerce)						
Science	-0.0357	0.00617	0.0361	0.0474	0.055	-0.0143
	(-0.595 - 0.524)	(-0.482 - 0.494)	(-0.446 - 0.518)	(-0.423 - 0.518)	(-0.415 - 0.526)	(-0.471 - 0.442)
Arts	0.0761	-0.031	-0.0557	-0.0555	-0.0547	-0.14
	(-0.464 - 0.616)	(-0.502 - 0.440)	(-0.521 - 0.410)	(-0.510 - 0.399)	(-0.509 - 0.399)	(-0.581 - 0.300)
Degree (ref: Undergraduate Bachelor)						
Postgraduate Masters	-0.936*	-0.577#	-0.533#	-0.543#	-0.545#	-0.522#
	(-1.669 - -0.203)	(-1.219 - 0.0649)	(-1.167 - 0.101)	(-1.162 - 0.0769)	(-1.164 - 0.0746)	(-1.122 - 0.0776)
Postgraduate PhD	-1.071*	-1.205**	-1.043*	-0.946*	-0.917*	-0.945*
	(-2.062 - -0.0799)	(-2.070 - -0.341)	(-1.901 - -0.185)	(-1.786 - -0.107)	(-1.757 - -0.0772)	(-1.759 - -0.132)
Language Proficiency (ref: Ielts 5–5.5)						
Ielts 6–6.5	-0.225	-0.158	-0.174	-0.0111	-0.0213	0.0343
	(-1.005 - 0.556)	(-0.839 - 0.523)	(-0.846 - 0.499)	(-0.671 - 0.649)	(-0.681 - 0.639)	(-0.605 - 0.674)
Ielts 7–7.5	-0.169	-0.268	-0.337	0.0148	-0.0236	0.127
	(-1.019 - 0.682)	(-1.011 - 0.474)	(-1.070 - 0.397)	(-0.717 - 0.746)	(-0.757 - 0.710)	(-0.586 - 0.839)
Ielts 8.0+	-0.315	-0.301	-0.365	0.282	0.166	0.177
	(-1.703 - 1.074)	(-1.512 - 0.910)	(-1.560 - 0.831)	(-0.917 - 1.482)	(-1.047 - 1.379)	(-0.997 - 1.351)
Location (ref: England)						
Scotland	0.0412	-0.15	-0.221	-0.185	-0.21	-0.0131
	(-0.631 - 0.713)	(-0.737 - 0.437)	(-0.801 - 0.360)	(-0.752 - 0.383)	(-0.779 - 0.358)	(-0.568 - 0.542)
Wales	0.101	0.0186	-0.0293	-0.0544	-0.0234	-0.0456

	(-0.755 - 0.956)	(-0.728 - 0.765)	(-0.766 - 0.708)	(-0.774 - 0.665)	(-0.744 - 0.698)	(-0.744 - 0.653)
Northern Ireland	0.16	-0.112	-0.0546	-0.117	-0.112	-0.0885
	(-0.792 - 1.111)	(-0.942 - 0.719)	(-0.875 - 0.766)	(-0.919 - 0.685)	(-0.914 - 0.689)	(-0.865 - 0.688)
Length (ref: 1–6 months)						
6–12 months	0.221	0.219	0.227	0.265	0.255	0.237
	(-0.401 - 0.844)	(-0.324 - 0.762)	(-0.309 - 0.762)	(-0.259 - 0.789)	(-0.269 - 0.779)	(-0.270 - 0.744)
1–2 years	-0.0935	-0.0319	-0.163	-0.0302	-0.0524	-0.0131
	(-0.805 - 0.618)	(-0.653 - 0.589)	(-0.780 - 0.454)	(-0.635 - 0.575)	(-0.658 - 0.553)	(-0.600 - 0.574)
2–3 years	0.413	0.321	0.253	0.378	0.34	0.416
	(-0.440 - 1.265)	(-0.423 - 1.064)	(-0.482 - 0.988)	(-0.341 - 1.098)	(-0.381 - 1.062)	(-0.283 - 1.115)
More than 3 years	0.880*	0.873*	0.735*	0.824*	0.738*	0.703*
	(0.0525 - 1.707)	(0.152 - 1.594)	(0.0195 - 1.451)	(0.124 - 1.524)	(0.0246 - 1.451)	(0.0125 - 1.394)
Constant	3.284***	1.842**	1.203#	0.193	0.334	-0.513
	(1.958 - 4.611)	(0.660 - 3.024)	(-0.0162 - 2.423)	(-1.072 - 1.459)	(-0.950 - 1.618)	(-1.794 - 0.767)
Observations	452	452	452	452	452	452
R-squared	0.199	0.392	0.409	0.438	0.44	0.476

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

4.2.3.3 Research Question 3 (impact of COVID-19 and acculturative stressors on the wellbeing of Chinese international students in the UK)

In [Table 4.8](#), the COVID-19 variable is introduced, maintaining consistency with the variables in the previous table. Across all six models, the analysis consistently reveals a significant positive relationship between the COVID-19 pandemic and the wellbeing problems of Chinese international students in the UK (RQ4), emphasising the substantial impact of the pandemic on students' wellbeing. For instance, in Model 5, after controlling for language barriers, a one-unit increase in the COVID-19 variable is associated with a 0.141 unit increase in wellbeing (95% CI: 0.0848, 0.197), significant at the 0.1% level. This example underscores the considerable influence of the COVID-19 pandemic on the wellbeing of Chinese international students in the UK.

In the preceding table ([Table 4.6](#)), a robust relationship between stressors and wellbeing problems was identified. After introducing the COVID-19 variable in the current table, stressors continue to exhibit a strong correlation with wellbeing problems, with varying magnitudes of relationship. For instance, in Model 1 of [Table 4.8](#), when controlling for other variables (COVID-19, age, gender, degree, IELTS, length, location), perceived cultural distance and wellbeing problems present a positive correlation; as perceived cultural distance increases by one unit, wellbeing problems increases by 0.359 units (95% CI: 0.274, 0.444). Models 2 through 6 investigate the relationships between social integration, perceived discrimination, academic integration, language barriers, homesickness, and wellbeing problems, respectively. These factors exhibit strong correlations with wellbeing problems, even though the effect sizes and confidence intervals vary. Among them, social integration has the most substantial impact on wellbeing problems, with a 0.502 unit increase (95% CI: 0.433, 0.571) per unit increase in social integration, significant at the 0.1% level. In contrast, language barriers have the weakest relationship with wellbeing problems, as a one-unit increase in language

barriers results in a 0.158 unit increase in wellbeing problems (95% CI: 0.106, 0.210), significant at the 0.1% level. The remaining factors—perceived discrimination, academic integration, and homesickness—also demonstrate strong correlations with wellbeing problems, with effect sizes of 0.169 (95% CI: 0.0887, 0.249), 0.213 (95% CI: 0.160, 0.266), and 0.276 (95% CI: 0.207, 0.344), respectively. These results highlight the varying impacts of each factor on the wellbeing problems of Chinese international students in the UK.

Control variables have mixed effects, such as gender, major, language proficiency, and location generally exhibit varied and mostly non-significant effects on the wellbeing problems of Chinese international students in the UK. However, compared to undergraduate bachelor students, masters and PhD students demonstrate a significant negative relationship with wellbeing problems, suggesting that pursuing a higher degree may be associated with lower wellbeing problems.

Table 4.8 Coefficients (95% Confidence Intervals) on Wellbeing from OLS (base model+COVID-19)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	0.359*** (0.274 - 0.444)					
Social integration		0.502*** (0.433 - 0.571)				
Perceived discrimination			0.169*** (0.0887 - 0.249)			
Academic integration				0.213*** (0.160 - 0.266)		
Language barriers					0.158*** (0.106 - 0.210)	
Homesickness						0.276*** (0.207 - 0.344)
COVID-19	0.112*** (0.0564 - 0.167)	0.0994*** (0.0510 - 0.148)	0.142*** (0.0831 - 0.200)	0.125*** (0.0700 - 0.180)	0.141*** (0.0848 - 0.197)	0.0816** (0.0230 - 0.140)
Age (ref: 18–22)						
23–27	0.543 (-0.140 - 1.226)	0.283 (-0.324 - 0.890)	0.455 (-0.268 - 1.177)	0.479 (-0.209 - 1.167)	0.55 (-0.157 - 1.258)	0.794* (0.103 - 1.486)
28–32	0.749 (-0.266 - 1.764)	0.483 (-0.419 - 1.384)	0.613 (-0.462 - 1.688)	0.568 (-0.455 - 1.591)	0.783 (-0.267 - 1.834)	1.029* (0.00467 - 2.054)
32+	0.232 (-1.315 - 1.779)	0.689 (-0.684 - 2.063)	0.196 (-1.441 - 1.832)	0.0208 (-1.539 - 1.581)	0.243 (-1.359 - 1.845)	0.829 (-0.734 - 2.392)

Gender (ref:Male)

Female	-0.349 (-0.795 - 0.0957)	-0.305 (-0.698 - 0.0871)	0.0186 (-0.451 - 0.488)	-0.307 (-0.754 - 0.140)	-0.38 (-0.846 - 0.0860)	0.0305 (-0.415 - 0.476)
Non-binary / Third Gender	0.185 (-3.006 - 3.377)	-1.233 (-4.062 - 1.596)	-0.411 (-3.779 - 2.957)	-0.71 (-3.917 - 2.498)	-0.498 (-3.796 - 2.800)	-0.374 (-3.585 - 2.836)

Major (ref: Commerce)

Science	-0.0235 (-0.574 - 0.527)	-0.00434 (-0.493 - 0.484)	-0.048 (-0.629 - 0.533)	-0.0384 (-0.592 - 0.515)	-0.0914 (-0.661 - 0.478)	-0.19 (-0.745 - 0.364)
Arts	-0.00456 (-0.537 - 0.528)	-0.0872 (-0.560 - 0.386)	0.00892 (-0.554 - 0.572)	0.0195 (-0.516 - 0.555)	0.0125 (-0.539 - 0.564)	-0.0984 (-0.636 - 0.439)

Degree (ref: Undergraduate Bachelor)

Postgraduate Masters	-0.998** (-1.720 - -0.277)	-0.574# (-1.217 - 0.0682)	-0.879* (-1.643 - -0.116)	-0.921* (-1.647 - -0.194)	-0.915* (-1.662 - -0.168)	-0.791* (-1.519 - -0.0628)
Postgraduate PhD	-0.956# (-1.932 - 0.0204)	-1.026* (-1.891 - -0.161)	-0.443 (-1.474 - 0.588)	-0.531 (-1.510 - 0.448)	-0.76 (-1.768 - 0.248)	-0.719 (-1.699 - 0.262)

Language Proficiency (ref: Ielts 5–5.5)

Ielts 6–6.5	-0.164 (-0.932 - 0.605)	-0.116 (-0.798 - 0.566)	-0.223 (-1.035 - 0.589)	0.106 (-0.671 - 0.883)	-0.0121 (-0.810 - 0.785)	-0.106 (-0.881 - 0.668)
Ielts 7–7.5	-0.117 (-0.954 - 0.720)	-0.307 (-1.048 - 0.435)	-0.412 (-1.296 - 0.473)	0.352 (-0.506 - 1.209)	0.157 (-0.722 - 1.036)	-0.0753 (-0.919 - 0.769)
Ielts 8.0+	-0.336 (-1.701 - 1.030)	-0.415 (-1.626 - 0.795)	-0.704 (-2.145 - 0.737)	0.64 (-0.770 - 2.049)	0.462 (-0.995 - 1.920)	-0.547 (-1.921 - 0.826)

Location (ref: England)

Scotland	0.0278	-0.12	0.092	0.174	0.268	0.469
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	(-0.633 - 0.689)	(-0.707 - 0.468)	(-0.607 - 0.791)	(-0.490 - 0.838)	(-0.415 - 0.951)	(-0.199 - 1.136)
Wales	-0.0055	-0.0459	0.00239	-0.0123	-0.124	0.057
	(-0.848 - 0.837)	(-0.794 - 0.702)	(-0.888 - 0.893)	(-0.861 - 0.836)	(-0.998 - 0.750)	(-0.792 - 0.906)
Northern Ireland	0.258	-0.0532	0.353	0.14	0.19	0.232
	(-0.678 - 1.195)	(-0.886 - 0.780)	(-0.637 - 1.342)	(-0.803 - 1.084)	(-0.780 - 1.160)	(-0.712 - 1.176)
Length (ref: 1–6 months)						
6–12 months	0.22	0.221	0.239	0.301	0.303	0.2
	(-0.392 - 0.833)	(-0.323 - 0.764)	(-0.408 - 0.886)	(-0.316 - 0.917)	(-0.331 - 0.937)	(-0.417 - 0.817)
1–2 years	-0.25	-0.189	-0.546	-0.113	-0.16	-0.241
	(-0.954 - 0.454)	(-0.814 - 0.435)	(-1.291 - 0.199)	(-0.825 - 0.598)	(-0.892 - 0.572)	(-0.950 - 0.469)
2–3 years	0.227	0.0825	-0.102	0.27	0.279	0.193
	(-0.616 - 1.070)	(-0.663 - 0.828)	(-0.989 - 0.786)	(-0.580 - 1.120)	(-0.598 - 1.156)	(-0.656 - 1.042)
More than 3 years	0.800#	0.582	-0.0327	0.449	0.713#	0.0838
	(-0.0139 - 1.615)	(-0.128 - 1.292)	(-0.875 - 0.810)	(-0.357 - 1.256)	(-0.137 - 1.563)	(-0.718 - 0.886)
Constant	2.353***	2.131***	4.689***	2.590***	3.214***	3.772***
	(0.969 - 3.736)	(1.011 - 3.251)	(3.396 - 5.982)	(1.210 - 3.970)	(1.782 - 4.645)	(2.531 - 5.013)
Observations	452	452	452	452	452	452
R-squared	0.227	0.391	0.137	0.217	0.172	0.215

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

4.2.3.4 Research Question 4 (examining coping strategies in Chinese international students' intercultural adaptation)

Table 4.9 incorporates the coping strategy variable while keeping other variables constant, primarily to investigate its impact on wellbeing (RQ4). With the inclusion of the coping strategy variable, the coefficients and significance levels of other variables change to varying degrees. This suggests that coping strategies may be related to these variables to some extent and play a role in Chinese international students' intercultural adaptation process.

A significant negative correlation between coping strategy and wellbeing is observed in the majority of the models, indicating that certain coping strategies might be effective in reducing stress and promoting adaptation. In Model 1, the coping strategy has a significant negative impact on wellbeing, with a coefficient of -0.00351 (95% CI: -0.00628, -0.000738) at the 5% significance level. In Model 3, Model 4, Model 5, and Model 6, the impact of coping strategy on wellbeing is also negative and significant, with coefficients of -0.00503 (95% CI: -0.00791, -0.00214) at a 0.1% level of significance, -0.00473 (95% CI: -0.00748, -0.00199) at a 0.1% level of significance, -0.00435 (95% CI: -0.00720, -0.00151) at a 1% level of significance, and -0.00534 (95% CI: -0.00808, -0.00260) at a 0.1% level of significance, respectively. However, in Model 2, the impact of coping strategy on wellbeing problem is not significant. The findings highlight the importance of coping strategies in the intercultural adaptation process of Chinese international students.

The COVID-19 variable is positive and significant across all models, suggesting a positive correlation between the presence of COVID-19 and wellbeing. The coefficients range from 0.0917** to 0.152***, indicating that when the COVID-19 variable increases by one unit, wellbeing increases by 0.0917 to 0.152 units. This suggests that the effect remains relatively consistent regardless of the primary independent variable

in the model.

Comparing postgraduate master's students to undergraduate bachelor students (the reference group), the negative and significant coefficients in most models (ranging from $\beta = -0.926$, $p < 0.05$ to $\beta = -0.681$, $p < 0.1$) indicate that postgraduate master's students experience lower wellbeing. Additionally, the negative coefficients in Model 1 (-0.839#) and Model 2 (-0.965*) suggest that PhD students also report lower wellbeing compared to bachelor students. In relation to age groups, Model 6 reveals significant results for the 23–27 and 28–32 age groups, with coefficients of 0.838* and 1.110* respectively, suggesting that these age groups experience higher wellbeing compared to the reference group (18–22). Female students show marginally lower wellbeing in Model 1 and Model 5 compared to male students, while non-binary/third gender students do not show significant differences. However, variables like major, language proficiency, location and length do not yield significant results.

Table 4.9 Coefficients (95% Confidence Intervals) on Wellbeing from OLS (base model+COVID-19+coping strategy)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	0.344*** (0.260 - 0.429)					
Social integration		0.492*** (0.422 - 0.563)				
Perceived discrimination			0.169*** (0.0898 - 0.248)			
Academic integration				0.211*** (0.159 - 0.263)		
Language barriers					0.152*** (0.101 - 0.204)	
Homesickness						0.279*** (0.211 - 0.347)
COVID-19	0.122*** (0.0663 - 0.177)	0.105*** (0.0559 - 0.154)	0.152*** (0.0942 - 0.211)	0.136*** (0.0809 - 0.190)	0.152*** (0.0956 - 0.208)	0.0917** (0.0337 - 0.150)
Coping Strategies	-0.00351* (-0.00628 - -0.000738)	-0.00183 (-0.00432 - 0.000665)	-0.00503*** (-0.00791 - -0.00214)	-0.00473*** (-0.00748 - -0.00199)	-0.00435** (-0.00720 - -0.00151)	-0.00534*** (-0.00808 - -0.00260)
Age (ref:18–22)						
23–27	0.569 (-0.111 - 1.248)	0.301 (-0.306 - 0.908)	0.492 (-0.221 - 1.206)	0.515 (-0.165 - 1.195)	0.582 (-0.119 - 1.283)	0.838* (0.157 - 1.520)
28–32	0.8 (-0.210 - 1.810)	0.514 (-0.387 - 1.416)	0.685 (-0.378 - 1.747)	0.639 (-0.373 - 1.650)	0.845 (-0.196 - 1.887)	1.110* (0.100 - 2.119)

32+	0.343 (-1.198 - 1.883)	0.738 (-0.636 - 2.112)	0.347 (-1.272 - 1.965)	0.167 (-1.377 - 1.710)	0.379 (-1.211 - 1.968)	0.995 (-0.546 - 2.536)
Gender (ref: Male)						
Female	-0.379# (-0.822 - 0.0645)	-0.322 (-0.715 - 0.0707)	-0.0377 (-0.502 - 0.427)	-0.358 (-0.801 - 0.0847)	-0.418# (-0.880 - 0.0448)	-0.0277 (-0.467 - 0.412)
Non-binary / third gender	0.1 (-3.073 - 3.273)	-1.249 (-4.074 - 1.577)	-0.486 (-3.813 - 2.840)	-0.78 (-3.949 - 2.390)	-0.568 (-3.836 - 2.700)	-0.451 (-3.612 - 2.710)
Major (ref: Commerce)						
Science	-0.0915 (-0.641 - 0.458)	-0.0399 (-0.530 - 0.450)	-0.141 (-0.718 - 0.435)	-0.127 (-0.676 - 0.423)	-0.172 (-0.739 - 0.394)	-0.291 (-0.839 - 0.258)
Arts	-0.0621 (-0.593 - 0.469)	-0.116 (-0.589 - 0.358)	-0.0755 (-0.633 - 0.482)	-0.0599 (-0.591 - 0.472)	-0.0599 (-0.608 - 0.488)	-0.19 (-0.721 - 0.341)
Degree (ref: Undergraduate Bachelor)						
Postgraduate Masters	-0.926* (-1.646 - -0.207)	-0.545# (-1.188 - 0.0982)	-0.778* (-1.534 - -0.0214)	-0.826* (-1.546 - -0.106)	-0.829* (-1.571 - -0.0866)	-0.681# (-1.400 - 0.0382)
Postgraduate PhD	-0.839# (-1.814 - 0.135)	-0.965* (-1.833 - -0.0965)	-0.296 (-1.318 - 0.726)	-0.394 (-1.365 - 0.577)	-0.627 (-1.629 - 0.376)	-0.564 (-1.533 - 0.404)
Language Proficiency (ref: Ielts 5–5.5)						
Ielts 6–6.5	-0.122 (-0.887 - 0.642)	-0.0955 (-0.777 - 0.586)	-0.163 (-0.965 - 0.640)	0.16 (-0.608 - 0.928)	0.0334 (-0.757 - 0.824)	-0.0406 (-0.804 - 0.723)
Ielts 7–7.5	-0.0843 (-0.917 - 0.748)	-0.286 (-1.027 - 0.456)	-0.353 (-1.227 - 0.521)	0.4 (-0.448 - 1.247)	0.188 (-0.683 - 1.059)	-0.01 (-0.842 - 0.822)
Ielts 8.0+	-0.267 (-1.625 - 1.092)	-0.377 (-1.587 - 0.833)	-0.587 (-2.012 - 0.838)	0.736 (-0.658 - 2.130)	0.52 (-0.925 - 1.964)	-0.421 (-1.776 - 0.933)

Location (ref: England)

Scotland	0.0298 (-0.627 - 0.687)	-0.116 (-0.703 - 0.470)	0.0841 (-0.607 - 0.775)	0.167 (-0.489 - 0.823)	0.259 (-0.417 - 0.936)	0.464 (-0.193 - 1.121)
Wales	-0.00101 (-0.839 - 0.837)	-0.0429 (-0.790 - 0.704)	0.00554 (-0.874 - 0.885)	-0.00858 (-0.847 - 0.830)	-0.114 (-0.980 - 0.752)	0.0605 (-0.775 - 0.896)
Northern Ireland	0.297 (-0.635 - 1.228)	-0.0275 (-0.860 - 0.805)	0.405 (-0.573 - 1.383)	0.191 (-0.742 - 1.124)	0.24 (-0.722 - 1.202)	0.286 (-0.643 - 1.216)

Length (ref: 1–6 months)

6–12 months	0.226 (-0.383 - 0.834)	0.223 (-0.319 - 0.766)	0.246 (-0.393 - 0.885)	0.307 (-0.303 - 0.916)	0.306 (-0.322 - 0.935)	0.207 (-0.400 - 0.815)
1–2 years	-0.268 (-0.968 - 0.432)	-0.199 (-0.823 - 0.425)	-0.563 (-1.299 - 0.174)	-0.132 (-0.835 - 0.571)	-0.184 (-0.910 - 0.541)	-0.256 (-0.955 - 0.443)
2–3 years	0.174 (-0.665 - 1.013)	0.0583 (-0.687 - 0.804)	-0.16 (-1.037 - 0.718)	0.211 (-0.629 - 1.052)	0.214 (-0.656 - 1.085)	0.135 (-0.702 - 0.971)
More than 3 years	0.755# (-0.0556 - 1.565)	0.564 (-0.145 - 1.274)	-0.0563 (-0.889 - 0.776)	0.423 (-0.374 - 1.220)	0.667 (-0.176 - 1.510)	0.059 (-0.731 - 0.849)
Constant	3.682*** (1.952 - 5.412)	2.819*** (1.359 - 4.279)	6.397*** (4.788 - 8.007)	4.234*** (2.569 - 5.898)	4.793*** (3.039 - 6.547)	5.561*** (4.033 - 7.090)
Observations	452	452	452	452	452	452
R-squared	0.238	0.394	0.16	0.237	0.189	0.241

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

4.3 Ordered Logit Model

4.3.1 Ordered Logit Model Methodology

4.3.1.1 Utilising Ordered Logit Model in the Research Context

Same as Ordinary Least Squares

4.3.1.2 Model Specification and Equation

In order to address Research Question 4, the ordered logit model has been chosen as the method of analysis. The rationale for employing the ordered logit model lies in the ordinal nature of the dependent variable, wellbeing, which is comprised of five ordered categories: *never*, *rarely*, *sometimes*, *often*, and *all the time*. The model specification and equation are delineated below:

Define *wellbeing* * as the latent continuous variable representing the level of wellbeing. The ordered logit model can be formulated as:

$$\begin{aligned} \text{wellbeing} * = & \beta_0 + \beta_1 * \text{perceived cultural distance} + \beta_2 * \text{COVID19} + \beta_3 \\ & * \text{coping strategy} + \beta_4 * \text{age} + \beta_5 * \text{gender} + \beta_6 * \text{major} + \beta_7 \\ & * \text{degree} + \beta_8 * \text{ielts} + \beta_9 * \text{location} + \beta_{10} * \text{length} + \varepsilon \end{aligned}$$

The observed ordinal variable, *Choice of wellbeing level*, is related to the latent variable, *wellbeing* *, through the subsequent relationship:

$$\begin{aligned} \text{Choice of wellbeing level} = j \text{ if } \tau_{j-1} < \text{wellbeing} * \leq \tau_j, \text{ where } j \\ \in \{1, 2, \dots, 5\}, \quad \text{and } \tau_0 = -\infty, \tau_5 = +\infty \end{aligned}$$

For each category $j(j = 1, 2, 3, 4, 5)$, the cumulative probability is expressed as:

$$\begin{aligned}
 &P(\text{choice of wellbeing level} \leq j) \\
 &= \Lambda(\tau_j \\
 &\quad - (\beta_0 + \beta_1 * \text{perceived cultural distance} + \beta_2 * \text{COVID19} + \beta_3 \\
 &\quad * \text{coping strategy} + \beta_4 * \text{age} + \beta_5 * \text{gender} + \beta_6 * \text{major} + \beta_7 \\
 &\quad * \text{degree} + \beta_8 * \text{ielts} + \beta_9 * \text{location} + \beta_{10} * \text{length}))
 \end{aligned}$$

Where Λ represents the logistic cumulative distribution function, and τ_j denotes the threshold parameters, which partition the latent wellbeing variable into the observed ordinal categories. The coefficients β_1 through β_{10} signify the influence of the independent variables (perceived cultural distance, COVID-19, coping strategy, age, gender, major, degree, IELTS score, location, and length of stay) on the latent wellbeing variable. The error term is denoted by ε .

The cumulative probabilities are interpreted as follows:

$P(\text{choice of wellbeing level} \leq 1)$: Cumulative probability of choosing ‘never’.

$P(\text{choice of wellbeing level} \leq 2)$: Cumulative probability of choosing ‘never’ or ‘rarely’.

$P(\text{choice of wellbeing level} \leq 3)$: Cumulative probability of choosing ‘never’, ‘rarely’, or ‘sometimes’.

$P(\text{choice of wellbeing level} \leq 4)$: Cumulative probability of choosing ‘never’, ‘rarely’, ‘sometimes’, or ‘often’.

$P(\text{choice of wellbeing level} \leq 5)$: Cumulative probability of choosing ‘never’, ‘rarely’, ‘sometimes’, ‘often’, or ‘all the time’. Since this includes all possible categories, this cumulative probability always equals 1.

4.3.1.3 Parameter Estimation and Interpretation

The ordered logit model analysis is performed using Stata and R software packages to explore the relationships between the independent variables and the ordinal dependent variable. In Stata, the ‘ologit’ command is employed for model estimation, while in R, the ‘polr’ function from the ‘MASS’ package is utilised.

Coefficient estimation is conducted using maximum likelihood estimation (MLE), a method that calculates the coefficients of independent variables and their effects on the dependent variable while considering the ordinal nature of the dependent variable. The output comprises estimated coefficients, standard errors, z-values, and p-values for each independent variable.

In addition to coefficients, odds ratios are provided, offering a more interpretable measure of the relationships between independent variables and the dependent variable. Odds ratios represent the multiplicative change in the odds of belonging to a higher category of the dependent variable upon a one-unit increase in the independent variable. Positive coefficients indicate a higher likelihood of being in a higher category of the dependent variable as the independent variable increases, whereas negative coefficients suggest an inverse relationship. Researchers should rely on odds ratios for a more straightforward interpretation, as the magnitude of coefficients is not directly interpretable.

Ordered logit models also estimate threshold parameters or cut points, which separate categories of the dependent variable. These cut points assist in determining the probability of belonging to a specific category of the dependent variable based on independent variable values. The output includes the estimated cut points and their standard errors, allowing for the assessment of how the latent dependent variable is distributed across the ordinal categories.

4.3.1.4 Model Diagnostics and Hypothesis Testing

Firstly, the Model Specification is conducted, using an ordered logit model. This model is chosen due to the ordinal categorical nature of the dependent variable, which represents five levels of wellbeing derived from Likert scale items, and the combination of continuous and categorical independent variables.

To assess the model's performance, various diagnostic tests are conducted. The goodness of fit for the model is evaluated using the likelihood ratio (LR) chi-square statistic, which is directly reported in the output of the 'ologit' command in Stata. The LR chi-square statistic, degrees of freedom, and the associated p-value contribute to determining the overall statistical significance of the model. Furthermore, after fitting the model with the 'ologit' command, the 'fitstat' command from the 'spost13_ado' package is employed to obtain additional fit statistics, such as McFadden's R-squared, Nagelkerke R-squared, the Akaike Information Criterion (AIC), and the Bayesian Information Criterion (BIC). These statistics offer supplementary insights into the model's performance and its appropriateness for the given data.

Wald tests are conducted to evaluate the significance of individual variables. In Stata, the 'test' command is utilised after fitting the model with the 'ologit' command to perform the Wald tests. The Wald chi-square statistics and corresponding p-values for each independent variable are reported in the output. Variables with p-values less than the chosen significance level (commonly 0.05) are considered statistically significant. To ensure the validity of the ordered logit model, the assumption of proportional odds is tested using the Brant test. This test assesses whether the coefficients for each independent variable are consistent across different levels of the dependent variable, as required by the proportional odds assumption. Both Stata and R software packages are employed for the analysis, using appropriate commands and libraries for each software. In Stata, the 'ologit' command is utilised to fit the ordered logit model. After fitting the

model, the Brant test is performed using the ‘brant’ command. Similarly, in R, the ‘MASS’ package is employed to fit the ordered logit model using the ‘polr()’ function. The Brant test is conducted separately with the ‘brant.test()’ function from the ‘brant’ package.

It is worth mentioning that the Variance Inflation Factor (VIF) was already calculated and assessed during the OLS model diagnostics. As a result, it is not necessary to repeat this step in the ordered logit model since potential multicollinearity issues have been addressed previously.

When fitting multiple ordered logit models with different sets of independent variables, the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) can be employed to compare their relative quality, using the appropriate software and commands. Lower values of AIC and BIC indicate better-fitting models. In both Stata and R, the AIC and BIC values are automatically provided in the output of the model fitting procedure, allowing for a straightforward comparison of the models.

4.3.2 Ordered Logit Model Diagnostics, Estimation and Hypothesis Testing

4.3.2.1 Maximum Likelihood Estimation

Maximum Likelihood Estimation (MLE) is a method utilised to estimate the parameters of the ordered logit model. The objective of MLE is to identify the parameter estimates that maximise the likelihood of observing the given data under the model (Fisher, 1922). In the analysis, the iterative process of MLE commenced with a log likelihood of -1029.645. After four iterations, the log likelihood converged to -873.925. This convergence signifies that the optimal estimates for the model parameters were obtained under this log likelihood value, which represents the goodness of fit of the

model.

4.3.2.2 Likelihood Ratio Test

The Likelihood Ratio (LR) chi-square statistic, a measure of model fit, is calculated as the difference in the log likelihoods of the null model (a model with no predictors) and the full model (the model with all predictors) (Vuong, 1989). The LR chi-square statistic in this analysis is 311.44 ($df = 27$, $p < 0.0001$), indicating a significant improvement in fit by the full model over the null model.

4.3.2.3 McFadden's Pseudo R-squared

McFadden's Pseudo R-squared, a metric specifically tailored for logistic regression models, quantifies model fit by comparing the log-likelihood of the estimated model to that of a null model, and then converting this comparison into a proportion (McFadden, 1974). In this analysis, a McFadden's Pseudo R-squared value of 0.1512 was obtained, indicating that the full model improves the explanation of the 'wellbeing' variable by approximately 15.12% compared to a model with no predictors.

4.3.2.4 Nagelkerke R-squared

Nagelkerke's R-squared, a measure that ranges from 0 to 1, was computed to provide a robust and interpretable assessment of model fit (Nagelkerke, 1991). This metric quantifies the proportion of variance in the dependent variable, 'wellbeing', that can be attributed to the predictors in the model, specifically 'acculturative stressors'. The derived Nagelkerke's R-squared value of approximately 0.496 suggests that the predictors account for about 49.6% of the variance in wellbeing.

4.3.2.5 Akaike Information Criterion and Bayesian Information Criterion

The Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC)

are statistical measures that balance the goodness-of-fit of a model against its complexity, thereby penalising overfitting (Akaike, 1974; Schwarz, 1978). These criteria are crucial in model comparison and selection, with lower values indicative of a better model fit. In the context of the ordered logit model employed in this study, the computed AIC and BIC values were 1825.848 and 1986.282, respectively.

4.3.2.6 Wald Test

Employing the Wald test (Wald, 1943), the null hypothesis that the coefficient of a given predictor is zero is assumed, indicating no effect on the dependent variable. This assumption allows for the assessment of the statistical significance of each predictor variable in the ordered logit model. The Wald chi-square statistics for the predictor variables ‘cultural’, ‘social’, ‘dis’, ‘aca’, ‘lan’, ‘home’, ‘cop’, and ‘cov’ were calculated to be 60.07, 154.56, 18.81, 60.23, 38.85, 65.42, 15.90, and 7.62, respectively. All these predictors yielded p-values less than 0.01, indicating that they have a statistically significant effect on ‘wellbeing’.

4.3.2.7 Brant Test

Brant tests (Brant, 1990) were conducted to evaluate the parallel regression assumption integral to the ordered logit model in this study. The results for the six models under research question 4 are presented as an example. The p-values for the Omnibus test, which tests the overall parallel regression assumption, were all above the 0.05 threshold. This indicates that the parallel regression assumption is not violated for any of the models. Specifically, the p-values for the models were 0.85, 0.52, 0.99, 1.00, 0.66, and 0.17, respectively. Therefore, the results suggest that the ordered logit model is an appropriate fit for the data.

4.4 Exploratory Factor Analysis

4.4.1 Exploratory Factor Analysis Methodology

4.4.1.1 Overview of EFA

Exploratory Factor Analysis (EFA) is a non-confirmatory, data-driven, multivariate statistical method employed to uncover the latent relationships among a set of variables (Fabrigar et al., 1999; Gorsuch, 1988). It parses a complex data set by reducing a larger number of variables into a smaller, independent group of factors (Costello & Osborne, 2019). These factors represent the underlying constructs that are responsible for the observed correlations among variables (Hair, 2019). EFA is particularly advantageous when the research hypotheses about the data structure are relatively undefined, thus requiring an exploratory investigation of potential patterns (Henson & Roberts, 2006).

4.4.1.2 Application of EFA in Acculturative Stress Research

The employment of EFA in the exploration of acculturative stressors is predicated on three significant advantages. Primarily, EFA provides a preliminary, statistically grounded validation of the latent structures of acculturative stressors as suggested by theoretical frameworks and manifested in questionnaire items (Kline, 2015). Despite theoretical structures postulated by antecedent research, practical realisation might be susceptible to a range of influences, such as sample attributes and cultural contexts (Schwartz et al., 2010; Heppner et al., 2015). Hence, EFA serves not only as a tool for validation but also as a means for obtaining empirical evidence that either supports or questions the theoretically proposed structures, thereby laying groundwork for subsequent, more comprehensive structural validations. Secondly, EFA is recognised for its capacity to unearth novel patterns or structures that may have been overlooked in prior studies (Gorsuch, 1988). Consequently, the collected data could reveal unexpected information or variation, thereby enriching the understanding of

acculturative stressors. By allowing the data to ‘speak for itself’ (Worthington & Whittaker, 2006), EFA can highlight these potential novel structures, thereby enhancing the understanding of the phenomenon under investigation (Tabachnick et al., 2013). Finally, the intrinsic flexibility of EFA strengthens its suitability for this study (Hair, 2019). Unlike Confirmatory Factor Analysis (CFA), which demands predefined latent factors and item assignments, EFA enables a data-driven identification of the most appropriate factor solutions throughout the analytical process (Flora & Flake, 2017). This distinct advantage positions EFA as a particularly valuable tool in the initial exploration of acculturative stressors, facilitating the discovery of unforeseen patterns and underlying structures (Thompson, 2004; Rudmin, 2009).

4.4.1.3 Promax Oblique Rotation

In this analysis, an EFA is applied to a dataset comprising continuous variables. These variables capture varying aspects of acculturative stressors, such as perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, and homesickness. The Promax oblique rotation method is selected for the EFA based on its unique strengths aligning with the specific attributes of the dataset and the theoretical constructs under investigation.

To begin with, Promax stands out for its ability to handle complex factor loadings or ‘cross-loading’, where observed variables can load significantly onto multiple factors (Hendrickson & White, 1964). Unlike orthogonal rotation methods like Varimax, which aim to maximise loading differences, Promax, as Lorenzo-Seva (1999) explained, accepts cross-loadings, offering a more intricate representation of the dataset’s structure. Moreover, Promax also enhances the potential variance explained (Howard, 2016). While Varimax, an orthogonal rotation method, maximises within-factor variance of loadings, leading to a sparse loading matrix, Promax accepts inter-factor correlations (Goretzko, Pham, & Bühner, 2021). This feature allows a greater number of substantial

loadings and potentially larger total variance explained (Zwick & Velicer, 1986). Furthermore, Promax balances explained variance and interpretational simplicity (Kiers, 1994). It permits cross-loadings and inter-factor correlations while ensuring that each factor has only a few high loadings, resulting in an interpretable model that balances comprehensive variance explanation and model simplicity (Thompson, 2004). Finally, the theoretical interdependencies among the constructs in this study affirm the selection of Promax. Language barriers, for instance, are proposed to influence academic integration (Kim, 2001; Steigerwald et al., 2022), and perceived discrimination is believed to impact social integration (Major et al., 2002; Di Saint Pierre et al., 2015). These relationships underscore the suitability of Promax, which can accommodate factor correlations, over orthogonal rotation methods assuming factor independence.

4.4.1.4 Data Adequacy and Factor Analysis Procedure

The Exploratory Factor Analysis (EFA) applied in this study is a multistage process, designed to ensure data adequacy, reliability, and interpretability. Prior to EFA, the data's suitability was assessed using the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. These tests quantified inter-variable correlations and tested variable independence, validating the appropriateness of EFA. Once data adequacy is established, the Communalities are computed. These values represent the proportion of each variable's variance explained by the factors, thus providing insight into each variable's contribution to the factor structure. Subsequently, the Total Variance Explained table presents the cumulative variance accounted for by the identified factors, thereby assessing the overall effectiveness of the EFA. To further clarify the relationship between variables and the identified factors, the Structure Matrix provides factor loadings for each variable. Finally, the Cronbach's Alpha Coefficient is used to assess the internal consistency reliability of the data from the extracted factors, providing an overall measure of reliability.

4.4.2 Exploratory Factor Analysis Results

4.4.2.1 Kaiser-Meyer-Olkin and Bartlett's Test

The Kaiser-Meyer-Olkin (KMO) measure resulted in a value of 0.894, indicating a high degree of shared variance among the variables due to its proximity to 1. This result validated the data's suitability for factor analysis and suggested a high level of factorability, supporting the production of distinct and reliable factors (Kaiser, 1974). Concurrently, Bartlett's Test provided a highly significant result ($p < 0.001$), with an approximate Chi-Square value of 5540.469 ($df = 435$). This finding rejected the hypothesis of variable independence, further confirming the suitability of the data for the subsequent factor analysis (Bartlett, 1954).

4.4.2.2 Communalities

The exploratory factor analysis was performed using Principal Component Analysis (PCA) as the extraction method. At the initial stage, communalities were set at 1.0, representing the entirety of variance within each variable. Upon extraction, the communalities ranged from a minimum of 0.406 (social6) to a maximum of 0.736 (dis3). These adjusted communalities represent the proportion of each variable's variance that is explained by the factors identified ([Figure 4.5](#)).

Certain variables, specifically social1 (0.692), social2 (0.689), dis3 (0.736), aca4 (0.683), aca5 (0.683), lan3 (0.693), lan6 (0.706), home1 (0.626), home2 (0.632), and home3 (0.643) revealed higher communalities. This suggests that a significant proportion of the variance within these variables can be explained by the extracted factors, thereby enhancing the interpretability of the construct. Conversely, variables including cul1 (0.455), cul3 (0.487), cul4 (0.484), social6 (0.406), and aca6 (0.478) presented communalities less than the 0.5 threshold.

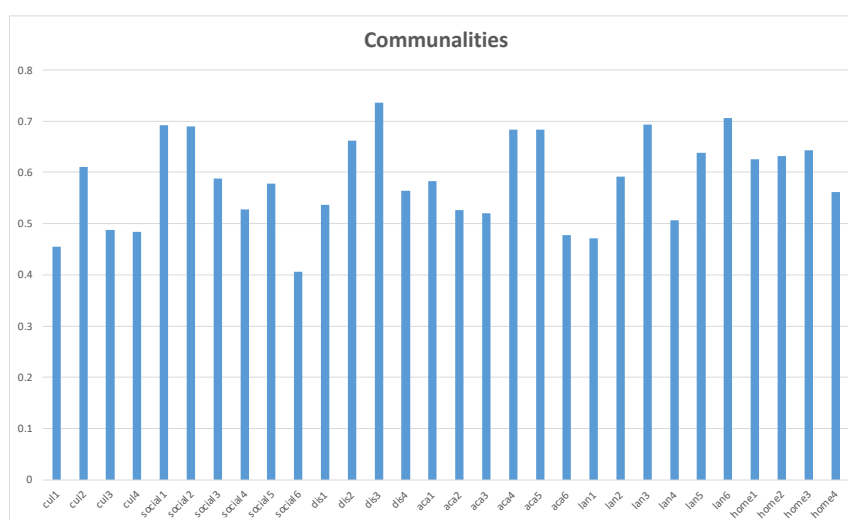


Figure 4.5 Communalities from Principal Component Analysis

Despite the relatively lower communalities, these variables were incorporated into subsequent analysis due to their theoretical importance. Notably, their communalities were above the benchmark of 0.4, a criterion regarded as satisfactory in some studies (Guadagnoli & Velicer, 1988), and even communalities exceeding 0.3 are deemed acceptable in certain academic papers (Samuels, 2017). On the other hand, the variables associated with ‘social integration’, ‘perceived discrimination’, ‘academic integration’, ‘language barriers’, and ‘homesickness’ demonstrated higher communalities, thereby confirming their critical roles within the theoretical framework (Bronfenbrenner, 1979; Hofstede, 1980; Berry, 1997).

4.4.2.3 Total Variance Explained

The Principal Component Analysis results (Table 4.10) highlight six components exceeding an Eigenvalues of 1, namely, ‘perceived cultural distance’, ‘social integration’, ‘perceived discrimination’, ‘academic integration’, ‘language barriers’, and ‘homesickness’.

Table 4.10 Variance Explained by Each Component

Component	Eigenvalues	% of Variance	Cumulative %
Perceived cultural distance	7.936	26.45%	26.45%
Social integration	3.203	10.68%	37.13%
Perceived discrimination	2.160	7.20%	44.33%
Academic integration	1.732	5.77%	50.11%
Language barriers	1.412	4.71%	54.81%
Homesickness	1.112	3.71%	58.52%

These components explain 58.52% of the total variance, emphasising their relevance to the multidimensional data structure of acculturative stress. The ‘% of Variance’ column illustrates each component’s individual contribution. For instance, the perceived cultural distance accounts for 26.45% of the variance, underlining its importance in the acculturation process. Meanwhile, the other five components, each representing distinct aspects of acculturation, contribute uniquely to the total variance.

4.4.2.4 Structure Matrix

Table 4.11 presents a structure matrix from Principal Component Analysis (PCA) using Promax rotation. This matrix illuminates the influence of each observed variable on their respective identified components, with higher loading values indicating a significant role of a variable in shaping the character of the component.

Table 4.11 Structure Matrix of Acculturative Stress Factors from Principal

Component Analysis						
	1	2	3	4	5	6
cul1						0.49
cul2						0.763
cul3						0.665
cul4						0.674
social1		0.802				
social2		0.787				
social3		0.713				
social4		0.614				
social5		0.673				
social6		0.572				
dis1				0.698		
dis2				0.811		
dis3				0.845		
dis4				0.743		
aca1					0.339	
aca2					0.712	
aca3					0.397	
aca4					0.785	
aca5					0.816	
aca6					0.455	
lan1	0.674					
lan2	0.761					
lan3	0.824					
lan4	0.688					
lan5	0.779					
lan6	0.837					
home1			0.771			
home2			0.774			
home3			0.785			
home4			0.729			

Extraction Method: Principal Component Analysis

Rotation Method: Promax with Kaiser Normalisation

For Component 1, ‘lan1’ to ‘lan6’ show high loadings, indicating that this component mainly reflects Language Barriers. Similarly, ‘social1’ to ‘social6’ are strongly linked to Component 2, suggesting this component mainly reflects Social Integration.

Variables 'home1' to 'home4' are dominant in Component 3, indicating it mainly represents Homesickness. For Component 4, the highest loadings are from 'dis1' to 'dis4', implying a focus on Perceived Discrimination. Variables 'aca1' to 'aca5' are strongly associated with Component 5, suggesting it is largely representative of the Academic Integration component. Lastly, 'cul1' to 'cul4' are most strongly associated with Component 6, suggesting this component mainly reflects Perceived Cultural Distance. In summary, the PCA outlines the process of acculturation into six primary areas, mirroring the original categorisations in the questionnaire. This detailed analysis not only enhances the understanding of acculturative stress but also sets the foundation for subsequent research.

4.4.2.5 Cronbach's Alpha Coefficient

Cronbach's Alpha measures the extent to which all items within a test converge on the same concept or construct, thereby demonstrating the internal consistency of the instrument (Tavakol & Dennick, 2011). The coefficient values, ranging between 0 and 1, indicate the level of inter-correlation among items within a factor, with values closer to 1 suggesting a high level of internal consistency (Cronbach, 1951).

In this research, the Cronbach's Alpha value is 0.855, as computed from standardised items and originating from a total of 47 variables. This measurement represents a significant level of internal consistency across responses, thereby affirming the empirical reliability of this research.

4.5 Confirmatory Factor Analysis

4.5.1 Confirmatory Factor Analysis Methodology

4.5.1.1 Overview of CFA

Confirmatory Factor Analysis (CFA) is a multivariate statistical method primarily employed to validate whether a priori factor structure is consistent with observed data (Harrington, 2009; Brown, 2015). Concisely, it evaluates whether the data supports the factor structure hypothesised by researchers, based on established theory or previous studies (Schreiber et al., 2006). This method enables researchers to systematically test hypotheses regarding the relationships between observed variables (or indicators) and their underlying latent constructs (or latent variables) (Marsh & Hocevar, 1985; Cheung & Rensvold, 2002). The CFA process involves not only the specification of a model and the estimation of its parameters, but also a detailed assessment of the model's fit (Brown, 2015). If the empirical data presents a deviation from the conceptual model, refinements are necessitated (Flora & Curran, 2004). In applied research settings, CFA is essential for the validation of theoretical constructs (Cole, 1987), the enhancement of measurement accuracy of latent variables (Hair Jr et al., 2020), and the comparison of data fit amongst diverse models (Beauducel & Herzberg, 2006).

4.5.1.2 Two-Step Factor Analysis: EFA to CFA

Following the methodology outlined by Anderson and Gerbing (1988), the Structural Equation Modelling (SEM) in this research employed a sequential two-step factor analysis. Initially, an EFA was conducted without a *priori* constraints to identify latent structures in the dataset (Gorsuch, 1988). Subsequently, a CFA was undertaken to validate these previously identified structures within an established theoretical framework (Brown, 2015). The rationale for adopting this methodology was to ensure that the proposed factor structures both had empirical evidence and were subjected to

theoretical validation (Caplan, 2010; Kyriazos, 2018).

4.5.1.3 Application of CFA in Acculturative Stress Research

Based on the preliminary exploration through EFA, and synthesising insights from theoretical constructs and extant literature, this study identified six latent variable, which collectively describe the latent construct of acculturative stress. In contrast to the exploratory nature of EFA, CFA offers three distinct advantages in its confirmatory capacity. First, Confirmatory Factor Analysis enables a rigorous test of the hypotheses concerning the latent factor of acculturative stress through parameter estimation. This process not only serves to validate the hypothesised latent structure embedded within the theoretical framework but also verifies the applicability and precision of these constructs within a specific sample, namely Chinese students studying in the UK. Second, the structural validation of CFA facilitates an assessment of how the latent factor manifests among the specified demographic. This process involves aligning the estimated factor model with theoretical expectations to ensure their consistency. Furthermore, this examination contributes to uncover new patterns or structures that were previously overlooked, thus enriching the understanding of the underlying sources of acculturative stress. Last, the application of a variety of fit indices allows a comprehensive evaluation of the congruence between the model and observed data, thereby enhancing confidence in understanding the sources of acculturative stress.

4.5.1.4 Specification of the Measurement Model

In an effort to examine the multidimensional constructs of acculturative stress, this study established a measurement model ([Figure 4.6](#)), informed by preliminary findings from the EFA and existing scholarly literature. This model delineates six latent constructs: perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers and homesickness. Each of these latent variables is associated with a specific set of observed indicators, as described in [Section](#)

3.6.2. Importantly, each observed indicator is linked to its respective latent construct via factor loadings.

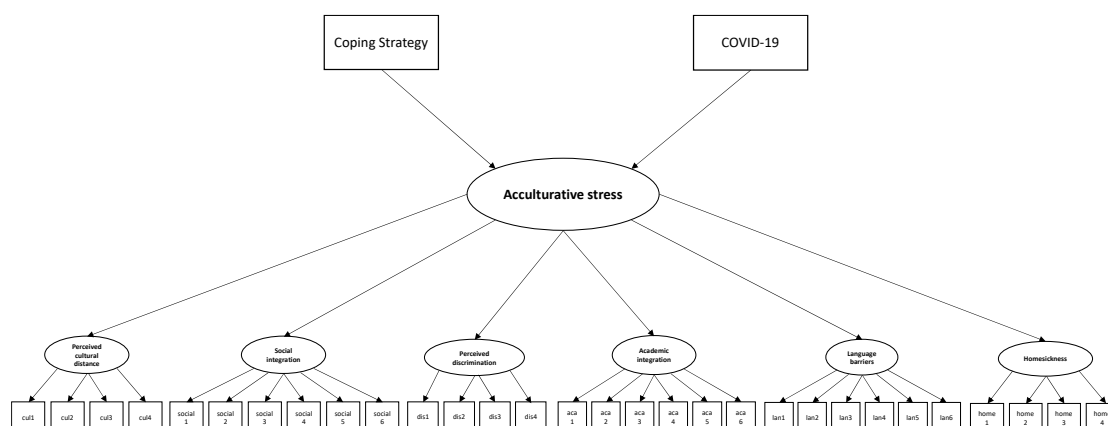


Figure 4.6 Measurement Model Structure for Acculturative Stress

4.5.1.5 Measurement Model Development and Evaluation

Initially, drawing from the EFA and literature review, a measurement model was developed to characterise the construct of acculturative stress. Next, standardised regression weights were obtained using the Maximum Likelihood Estimation method. These weights not only show the associative strength between the observed indicators and the latent variable but also provide a reference for comparison among indicators, facilitate the identification of model indicators, and explain the variance contribution of each observed indicator. Lastly, the adequacy of the model was evaluated using various model fit indices such as Chi-squared (χ^2), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Akaike Information Criterion (AIC). To enhance the model's validity, three models were contrasted: the default model, based on theoretical assumptions and EFA results; the saturated model, which estimates all potential paths; and the independent model, assuming no interrelations among observed variables, serving as a theoretical baseline for the poorest fit.

4.5.2 Confirmatory Factor Analysis Results

4.5.2.1 Standardised Regression Weights and Critical Ratio

Table 4.12 Measurement Model Results Summary

Observed Indicator	Path	Latent Construct	Standardised (β)	Critical ratio	p
cul1	<---	<i>Perceived Cultural Distance</i>	0.554	1	
cul2	<---		0.626	1.15	***
cul3	<---		0.612	0.969	***
cul4	<---		0.399	1.002	***
dis1	<---	<i>Perceived Social Discrimination</i>	0.575	1	
dis2	<---		0.762	1.082	***
dis3	<---		0.814	1.097	***
dis4	<---		0.621	0.93	***
home1	<---	<i>Homesickness</i>	0.685	1	
home2	<---		0.769	1.017	***
home3	<---		0.684	0.959	***
home4	<---		0.567	0.818	***
social1	<---	<i>Social Integration</i>	0.542	1	
social2	<---		0.501	0.902	***
social3	<---		0.604	1.037	***
social4	<---		0.82	1.306	***
social5	<---		0.788	1.491	***
social6	<---		0.587	1.01	***
aca1	<---	<i>Academic Integration</i>	0.703	1	
aca2	<---		0.312	0.443	***
aca3	<---		0.675	1.043	***
aca4	<---		0.609	0.768	***
aca5	<---		0.381	0.543	***
aca6	<---		0.633	0.753	***
lan1	<---	<i>Language Barriers</i>	0.63	1	
lan2	<---		0.703	1.137	***
lan3	<---		0.813	1.421	***
lan4	<---		0.665	1.182	***
lan5	<---		0.738	1.298	***
lan6	<---		0.831	1.296	***

Table 4.12 presents the standardised regression weights derived from the confirmatory factor analysis, illustrating the positive associations between observed indicators and their respective latent constructs: Perceived Cultural Distance, Perceived Discrimination, Homesickness, Social Integration, Academic Integration, and Language Barriers within the measurement model. All these weights demonstrate moderate to strong strengths in their relationships, consistent with the effect size criteria set forth by Cohen (1987). Furthermore, critical ratios and p-values associated with these weights underscore their statistical significance.

4.5.2.2 Model Fit Summary

As evidenced by the Table 4.13, the default measurement model demonstrates ‘good’ or ‘excellent’ performance across the primary fit indices. A detailed analysis of these fit indices will be elaborated in Section 4.6.2.1, the subsequent SEM section.

Table 4.13 Model Fit Indices for the Measurement Models

Fit Category	Fit Indices	Default Model	Saturated Model	Independence Model	Established Criteria
Overall Model Fit	χ^2	727.291	-	5676.831	
	P-value	0	-	0	
	χ^2/DF	1.909	-	13.05	~ 1 Ideal, 2-5 Acceptable
Incremental Fit	TLI	0.925	1	0	> 0.95 Excellent, 0.90 - 0.95 Good
	CFI	0.934	1	0	> 0.95 Excellent, 0.90 - 0.95 Good
Absolute Fit	RMSEA	0.045	-	0.163	< 0.05 Excellent, 0.05-0.08 Good
Predictive Fit	AIC	895.291	930	5736.831	Lower values are better for comparison

4.6 Structural Equation Modelling

4.6.1 Structural Equation Modelling Methodology

4.6.1.1 Basic Principles and Typical Applications

Structural equation modelling (SEM) has become more common in recent years in academic publications (Hershberger, 2003; Khine, 2013). SEM has gained popularity as a result of the expansion of user-friendly SEM software packages and the growing understanding of the significance of multiple causation and complicated interrelationships in research. However, despite SEM's increased popularity, its intricacy and practical challenges must be acknowledged (Anderson & Gerbing, 1988). Due to the method's intricacy, there are many different schools of thought that debate the best strategy for approaching model development, model estimates, and model fit. However, according to Anderson and Gerbing (1988, p.421), 'models are never confirmed by data; rather they gain support by failing to be disconfirmed'.

SEM is a multivariate analysis technique that uses a hypothesis-testing approach to measure the relationship between latent and observed variables (Meyers, Gamst & Guarino, 2016). Covariance structural analysis and causal modeling are alternative names for SEM. SEM involves a number of statistical models, including variance/covariance analysis, factor analysis, and regression analysis. It is a flexible and all-encompassing methodology for modeling, estimating, and evaluating a theoretical model with the goal of best-possible variance explanation. The phrase 'structural equation modeling' refers to two key aspects of the process: (a) the representation of the causal processes by a set of structural (i.e., regression) equations, and (b) the ability to visualise these structural relations in order to better conceptualise the theory under investigation. Technically speaking, SEM is an enhanced form of the general linear framework that is used to explain the correlations

between the observable and latent variables. This approach tests a variety of intricate correlations between variables (like path analysis) that regression analysis is unable to look at (Byrne, 2013). In order to separate out the interrelationships between the observed and latent variables, SEM enables complicated modeling of correlated multivariate data. Using structural equations, which may simultaneously support aggregated-dependent interactions in a single comprehensive model, many relationships among independent variables and dependent variables are described (Teo et al., 2013).

Regression analysis and factor analysis are the two methodologies that SEM is based on (Byrne, 2013). The emphasis on linear relationships in SEM is informed by regression-based approaches, while the use of constructs and factor loadings in SEM has been supported by factor analytic approaches. SEM is used to estimate models that illustrate linear relationships among key variables. These variables may be latent constructs or indicator variables, hypothesised from the shared variance among observed variables. SEM combines confirmatory factor analysis models for measurement with structural models, which include path models among others (MacCallum & Austin, 2000). When combined, the fit indices from the measurement and structural models clearly corroborate the conceptual model.

Factor analysis models are useful to social scientists in two ways. First, they provide evidence to assess the reliability of the scales created by researchers, comparing these to empirical data. Therefore, developing experimentally tested, standardised scales is one of the key goals of using such models. Second, factor analysis models measure a latent variable, or construct, using two or more observable or indicator variables. Within SEMs, these are referred to as measurement models. Additionally, structural models illustrate the associations between variables, identifying how independent factors influence dependent variables (Byrne, 2013).

4.6.1.2 Pros of Structural Equation Modelling

Structural Equation Modelling (SEM) is a sophisticated statistical tool that has many advantages. First, typical regression methods presuppose that the independent variables are accurate measures of the construct of interest and that error only exists in the dependent variable. However, SEM allows for the presence of measurement error in both the independent and dependent variables. By dividing the explained variance and error variance of the constructs, SEM evaluates the appropriateness of the independent variables as measurements of the construct of interest. Second, only one dependent variable can be handled by standard regression methods, which also have problems in dealing with indirect correlations. SEM is designed to handle indirect ties with ease and is built to handle many interactions. SEM can manage several latent constructs, whereas standard regression techniques can only handle a single independent variable and not constructs. The associations between independent factors and dependent variables cannot be examined using conventional regression approaches. Third, SEM enables the testing of multiple hypotheses within a single model, facilitating a more comprehensive understanding of potential causal relationships and associations (Kline, 2015). This approach allows researchers to compare models and choose the one with the best fit and explanatory power, thereby helping them identify the optimal theoretical model for their data (Byrne, 2016). Moreover, SEM supports handling missing data, meaning that even in the presence of missing values in the dataset, the analysis can still be conducted, rendering it an effective instrument for addressing incomplete data (Little, 2013). Finally, SEM is divided into two components: the measurement model and the structural model. Fassinger (1987) cited the ability to distinguish between measurement models and structural models as a major benefit of SEM in psychological research. Prior to the development of the comprehensive structural model, the measurement model was created with the intention of evaluating the validity and reliability of the constructs. The theoretical construct(s) should be subjected to confirmatory factor analysis, according to Anderson and Gerbing (1988). This helps researchers determine

whether the items adequately measure the construct and, in turn, assess the construct's validity and reliability.

4.6.1.3 Cons of Structural Equation Modelling

In their study, MacCallum and Austin (2000) identified several Structural Equation Modelling (SEM) application and usage issues. First, the majority of SEM research is cross-sectional rather than longitudinal. Although all variables are measured simultaneously, this type of research often includes directional hypotheses that imply causal influences. However, this issue is not unique to SEM, but exists in all linear regression methods. Second, MacCallum and Austin (2000) argued that another issue with SEM applications is the preference of some researchers for the simplified path analytic technique, which only uses measurable variables. This is in contrast to the more comprehensive SEM approach.

The path analytic approach lacks the added benefits of the latent variable technique, which quantifies construct errors to assess the suitability of measured variables as indicators of a latent construct. In this situation, SEM's full potential is not realised.

One limitation is the need for relatively large sample sizes, as small samples can lead to unstable parameter estimates and low statistical power (Westland, 2010). In their study, MacCallum and Austin (2000) reported that 18% of the studies they investigated used extremely small (and insufficient) sample sizes, which are less than 100. Additionally, the complexity of SEM models can make them difficult to interpret and may require considerable expertise to develop and analyse properly (Kline, 2015). Model identification can be a challenge, as some models may not have unique parameter estimates, making it difficult to draw meaningful conclusions from the results (Bollen, 1989). Moreover, inherent assumptions in SEM can impose limitations, including linearity, normal distribution, and error term independence. If actual relationships between dependent and independent variables are non-linear, SEM may

not accurately capture these associations, affecting the model's accuracy. SEM generally assumes normal distribution for observed variables and measurement errors of latent variables. Ensuring data normality during collection and analysis is essential, and transformation data or employing alternative methods may be necessary if significant deviations from a normal distribution occur. Lastly, SEM assumes error term independence for observed variables. Correlated error terms may lead to inaccurate model estimates, requiring researchers to verify error term independence and adjust the model accordingly.

4.6.1.4 Research Questions and Hypotheses Development

This research aims to fill a knowledge gap in the field of acculturation studies by exploring the acculturation experiences of Chinese international students in the UK as well as the coping mechanisms they employ to manage wellbeing. More specifically, the study aims to investigate the relationship between each acculturative stressor and wellbeing; assess the degree to which COVID-19 worsened the students' wellbeing; and finally, explore how to improve the wellbeing of Chinese international students.

***Research Question 2.** To what extent can the identified acculturative stressors predict the wellbeing of Chinese international students?*

***Research Question 3.** How can the COVID-19 pandemic affect the wellbeing of Chinese international students in the UK?*

***Research Question 4.** To what extent do the students' coping strategies influence their acculturative stress level?*

Correspondingly, the following hypotheses are proposed to address each research question:

***Hypothesis 1 (H1).** Perceived cultural distance, social integration, perceived*

discrimination, academic integration, language barriers, and homesickness are related to a higher level of acculturative stress of Chinese international students in the UK.

Hypothesis 2 (H2). *COVID-19 pandemic affects the wellbeing of Chinese international students in the UK.*

Hypothesis 3 (H3). *The coping strategies used by Chinese international students can reduce their acculturative stress and facilitate their intercultural adaptation.*

4.6.1.5 Model Conceptualisation

Latent Variable: Acculturative Stress

Researchers in the behavioural sciences are frequently drawn to theoretical ideas that are difficult to directly examine. Latent variables, or factors, are the names given to these amorphous phenomena (Borsboom et al., 2003). Self-concept (Guay, Marsh & Boivin, 2003; Schnitzler, Holzberger & Seidel, 2021), motivation (Tremblay & Gardner, 1995; Marsh & Martin, 2011), mental health status (Lehavot & Simoni, 2011; Shevlin et al., 2023) are examples of latent variables in psychology. Acculturative stress examined by in the current is another example. Latent variables cannot be directly measured because they are not immediately observable. The measurement of the unobserved variable is made possible because it is connected to other observable variables. In running Structural Equation Modelling (SEM), these measured scores (i.e., measurements) are referred to as observed variables; they act as measurements of the underlying construct that they are assumed to reflect. Therefore, evaluating the behaviour entails measuring those observed variables directly. The observation might involve a variety of different approaches and measurements, such as self-report responses to an attitude scale, scores on a test of achievement, coded answers to interview questions, to name only a few.

Acculturative stress is a type of stress that emerges in the process of transcultural adjustment (Williams & Berry, 1991; Berry, 1997). Acculturative stress can be felt when one attempts to get adjusted to the host culture and reconcile the conflicts of different cultural values (Torres, Driscoll, & Voell, 2012). Sojourners who experience acculturative stress may display specific stress behaviours such as depression, alienation, marginalisation, anxiety, identity confusion and increased psychosomatic symptoms (William & Berry, 1991). International students can encounter a variety of difficulties while studying abroad, including language, housing, and academic, dietary, financial, and communication issues; therefore, international students are quite vulnerable to acculturative stress. Even though most international students go overseas of their own free will and some are even enthusiastic about their new experience, the difficulties of transitioning to a new culture, the demanding academic requirements, and the usage of their non-native language cause stress to a lot of foreign students with Chinese cultural heritages. Some international students reported that these difficulties lead to feelings of loneliness, powerlessness, a sense of inferiority, perceived discrimination and alienation (William & Berry, 1991). Given that acculturative stress, caused by a variety of complex factors, cannot be directly measured, it is treated as a latent variable in the current study.

Overall Acculturative Stress and Individual Stressors

On the basis of theoretical presuppositions and research findings, the conceptual model has been created. As the diagram shows, acculturative stress is a latent variable that is not immediately observable. The measurement of this latent variable is made possible as it is thought to be associated with a range of acculturative stressors. Altogether, the literature review has identified six acculturative stressors, which are perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, and homesickness.

COVID-19 and Acculturative Stress

International students continue to be one of the subgroups of college students most vulnerable to COVID-19 (Xiong et al., 2022). Even in everyday situations, overseas students were far more likely than domestic students to experience mental illnesses (such as depression), struggle with the local healthcare system, and be less inclined to seek out psychological services. However, this vulnerable minority population is currently experiencing far more disruption as a result of COVID-19. It is well acknowledged that traumatic experiences like COVID-19 and other stressful events can have a major negative effect on mental health and lead to disorders like post-traumatic stress disorder (PTSD) and other psychological symptoms. These COVID-19-related obstacles hinder not just the mobility of incoming international students but also that of current foreign students already residing there. Denial, tension, anxiety, and dread were likely elevated as a result of these COVID-19-related problems. Therefore, it is assumed that international students' psychological distress and anxiety may be positively correlated with the COVID-19 pandemic.

Coping Strategies and Acculturative Stress

Berry's (1997) work on acculturation resulted in the development of a theoretical framework that portrays the process of transcultural adjustment. As Berry's model depicts, a sojourner's acculturation experiences influence his/her appraisal of experiences, and both factors further influence the sojourner's adaption/selection of coping strategies, which finally yield immediate or long-term adaptation outcomes. Berry (1997) postulated that the process of acculturation could be affected by a number of moderating factors, such as factors prior to acculturation (for example, personality, gender, and language proficiency) as well as factors during acculturation (for example, migration motivation). These variables may attenuate any relationships (e.g., from coping mechanisms to results) mentioned in the context of the acculturation, adjustment,

and adaptation process. Therefore, this conceptual model in the current study specifically aims to examine whether there is a strong association between coping strategies and acculturation outcomes (i.e., acculturative stress) among Chinese international students while studying in the UK.

4.6.1.6 Threefold Structural Equation Modelling Approach

In this study, three structural equation models ([Figure 4.7](#), [Figure 4.8](#), [Figure 4.10](#)) were constructed to hierarchically analyse and thoroughly compare acculturative stress and its associated factors.

Structural Non-Adjusted Model

Observed, endogenous variables: Perceived Cultural Distance, Social Integration, Perceived Discrimination, Homesickness, Language Barriers, Academic Integration

Observed, exogenous variables: COVID-19, Coping Strategy

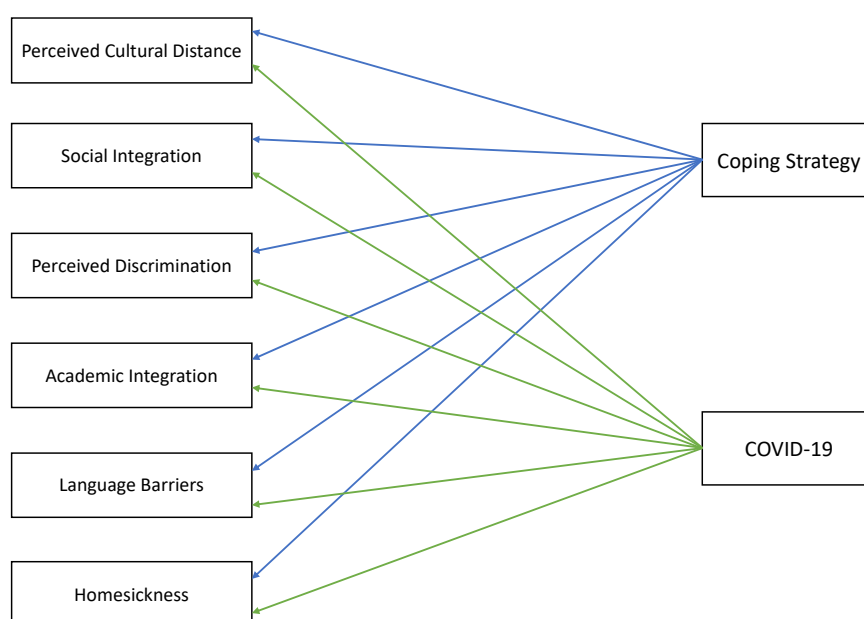


Figure 4.7 Path Diagram for the Structural Non-Adjusted Model

Structural Adjusted Model

Observed, endogenous variables: Perceived Cultural Distance, Social Integration, Perceived Social Discrimination, Homesickness, Language Barriers, Academic Integration, COVID-19, Coping Strategy

Observed, exogenous variables: Language Proficiency (ielts), Length in UK, Age, Gender, Degree

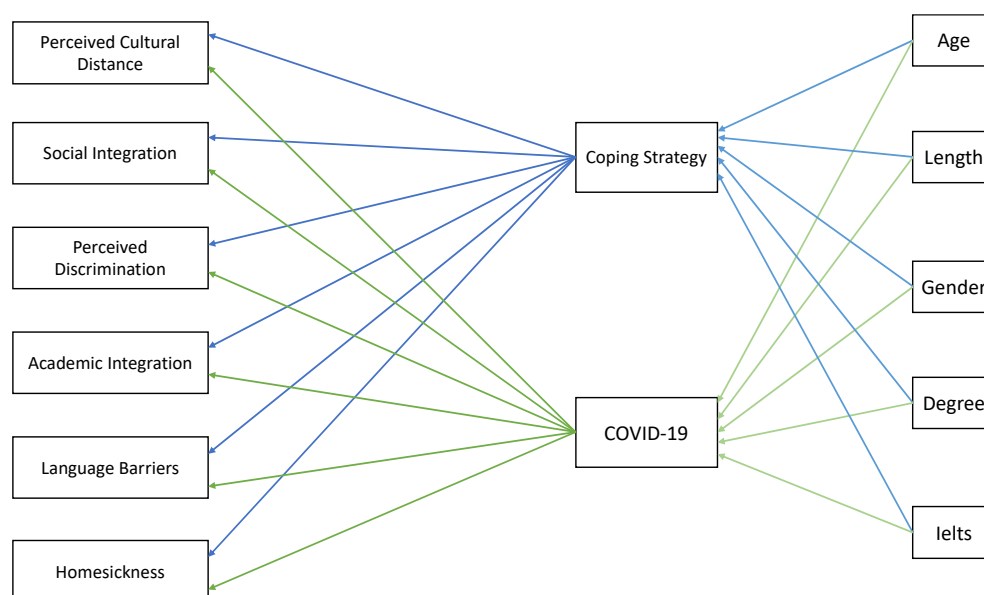


Figure 4.8 Path Diagram for the Structural Adjusted Model

Structural Latent Non-Adjusted Model

Observed, endogenous variables: Acculturative Stress

Observed, exogenous variables: COVID-19, Coping Strategy

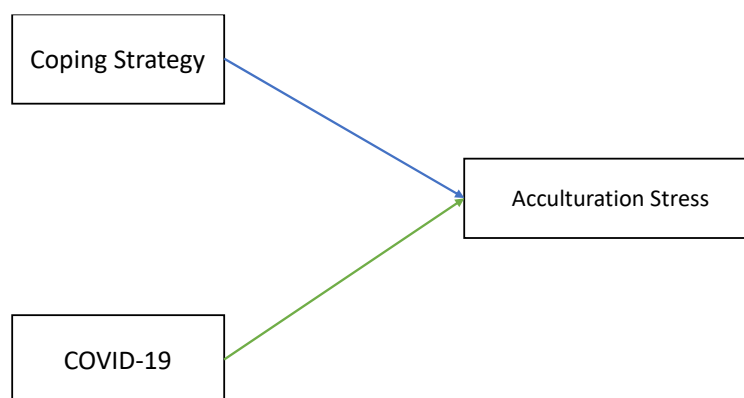


Figure 4.9 Path Diagram for Structural Non-Adjusted Model (with Latent Variable)

Structural Latent Adjusted Model

Observed, endogenous variables: Acculturative Stress, COVID-19, Coping Strategy

Observed, exogenous variables: Language Proficiency (ielts), Length in UK, Age, Gender, Degree

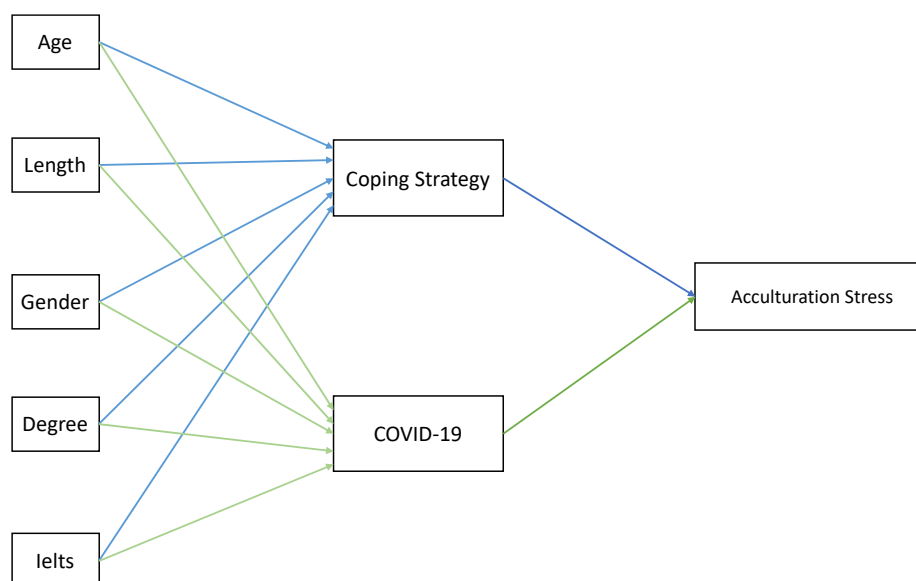


Figure 4.10 Path Diagram for Structural Adjusted Model (with latent variable)

4.6.1.7 Model Specification and Equation

$$\text{Perceived cultural distance} = \lambda_1 * \text{acculturative_stress} + \varepsilon_2$$

$$\text{Social integration} = \lambda_2 * \text{acculturative_stress} + \varepsilon_3$$

$$\text{Perceived social discrimination} = \lambda_3 * \text{acculturative_stress} + \varepsilon_4$$

$$\text{Academic integration} = \lambda_4 * \text{acculturative_stress} + \varepsilon_5$$

$$\text{Language barriers} = \lambda_5 * \text{acculturative_stress} + \varepsilon_6$$

$$\text{Homesickness} = \lambda_6 * \text{acculturative_stress} + \varepsilon_7$$

In these equations, acculturative stress represents the latent variable of interest, and the observed variables include perceived cultural distance, social integration, perceived social discrimination, academic integration, language barriers, and homesickness. The λ coefficients (λ_1 to λ_6) signify the relationships between the latent variable and the observed variables, and ε_2 to ε_7 represent the error terms associated with the observed variables.

4.6.2 Structural Equation Modelling Results

4.6.2.1 Model Fit Summary

A variety of fit indices, primarily from the four major categories (overall model fit, incremental fit, absolute fit, and predictive fit), are often used to evaluate the model goodness of fit (Hu & Bentler, 1998; Marsh, Balla, & McDonald, 1988; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Worthington & Whittaker, 2006).

The chi-square test (χ^2), an overall model fit measurement, assesses how well the model fits a set of data values within SEM (Pearson, 1900; Everitt & Skrondal, 2010). However, it's worth noting that while the chi-square test is highly sensitive to sample size, other factors such as model complexity, data distribution, and measurement errors

can also influence its outcome (Fornell & Larcker, 1981; Chen, 2007; Meade, Johnson, & Braddy, 2008). Therefore, a significant chi-square value doesn't always denote a poor model fit, especially in large samples (Bentler & Bonett, 1980).

Table 4.14 Fit Indices for the Structural Non-Adjusted Model

	χ^2	P-value	χ^2/DF	TLI	CFI	RMSEA	AIC
Default model	0.034	0.854	0.034	1.033	1	0	86.034
Saturated model	0	-	-	-	1	-	88
Independence model	854.84	0	30.53	0	0	0.256	886.84

Table 4.15 Fit Indices for the Structural Adjusted Model

	χ^2	P-value	χ^2/DF	TLI	CFI	RMSEA	AIC
Default model	183.825	0	5.93	0.711	0.885	0.105	303.825
Saturated model	0	-	-	-	1	-	182
Independence model	1408.48	0	18.057	0	0	0.194	1434.48

Table 4.16 Fit Indices for the Structural Adjusted Model (with latent variable)

	χ^2	P-value	χ^2/DF	TLI	CFI	RMSEA	AIC
Default model	4.025	0.259	1.342	0.98	0.998	0.028	70.025
Saturated model	0	-	-	-	1	-	72
Independence model	508.445	0	18.159	0	0	0.195	524.445

In addition to the chi-square test, both incremental fit indices and absolute fit indices are utilised to measure the goodness of fit for models. Incremental fit indices compare the tested model with a baseline model (independence model), which represents the poorest fit where all variables are uncorrelated (Worthington & Whittaker, 2006). Two examples of incremental fit indices are the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) and the Comparative Fit Index (CFI; Bentler, 1990). The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) is an example of an absolute fit index.

Based on the guidelines from Hu and Bentler (1999), values nearing or above 0.95 for TLI and CFI indicate an excellent fit, with values over 0.90 considered as good and acceptable. For RMSEA, values at or below 0.06 represent optimal fit, whereas those up to 0.08 are considered tolerable.

Furthermore, predictive fit is another essential aspect to evaluate in model comparisons. One of the commonly employed predictive fit indices is the Akaike Information Criterion (AIC; Akaike, 1974). Lower values of AIC indicate a better balance between the goodness of fit and the complexity of the model.

Among the models assessed—specifically the Structural Non-Adjusted, the Structural Adjusted, and the Structural Adjusted with Latent Variable—the **Structural adjusted model with latent variable** resulted in the lowest AIC, signifying its superiority for this research.

4.6.2.2 Structural Model Outcomes

Table 4.17 presents and compares the results from the Structural Non-Adjusted and Adjusted Models, thereby providing a clear foundation for the subsequent detailed visual analysis in the figures that follow.

Table 4.17 Comparative Analysis of Direct Effects from Structural Non-Adjusted and Structural Adjusted Models

Observed Indicator	Path	Latent Construct	Structural Non-Adjusted Model			Structural Adjusted Model		
			Standardised (β)	Critical ratio	P	Standardised (β)	Critical ratio	P
Covid_19	<---	ielts				-0.019	-0.116	0.692
Covid_19	<---	length				-0.006	-0.02	0.901
Covid_19	<---	age				0.018	0.106	0.773
Covid_19	<---	degree				-0.027	-0.165	0.676
Covid_19	<---	gender				0.103	0.832	0.027
Coping	<---	age				0.092	10.197	0.139
Coping	<---	gender				-0.062	-9.508	0.18
Coping	<---	length				-0.049	-2.935	0.323
Coping	<---	degree				0.092	10.548	0.155
Coping	<---	ielts				0.024	2.689	0.625
PCD	<---	Covid_19	0.313	0.209	***	0.313	0.209	***
social_integration	<---	Covid_19	0.296	0.345	***	0.296	0.345	***
PSD	<---	Covid_19	0.294	0.213	***	0.294	0.213	***
academic_integration	<---	Covid_19	0.243	0.264	***	0.243	0.264	***
language_barriers	<---	Covid_19	0.223	0.264	***	0.223	0.264	***
homesickness	<---	Covid_19	0.377	0.318	***	0.377	0.318	***
PCD	<---	Coping	-0.119	-0.004	0.007	-0.119	-0.004	0.007
social_integration	<---	Coping	-0.187	-0.011	***	-0.187	-0.011	***
homesickness	<---	Coping	-0.001	0	0.989	-0.001	0	0.989
language_barriers	<---	Coping	-0.087	-0.005	0.057	-0.087	-0.005	0.057
academic_integration	<---	Coping	-0.034	-0.002	0.453	-0.034	-0.002	0.453

Structural Non-Adjusted Model

The Structural Non-Adjusted Model was employed to investigate the effects of COVID-19 and the modulating role of Coping strategy on a range of acculturative stressors, including Perceived Cultural Distance (PCD), Social Integration (social_integration), Perceived Social Discrimination (PSD), Homesickness (homesickness), Language Barriers (language_barriers), and Academic Integration (academic_integration).

Upon detailed analysis, COVID-19 showed significant positive associations with Perceived Cultural Distance ($\beta = 0.209$, $p < 0.001$), Social Integration ($\beta = 0.345$, $p < 0.001$), Perceived Social Discrimination ($\beta = 0.213$, $p < 0.001$), Homesickness ($\beta = 0.318$, $p < 0.001$), Language Barriers ($\beta = 0.264$, $p < 0.001$), and Academic Integration ($\beta = 0.264$, $p < 0.001$), indicating a consistent positive impact on all evaluated acculturative stressors. Regarding the impact of Coping strategy, a significant negative correlation was identified between the Coping strategy and Perceived Cultural Distance ($\beta = -0.004$, $p = 0.007$), suggesting that enhanced coping strategy might be associated with lower Perceived Cultural Distance values. Moreover, the Coping strategy exhibited a significant negative relationship with Social Integration ($\beta = -0.011$, $p < 0.001$). However, the relationships between the Coping strategy and Homesickness ($p = 0.989$), Language Barriers ($p = 0.057$), and Academic Integration ($p = 0.453$) were not statistically significant.

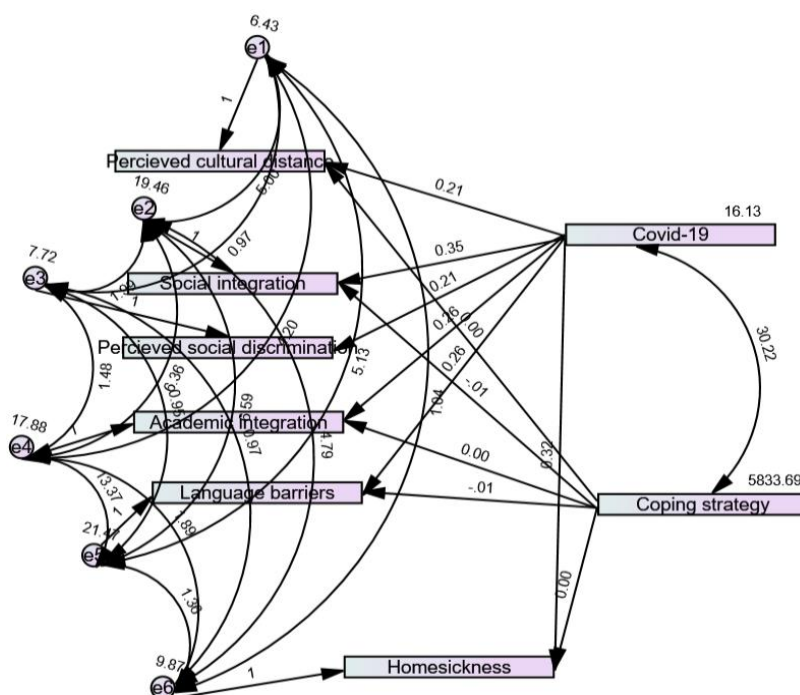
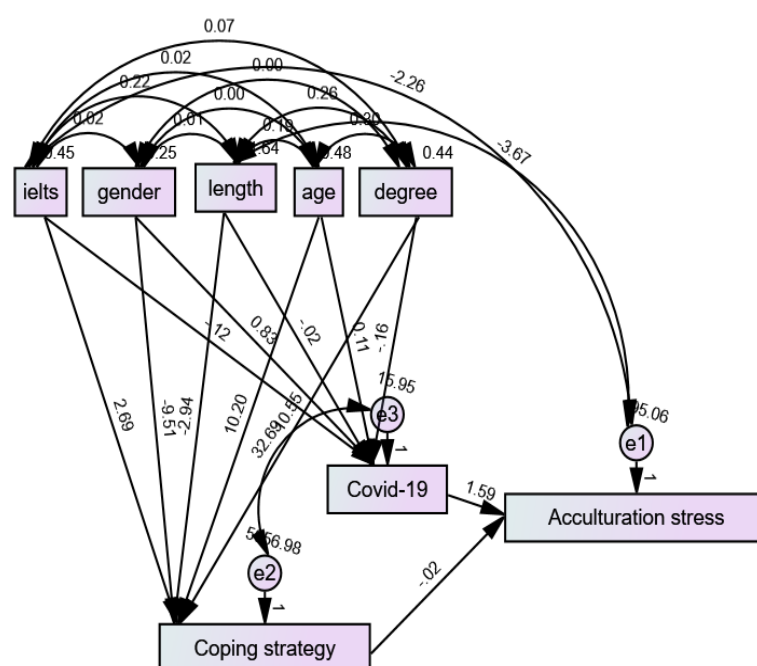


Figure 4.11 Structural Path Coefficients for the Structural Non-Adjusted Model

Structural Adjusted Model

Based on the Structural Non-Adjusted Model, a Structural Adjusted Model was subsequently developed, incorporating confounding variables such as IELTS scores, Length of stay in the UK, age, gender, and degree to explore their potential modulatory effects on both COVID-19 and the Coping strategy.

The analysis indicated a significant relationship between gender and COVID-19 ($\beta = 0.832$, $p = 0.027$). However, there were no statistically significant associations between IELTS, length, age, and degree with COVID-19. Furthermore, upon examining the relationships between the confounding variables and the Coping strategy, no variable demonstrated a statistically significant impact. Lastly, when considering the effects of COVID-19 and the Coping strategy on acculturative stressors, the outcomes



**Figure 4.13 Structural Path Coefficients for the Structural Adjusted Model
(with Latent Variable)**

Chapter 5. Qualitative Analysis and Findings

In [Chapter 4](#), quantitative analysis of the primary questionnaire data was performed using Ordinary Least Squares (OLS) and Structural Equation Modelling (SEM). The analysis indicated that the seven main acculturative stressors, namely perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, homesickness, and the COVID-19 pandemic, are significantly correlated with wellbeing issues and acculturative stress among Chinese international students. Although quantitative analysis has provided important insights into the relationship between acculturative stressors and wellbeing, it falls short of exploring the subjective experiences and coping mechanisms of international students. To address this gap, this chapter employs semi-structured interviews and thematic analysis to more deeply understand the personal experiences and responses of Chinese international students facing acculturative stress. This qualitative approach will enrich perception of how these students manage their stressors in everyday life.

5.1 Perceived Cultural Distance

Babiker, Cox, and Miller (1980) define perceived cultural distance refers to how different cultures are seen to be in terms of aspects such as values, customs, norms, religion, and leisure. Perceived cultural distance differs from cultural distance. The former refers to an individual's subjective assessment of the similarities and differences between the social and physical aspects of their home and host cultures, while the latter is a measurement of how much (or how little) overlap there is between two cultures. Hofstede identifies six cultural dimensions that differ between cultures: individuality vs. collectivism, power distance, masculinity vs. femininity, uncertainty avoidance, long-term orientation vs. short-term orientation, and indulgence vs. restraint (Hofstede Insights, n.d.). Even though the Chinese culture and the UK culture have notable

differences in those Hofstede dimensions, it does not necessarily mean Chinese international students may perceive those differences as acculturation challenges. For example, according to the Hofstede model, the Chinese culture is long-term-oriented, whilst the UK culture is short-term-oriented. Few participants mentioned it as a stressor that would make them feel stressed or depressed during their stay in the UK. Therefore, perceived cultural distance, or the perceived difference between two cultures, is thought to be a predictor of how well international students who are assimilating into a new culture would adapt. The variations may be ascribed to one's tastes in cuisine, environment, language, religion, customs, morals, and underling social ideologies such as individualism or collectivism. A significant perceived cultural distance between one's background and the host culture makes acculturation a more challenging process. International students who encountered academic, social, and other forms of 'change overload' in the host country had difficulties adjusting. High perceived cultural distance was associated with feelings of melancholy, anger, bewilderment, exhaustion, and anxiety among the participants. Additionally, perceived cultural distance was associated with international students' acculturation orientations. When students believed that both cultures were similar, they demonstrated a stronger host orientation. Such students reported having more friends in the host nation, feeling more accepted by them, as well as exhibiting more host domain behaviour. On the contrary, those who could feel cultural differences between China and the UK tended to show a stronger home orientation:

China and the UK are culturally different. China is a 'guanxi' society, so developing and maintaining 'guanxi' is an important aspect of social life. I expected reciprocal interactions in the UK, too. But things are different. People in the UK or from other Western societies do not care about it. I mean, if you offer some help to your friends here, you should not expect they will do

the same for you. Guanxi is, in nature, characteristically Chinese.
(Participant 29)

Three themes that emerged in interviews are central to the perceived cultural distance between China and the UK: (a) collective identity; (b) respect for authority; and (c) face (*mianzi*).

5.1.1 Collective Identity

Harmony, interdependence, reciprocity and conformity are valued in collective culture. In a collectivism-oriented society such as China, people have a stronger emotional tie to their in-groups and are more likely to sacrifice their personal interests to satisfy collective needs. Their objectives are shared, and their successes are seen as the consequence of teamwork. On the contrary, individualism-oriented cultures, which encourage individuality, autonomy, assertiveness, and personal achievement, contrast sharply with collectivist societies. Growing up under the influence of Confucianism, the Chinese international students hold a belief that a person is not an individual but rather a part of social relationships. This view is consistent with collectivism, which pressures people to join the community while devaluing their own interests. Students in collective cultures are taught to think in terms of ‘we’, but in individualist communities, the focus is on ‘I’.

In-group ties are weaker and individual distinctiveness is highly valued in this culture. Individual needs frequently take precedence over community goals, and successes are seen as the consequence of individual talents. It explains why I do not like participating in group projects. In group projects, mutual accountability is important. Group interests should be the priority, but there were always some cases where my teammates just behaved irresponsibly. (Participant 6)

5.1.2 Respect for Authority

This theme can be interpreted through the lens of Hofstede's cultural dimensions model, which explains the dynamics of power in Chinese culture. Hofstede's cultural model demonstrates that the Chinese culture has a much higher score in power distance. The concept of power, multifaceted and complex, permeates various aspects of social relationships in Chinese society, dictating the defined roles and expected behaviours within its hierarchical structure. In the Chinese culture, everyone has a set place in society, and the Chinese people are more tolerant with power distance. That is, the Chinese people may take it for granted that power is unequally distributed and even show a preference for authoritarianism. In this hierarchy, those who are placed at a lower hierarchical level are expected to show respect and obedience to authorities. Due to a larger emotional distance, subordinates may find it culturally inappropriate and personally uncomfortable to openly approach or disagree with their superiors.

It shows a lack of respect if I voice my views to disagree with somebody without first seeking the person's permission. Besides, in China, we were taught that we should show respect to teachers for their knowledge authority. This hierarchical structure was instilled into our minds since an early age. For a long time, I rarely initiate communication with my teachers, even I know that some teachers are really nice to talk with. (Participant 10)

5.1.3 Face (*Mianzi*)

Mianzi, literally translated as 'face', represents a 'code of honour' in Chinese culture. Chinese culture emphasises the value of upholding one's dignity, often referred to as 'preserving face'. Maintaining one's face involves acting honourably and dependably

in social situations. On one hand, a person's social position is closely correlated with the amount of 'face' they are perceived to have. Therefore, it is crucial for individuals of lower status never to challenge or upset those of higher rank. On the other hand, in uncertain social situations, Chinese individuals strive to assert their social self-worth and maintain their undamaged reputation and dignity. As six out of 30 participants noted, one challenge that Chinese international students may face in the UK is the 'loss of face'.

In China, 'loss of face' has deep origins. In low-context societies such as the UK, people are better at isolating the conflict from intrapersonal relationships. However, in high-context societies, the instrumental problem and the person who created that issue are interwoven. Openly disagreeing with someone in public is a severe insult known as 'loss of face', but many British people are not aware of it. I have experienced many unforgettable face-threatening situations since I arrived. (Participant 15)

Face-threatening can range from minor to severe, as many students have mentioned directly or indirectly in interviews. Examples include being publicly criticised for their ideas (Participant 20), having their accents or answers corrected in front of the class (Participant 3, Participant 24, and Participant 30), and unintentionally offending others (Participant 1 and Participant 7). These situations not only reflect the perceived cultural distance but are also closely linked to other sources of stress such as perceived discrimination, academic integration, and language barriers. These stressors are not isolated; rather, they are interwoven, collectively impacting the adaptation process and psychological state of international students.

5.2 Social Integration

Broadly speaking, integration refers to the alignment between oneself and the external environment. The study measures social integration by assessing to what extent Chinese international students can integrate into the UK, evidenced by their understanding of social norms and an expanded social network within the host culture. Integration is a desirable outcome of acculturation, as it strengthens students' alignment with their goals. Conversely, poor integration may lead to feelings of isolation and incongruence. Due to perceived cultural distance, international students often face value conflicts as they attempt to adapt to the host culture. This sense of rejection intensifies when students identify more strongly with their original culture than with the host culture.

5.2.1 Basic Needs Challenge

According to Maslow's hierarchy of needs (Maslow, 1943, 1954), humans (including international students) have different layers of needs, and needs at a lower level must be met before they can progress to satisfy higher needs. For Chinese international students, the most basic challenge was their unfamiliarity with social norms and local conditions, which made them vulnerable to various challenges and risks. The vulnerability of international students to safety hazards, such as unfair treatment or discrimination, underscores how failures in social integration can prevent them from establishing a sense of belonging and achieving their full potential. Upon arriving in the UK, international students' first priority is to meet their basic physiological needs, including accommodation, food, and clothing. However, as reported by the participants, it was not uncommon for these students to encounter difficulties even when trying to meet their most basic needs.

As it is the first for me to live on my own, I had difficulties in satisfying my basic life needs. I had never cooked in China, so I found it a challenging job

to source different food and life necessities after I arrived here. (Participant 8)

You see, I am a girl. It is natural that I have some safety concerns. Honestly, I don't know what to do if I am not feeling well. I am not familiar with the procedures and requirements of seeing a doctor. (Participant 5)

Once international students have satisfied their basic needs, they will progress to meeting higher-level needs, such as belongingness and love. However, achieving this is often challenging for international students.

5.2.2 Intrapersonal Problems

Since Chinese international students must leave their established social networks and adapt to a new environment, there is a clear need for them to develop new friendships and social networks upon arriving in the UK. However, due to differences in social norms and interpersonal dynamics, these students often encounter a range of intrapersonal challenges. Specifically, these challenges include adapting their self-perception and managing their emotional health in isolation from familiar support systems (Smith & Khawaja, 2011). Typically, international students form three types of social networks: co-national, multi-national, and host-national. A co-national network consists of relationships with fellow nationals, a multi-national network involves interactions with people from various nationalities, and a host-national network comprises relationships with local community members. For Chinese international students in the UK, the co-national network is the most common and extensive. Although most recognise the benefits of making host-national friends, they often struggle to adapt to the values and perspectives of the locals.

For some reasons, language or culture, I like making friends with Chinese international students. Or put it in another way, I have no choice but to develop Chinese friends. I had troubles to communicate with the local people. Sometimes I cannot understand what they are thinking. When they are laughing because of a joke that does not make sense for me, should I do the same? Laughing? It's weird. (Participant 21)

5.2.3 Lack of Social Support

Social support, which informs international students that they are cared for and belong to a network with mutual obligations, offers comfort and assistance. Thus, it acts as a buffer against the stress of life events in unfamiliar environments. Individuals with higher levels of social support have access to greater social and emotional resources, helping them manage acculturative stress and other challenges of acculturation. Conversely, a lack of social support is an important predictor of acculturative stress among Chinese international students. Similarly to distinguish between perceived and actual cultural distance, it is useful to differentiate perceived social support from received social support. Perceived social support involves an individual's belief in the adequacy and availability of support within their social network, while received social support comprises the actual assistance provided to international students in times of trouble. Perceived social support often exerts a stronger and more lasting impact on international students' mental health outcomes (Poyrazli et al., 2004; Yalçın, 2011).

In the UK, all the social support available to me comes from my co-national friends. Even though I know that the University provides international students with some support programmes, I have never tried to understand how those programmes work. Meanwhile, I think I will never seek help from the University. It is my Chinese friends who helped me navigate some difficult

circumstances, but it was not always enough. Living distant from my home country's social networks, I sometimes felt depressed. (Participant 23)

5.3 Perceived Discrimination

International education is considered a major force in enhancing cross-national and intercultural understanding, thereby laying the groundwork for exchanging beneficial ideas. However, realising the ideal of international contact often proves challenging in real-life scenarios. For such goals to be achieved, cooperation between home and host nations is essential. Chinese international students, frequently viewed as racial or ethnic minorities, may face neo-racism and various forms of discrimination related to their culture, nationality (Lee, 2006), and the bilateral relations between China and the UK. Such discrimination manifests in numerous ways, including physical assault, verbal abuse, avoidance, and behavioural discrimination. Perceived discrimination can adversely affect these students' mental and physical health. For example, students who experienced discrimination in the UK reported lower satisfaction with their learning experiences abroad, reduced confidence in communicating with peers, diminished self-esteem, decreased academic engagement, and increased emotional distress and homesickness (Brown & Jones, 2013). Consequently, many international students may feel segregated within the host society, leading to the accumulation of negative emotions and, potentially, the development of resentment towards the citizens of their host communities.

5.3.1 Racial/Ethnic Discrimination

Racial and ethnic discrimination manifests through prejudicial and unfair treatment based on race and ethnicity. Over the past two decades, neo-racism has emerged in Western societies. Balibar (2007) describes neo-racism as focusing not on biological heredity but on the insurmountability of cultural differences, suggesting an inherent incompatibility of lifestyles and traditions that fosters cultural superiority arguments.

Consequently, narratives that subtly promote racism justify maintaining the dominant culture. International students from cultures deemed ‘inferior’ encounter numerous social and academic barriers due to neo-racism, affecting their sense of belonging within local communities. Notably, a significant portion of participants (9 out of 30) reported that international students with typical white features experience less prejudice than their non-Western counterparts. This difference reflects cultural commonalities between white foreign students and the host population, thereby reinforcing a cultural hierarchy. Terms like ‘uncivilised’, ‘rude’, and ‘unattractive’ are stereotypical discrimination labels now also applied to Chinese international students.

We do, in fact, live in a world that is dominated by the West. The West led the industrial revolution centuries ago, and Western countries still continue to dominate the world in many fields. Because of this, some individuals may mistakenly believe that the West's political system, culture, arts, and technologies are the best. The COVID-19 only provides some Westerners with an excuse for openly discriminating against Chinese and other Asians.
(Participant 20)

The COVID-19 pandemic has, unfortunately, intensified these biases, giving some individuals a veneer of justification to express xenophobic sentiments, particularly against Chinese and other Asian communities. (Participant 12)

5.3.2 Positive Discrimination

Positive discrimination, also known as affirmative action, refers to policies or practices that favour individuals belonging to groups that have been historically discriminated against or underrepresented, based on factors such as race, gender, or ethnicity (Fullinwider, 2018). While intended to promote equality and diversity, positive

discrimination can be seen as a form of racial discrimination, as it involves making decisions based on racial or ethnic grounds. In the context of Chinese international students in the UK, positive discrimination emerged as a new theme in this study. Participants reported experiences where they were perceived or treated favorably due to positive stereotypes associated with their Chinese identity.

My landlord once mentioned to me that they really like renting to Chinese international students because we come from wealthy families, never fall behind on rent, and are clean. Although this was meant as a compliment, it somehow makes me feel uncomfortable. (Participant 26)

One of my courses, the content involves a lot of calculations. During each group assignment, my peers from other countries look at me with admiration, which lets me know that the reputation of Chinese people being good at math has really made its mark internationally. I just have to grit my teeth, go home, and study late into the night. (Participant 30)

Such experiences can lead to self-doubt and self-denial, as students may begin to question whether their achievements are truly a result of their own efforts or merely a consequence of their racial background.

5.3.3 Language Discrimination

Compared to racial minorities born and raised in the country, newcomers like international students face more discrimination. This is particularly true for Chinese international students, who often experience language discrimination, which is a form of prejudice occurring when individuals are treated differently due to their English proficiency or accent. Even when mild, this type of discrimination can significantly impact their mental health. Students who reported discrimination based on their

language skills often felt inferior, disrespected, and overlooked. Furthermore, the effects of language discrimination can be both long-lasting and cumulative. Reports indicate that discrimination based on language and accent occurs daily in various settings, including malls, workplaces, and classrooms.

When I am out shopping, I often find that shop assistants are not very attentive to me or even deliberately avoid serving me. I remember there was a time when I felt I was really offended. After I asked a shop assistant to show me something, she just shook her hands and left. I'm not sure whether it was my accent that confused her. It was really humiliating! (Participant 11)

5.4 Academic Integration

Besides social integration, Chinese international students must also navigate academic integration, which is crucial for quickly adjusting to life in a new environment (Meng et al., 2018). For instance, forming positive relationships with professors and teaching staff can enhance students' behavioural adaptability, aiding them in managing other stressful situations. Generally, the cultural values of international students impact their ability to adapt to the host country's educational system. Thus, exploring the concepts of individualism versus collectivism helps explain the differences in academic integration between Chinese international students and their Western counterparts. In the UK, a predominantly individualistic society, students are encouraged to be competitive, proactive, and independent in their learning and classroom participation. Conversely, Chinese students tend to be more passive, often hesitating to express their opinions or ask questions unless prompted. The study identified three main categories of academic barriers, representing major sources of acculturative stress, that Chinese international students frequently encounter in the UK.

5.4.1 Deficiency of Critical Thinking

For many years, the widespread stereotype has been that international students from China lack critical thinking skills, as evidenced by their purported deficiency in evaluating information (Xu, 2022; Lucas, 2019). Many Chinese international students believe that critical thinking is akin to fault-finding or negative criticism, a misunderstanding partly due to the similar meanings of ‘critical’ and ‘criticise’ in Chinese.

Back in China, we were taught to receive knowledge from our teachers or books without questioning why we should do that. Teachers tell you something, and you are expected to accept it rather than challenging it. (Participant 19)

Since the very beginning of my stay in the UK, I have been told that we should think critically, read critically and write critically. Excuse me? What is critical thinking exactly? I am still feeling confused. (Participant 8)

Cultural distance is a primary factor responsible for this phenomenon. As previously analysed, Chinese society is characterised by a collectivism-oriented Confucian culture, which highly values respect for authority and conformity. Additionally, ‘face’ is an important social construct among the Chinese; therefore, international students may avoid critical thinking, perceiving it as rudeness. Furthermore, a lack of critical thinking skills can negatively impact Chinese students’ classroom performance and academic writing. This issue was highlighted by three participants, one of them described it as follows:

Critical thinking means fault-picking? Whatever it is, I would just identify some weaknesses existing in a paper or that my peers have when I was asked

to think critically. But I am not good at doing that, especially in team projects.

I do not want to hurt other people's faces! (Participant 17)

5.4.2 Expectations from Teachers

In the Western educational setting, students are encouraged to be responsible for themselves and construct their own knowledge network. Self-control and self-management are among the most important educational goals in the West. Students in the U.K. are expected to plan their studies and manage learning activities. However, for Chinese students, although learning can be viewed as a journey of self-discovery, it is more like an interactive process where teachers and students are key participants. When starting a new phase of learning, students not only set goals for themselves but also expect something from their teachers (e.g., tutors, instructors and other academic staff). In China, from primary education to higher education, teachers and students often develop a kind of paternalistic relationship. Such a paternalistic relationship imposes an ethical obligation on teachers: under its influence, teachers should be responsible for supervising students not only in academic studies but also in social life. Therefore, most Chinese international students may find it challenging to get adapted to the autonomous and decentralised learning style in the UK.

I am just too tired, physically and mentally. In China, teachers would tell us what to do and provide us with learning materials. But here, we are expected to do research online all by ourselves. Readings are so long and so difficult. I often lose myself in the sheer volume of work. (Participant 24)

5.4.3 Collaborative Teamwork

Teamwork involves a group of individuals working towards a common goal with a certain level of independence and designated roles that may be formal or informal. Studies have shown that team-based learning can significantly enhance student learning (Wang, 2012). However, it has been reported that domestic students and other international students from European countries exhibited a tendency to exclude Chinese international students when forming teams. In contrast, some, if not all, Chinese students expressed a desire to be grouped with ‘foreign’ peer partners, but felt a sense of division lying between. Consequently, Chinese international students find themselves in an awkward situation. No matter for some students who wanted to be grouped with other international students or for those who prefer working with co-nationals, they would finally find themselves in groups composed solely of their fellow Chinese peers in group projects. Stereotypes held by domestic and other Western students towards China and Chinese students negatively affect Chinese international students in the UK. Stereotypes made it difficult for them to integrate and collaborate effectively in team settings, leading to academic integration stress. These negative attitudes can undermine their confidence, impede communication, and limit their participation in group discussions, even in cross-cultural teams. As a result, Chinese students feel excluded from their groups and experience a sense of isolation. An example of this divide was highlighted by a Chinese student who said:

I have noticed that domestic UK students are not very keen to form teams with we Chinese students. They seem to prefer sticking with other UK students or international students from European countries. It's hard for us to integrate with them as they have little interest in getting to know us. But I wish I had more opportunities to work with them because it would help me improve my language skills and learn more about the culture here.
(Participant 19)

Moreover, Chinese international students in the UK also faced additional challenges caused by cultural differences. Influenced by the Confucian culture, Chinese students often feel uncomfortable with teamwork due to their cultural orientation towards high uncertainty avoidance. Compared with students in Western societies, Chinese students prefer structured education, in which they could be given clear instructions on how to get work done. Many believe that listening to the teacher is a more effective way to learn. However, teamwork and collaborative learning involve open-ended discussions, which can be challenging for Chinese students accustomed to more structured educational styles, and they often feel unable to fully engage. Moreover, the Confucian heritage culture teaches Chinese students to be respectful and polite to others. When working in teams, Chinese international students often avoid expressing their opinions, particularly when these opinions conflict with those of others. Their silence is sometimes misinterpreted as a lack of willingness to contribute to group discussions, as noted by two interviewees:

In the Chinese culture, we have been taught, since a very young age, to be respectful. Harmony is also a virtue that we Chinese people advocate. Growing up in such a cultural background, I often feel reluctant to express my own opinions in group discussions, which have been interpreted as passivity in some situations. It is so awkward. (Participant 12)

I just didn't know how to disagree with somebody else. For example, if one of my peer partners said something that I cannot agree with, I would let it go. I know it is not the way to engage in team projects. I think it's important for my peers to be aware of these cultural differences and work towards creating a more supportive environment. However, I am afraid of communicating this with them. (Participant 23)

At UK universities, cooperative group work is a common part of the curriculum, but Chinese international students often struggle with teamwork and view collaborative learning as a main source of academic pressure. As the student discussed, their Western peers may not be aware of these cultural differences in team projects. This experience is especially common among students enrolled in business studies, where majors typically involve more teamwork and group projects.

5.5 Language Barriers

Language barriers (including communication problems) is another major stressor for Chinese international students studying in the UK. All of the Chinese students involved in this research project had no extended residential experience overseas, so they all had to struggle with English as a foreign/second language. The difficulties associated with using the foreign/second language prevented them from expressing themselves effectively in academic and social settings. Having language barriers, Chinese international students often experienced feelings of frustration, isolation, and anxiety. Like the case discussed above, cultural differences in communication styles and norms can further create misunderstandings and misinterpretations, which makes it even stressful for Chinese international students to use English to communicate with peers and teachers. Language barriers are a broad category to describe all possible language-related difficulties experienced by Chinese international students. To be more specific, there are two main types of language barriers that need to be differentiated in this research project: the lack of language proficiency and the lack of communicative competence (see Llurda, 2000 for more detailed discussion about language proficiency and communicative competence).

5.5.1 Language Proficiency

Language proficiency refers to an English learner's understanding of language structures and rules, including the knowledge of vocabulary, grammar, pronunciation, and syntax. Formal language instruction, such as classroom-based learning, is the most common method through which Chinese students acquire language knowledge. Language proficiency can be assessed through standardised language tests, such as the IELTS and TOEFL, and many others. These tests are specifically designed to measure how proficiently or fluently an English learner can communicate in English for academic purposes. However, this research project has found that even though some Chinese international students met the language proficiency requirements set by universities, they still struggled with using English for tasks such as reading journal papers and writing academic essays. This point has been explained by interviewees in this way:

My IELTS band score was 6.5, which was even 0.5 higher than the university requirement. However, I still struggled to write essays in English. The IELTS only test us to write a 250-word short argumentative essay, but now we face 1000-word, 2000-word, and even 3000-word writings! (Participant 21)

Every time I have to write an essay, a report or whatever, I can literally feel my pressure and anxiety. If the deadlines are pressing, I couldn't fall asleep at night. I think universities need to provide more language support and resources to help international students with our writing skills. (Participant 24)

There are two main reasons why Chinese international students still had language proficiency barriers after passing language tests. On the one hand, this is because the language skills that universities actually require cannot be fully assessed by tests like

IELTS and TOEFL. On the other hand, the differences in academic writing styles and conventions between Chinese and English pose additional challenges for these students in mastering English for academic use.

5.5.2 Communicative Competence

Language proficiency and language communicative competence are two related but different concepts. As mentioned, proficiency assesses language knowledge, while communicative competence focuses on learners' skill in applying their foreign or second language in real-life scenarios. More precisely, language communicative competence refers to a learner's ability to effectively use a foreign or second language across various social and cultural contexts, minimising misunderstandings (Canale & Swain, 1980; Hismanoglu, 2011). It involves more than a solid grasp of grammar and vocabulary, as it's also about understanding and utilising language within its context. Research has shown that many Chinese international students lack communicative competence (Spencer-Oatey & Xiong, 2006). Lacking this competence, they struggle to interpret and produce appropriate discourse in varied contexts. Additionally, communicative competence involves understanding cultural norms and social conventions, including formality, politeness, and social hierarchy. However, one of the Chinese international students reported that:

I am really not good at communicating with the locals. I struggle with understanding different accents and dialects, especially in informal settings like parties or social events. Slang and idiomatic expressions are also difficult for me to understand. Moreover, I know understanding non-verbal cues, such as body language and facial expressions, is also important for effective communication, but sometimes I feel uneasy about 'overreading' what's behind the words. (Participant 29)

Unlike language proficiency, communicative competence cannot be accurately measured by standardised tests because it is a complex and dynamic skill that depends on context. Students who are not fully aware of this distinction may overlook the importance of developing communicative competence. As a result, they may feel stressed when communicating with others in English.

5.6 Homesickness

Homesickness, a complex and elusive phenomenon, is understood as the psychological response to being separated from familiar environments and significant others (Poyrazli & Lopez, 2007). According to the theory of ‘attachment behaviour’, human beings are born with an innate tendency to form bonds with others (Sheinbaum et al., 2015). People’s emotions and behaviours are influenced by their early interactions with attachments, be it with a person (like a family member or friend), a place (such as home or school), or an object (namely, a habit, diet, or personal belonging). In the absence of attachment, it is natural for an individual to experience homesickness, i.e., stress or anxiety resulting from being away from home. This separation from attachment can be actual or anticipated. Upon moving into an unfamiliar environment, the lack of social support and isolation can exacerbate homesickness, leading to feelings of stress and sadness. Based on data interpretation, this research project categorises homesickness into three types: social homesickness, cultural homesickness, and temporal homesickness.

5.6.1 Social Homesickness

Social homesickness is the most frequently reported type. It can be generally understood as a feeling of disconnection that is caused by the separation from one’s family and social connections. To put it simply, it refers to the feelings of missing parents, friends, and other familiar others in the home country. It is a common experience for Chinese international students who leave to study abroad in another

country that is thousands of miles away. In the host culture, various factors can exacerbate Chinese international students' social homesickness, including struggles to make friends, feelings of isolation, and loss of their social support network. Homesickness can be particularly severe for the students who have strong family bonds, as well as those who used to play a high value on social relationships. Social homesickness makes it difficult for Chinese students to fully engage with their new environment and capitalise on available opportunities.

Before I first arrived in this country, I had never been away from home for more than one week. So, pursuing a degree here, alone, has been quite a challenge for me. I dare not videocall my mum, as I just couldn't help crying when I heard her voice..., especially during holidays or family events.
(Participant 5)

The feeling of isolation and disconnection can be very intense for some Chinese international students. In fact, for some students, the emotional toll of social homesickness can have an impact on their daily routines and physical health. Some reported they had experienced loss of appetite, insomnia, and a lack of motivation to engage in extracurricular activities.

5.6.2 Cultural Homesickness

Cultural homesickness is another type of homesickness that is distinguished in this research. As the name implies, cultural homesickness arises from separation from one's familiar cultural environment and is directly attributed to experiences of cultural shock. For those newly experiencing cultural shock, a natural response includes missing the familiar sounds, smells, tastes, and social interactions of their home environments. Influenced by cultural homesickness, Chinese international students often feel reluctant to engage with the local culture and encounter difficulties in understanding the cultural

norms of British society. Research has shown that cultural homesickness intensifies during crises such as the COVID-19 pandemic, particularly when Chinese students read online news about their compatriots uniting to combat the pandemic during its most challenging moments. The students who had never left their home country were also reported to experience a higher level of cultural homesickness:

I missed my dad, mum, friends, and my country. I consider myself as a typical Chinese girl, born and raised in China. When I had to leave the familiar environment and get adapted to the British culture, I felt fascinated but also disconnected. I know that many other Chinese students feel the same way, and we try to support each other as much as we can. (Participant 10)

Chinese international students often leave behind the language, customs, traditions, and social norms familiar to them. Upon relocating to a place with a considerably different local culture, it is natural for them to experience feelings of disorientation, anxiety, and loneliness. The emotional and psychological impacts of cultural homesickness can be profound, potentially affecting their academic performance and overall wellbeing.

5.6.3 Temporal Homesickness

Temporal homesickness refers to the feeling of missing the normal routines individuals used to have in their home country, especially when they are struggling with the time difference and adjusting to new schedules. After Chinese international students arrive in the UK, they usually experience temporal homesickness because of the sudden changes happening to their normal routines. For example, some Chinese international students struggle with the time difference between China and their new location, and the resulting time lag makes it difficult to communicate with family and maintain old lifestyles. Moreover, some students find it difficult to adjust to different meal times and

daily schedules, leading them to miss the comfort of their old routines and experience disorientation and loss.

I am actually not a change-person. I hate changes, but I had to make compromises as the opportunity to learn at XX university was really important to me. I felt the most homesickness during the first few weeks. Some of my friends felt excited, but I was like... can't get accustomed to everything here... But now, as you could see, I can handle everything well, and I often go travelling. Missing home is no longer a problem. (Participant 4)

It is important to note that temporal homesickness is caused by sudden changes in their living environment, so it is temporal in nature. This distinction marks a major difference between temporal homesickness and other types of homesickness. As Chinese international students adjust to their new environment and establish new routines, their feelings of homesickness dissipate over time.

5.7 COVID-19 Pandemic

As the COVID-19 pandemic continued to rage across the globe, international students were facing considerable challenges in the UK. The research findings were in line with many other previous studies that investigated how Chinese international students coped with the pandemic (for example, Ma & Miller, 2020; Gallagher, Doherty, & Obonyo, 2020). Chinese international students have been hard hit with discrimination and racism, homelessness, transitioning to online learning, financial burdens, lack of social support. Many of them are experiencing anxiety, depression, loneliness, or other emotional disorders.

5.7.1 Double Bind Situation

A primary source of COVID-19 induced stress for many Chinese international students was a challenging situation they commonly faced, especially in the first year following the pandemic's outbreak. This situation is technically termed as 'double bind' (Bateson et al., 1963). A double bind is a paradoxical situation in which individuals receive conflicting messages and are unsure how to respond to an emerging challenge. More recent research on the double-bind situation facing Chinese international students was conducted by Ma and Miller (2020). Caught in a double-bind situation, Chinese students were confronted with two opposing expectations; meeting one invariably meant failing to meet the other. Since the COVID-19 pandemic's outbreak in China, Sinophobia and anti-Chinese racism have increasingly influenced Western societies, fuelled by numerous media outlets and platforms that blamed the Chinese people for the global health crisis. Anti-Chinese racism and unreasonable discriminatory behaviours within the society have caused high levels of insecurity and anxiety among Chinese international students. This captures the difficult situation encountered by Chinese international students in the UK. Moreover, with the well-controlled COVID-19 situation in China, many Chinese international students, supported by their families, wished to return home. However, as the Chinese government encouraged overseas students to stay abroad to prevent imported COVID-19 cases, Chinese international students were pushed into a paradoxical dilemma. On the one hand, pandemic-induced discrimination in the UK compelled Chinese international students to seek refuge back in China; on the other hand, upon their return, they often faced discrimination from compatriots who feared that returnees might reintroduce the virus.

On the one hand, I'm worried about facing discrimination in the UK, but on the other hand, if I had managed to fly back home, I would be labelled as virus spreader. It's like we're being blamed for something we have no control

over. We feel like we're not welcome anywhere, not in the UK and not even in our own country. It's a really tough situation to be in. (Participant 13)

5.7.2 Future Uncertainty

The COVID-19 pandemic is a public health crisis with great uncertainties and unforeseeable challenges. The uncertainties brought by the pandemic severely affected the future plans of Chinese international students in the UK. Many fear being left uncared for if they remain in the UK. A common complaint was that many universities had an ambivalent stance on international students. When the pandemic first broke out, many of the interviewees shared similar experiences regarding universities' slow response to the pandemic. They emphasised that the delayed announcements and lack of guidance hindered their ability to plan their return migration in a timely manner (Cheng & Agyeiwaah, 2022). This slow response from the universities consequently caused significant stress among the students.

We started to understand how dangerous the situation was, but the university didn't give us any updates on the exam arrangements. This is a crucial year. We did not want the COVID-19 to ruin our long academic efforts. So, we were faced with a dilemma of whether to stay or leave. If the university had announced the class suspension earlier, we could have probably returned home sooner. (Participant 21)

While waiting for the universities' approval was stressful, Chinese international students who decided to go home experienced an unforgettable period of 'ticket-grabbing'. From 2020 to 2021, international travel restrictions drove airfares higher, and limited inbound flights complicated the journey for Chinese students returning home. Many families were also anxious about whether they would be able to secure an

air ticket amidst the pandemic's impact on international airlines. Families mobilised all resources available to them to secure an air ticket, for example, using personal contacts, working with travel agents, and paying extra fees for a guaranteed seat. Despite joint efforts made, many families still experienced a feeling of helplessness, not knowing whether the students could be able to return home safe and sound.

Recently, due to the worsening COVID-19 situation in China, securing a flight ticket has become extremely costly. Even after paying a high price, there remains a risk of being denied boarding because airlines are strictly controlling passenger load, with occupancy rates sometimes as low as 40%. This uncertainty causes anxiety both when struggling to obtain a ticket and after successfully purchasing one. (Participant 24)

5.7.3 Social Isolation

For those students who decided to stay in the UK, flight booking was not a concern; however, social isolation became a major stressor. To curb the spread of the pandemic, the UK government implemented strict lockdown measures, which have led to social isolation and a lack of social interaction for Chinese international students. Being unable to engage in face-to-face conversations and activities, Chinese international students reported the pandemic had completely disrupted their daily routines and left them feeling disconnected from their social lives (Jiang & Xiao, 2024). The absence of daily interaction with others and other social activities has taken a toll on the mental health of many students, leading to reports of depression and anxiety (Xu & Tran, 2022). Furthermore, lockdown policies resulted in a lack of social support, increasing feelings of loneliness and isolation, particularly for those struggling to cope with acculturative stress even before the pandemic (Raaper et al., 2022).

During the pandemic, it has been a rollercoaster ride for us to navigate through all sorts of difficulties and uncertainties. Being socially isolated has been the toughest hurdle to overcome. It's been tough not being able to meet my friends and talk to them face to face. How can I describe such a feeling? I was feeling like a survivor drifting in the vast ocean on a log. Being far away from my family has only made it harder, and I've had to rely on WeChat to stay connected with them. It's been a tough battle. (Participant 29)

Humans are sociable in nature, so the challenges posed by social isolation for Chinese international students during the pandemic cannot be overstated. The inability to interact with friends, peers and tutors and engage in extracurricular activities has left them feeling isolated from their social lives.

5.8 Coping Strategies

Acculturation is a complex, dynamic, and multidimensional process that involves learning about and adapting to a new culture, maintaining one's heritage culture, and navigating the interaction and integration between different cultures. For Chinese international students pursuing their education in the UK, this process is accompanied by a variety of acculturative stressors, as discussed in previous sections of this chapter. When faced with these challenges, effective coping strategies employed by these students play a crucial role in managing stress, facilitating cross-cultural adaptation, fostering personal growth, and maintaining psychological wellbeing. The findings of this study suggest that the coping strategies employed by the participants can be classified into three primary categories: task-oriented coping, emotion-oriented coping, and avoidance-oriented coping.

This study employed Ordinary Least Squares (OLS) to examine the relationship between task-oriented and emotion-oriented coping strategies, as defined in the

questionnaire, and the wellbeing issues of Chinese international students. The research focused on task-oriented strategies that directly address or adapt to stressors, such as establishing new social relationships with locals (Q3), enhancing host cultural understanding (Q4), and improving language skills (Q5). Additionally, it explored emotion-oriented strategies that facilitate emotional regulation and stress reduction, including maintaining communication with old friends (Q1) and engaging directly with nature (Q2). Given that avoidance strategies may offer short-term psychological relief, they were deliberately excluded from this study due to their potential to adversely affect long-term mental health (Bardeen, 2015, p.116) and effective problem-solving capabilities. As discussed in Chapter 5, the quantitative analysis revealed that the combined scores of task-oriented and emotion-oriented strategies were significantly negatively correlated with wellbeing issues, indicating their strong association with wellbeing concerns of international students. Further analysis confirmed that the positive impact of these strategies on wellbeing remained significant, even after controlling for potential confounding variables such as age, major, and English proficiency. The qualitative findings from semi-structured interviews complement the quantitative results by providing an in-depth understanding of how international students personally apply and perceive these coping strategies in practice.

5.8.1 Task-oriented Coping

Task-oriented coping, also known as problem-focused coping, is a concept proposed by Lazarus and Folkman within their Coping Theory (Lazarus & Folkman, 1984). This approach involves individuals engaging in problem-centred actions aimed at actively resolving issues or formulating specific, feasible plans. The primary objective is to alleviate or eliminate the impact of stressors on the individual. For Chinese international students studying in the UK, task-oriented coping strategies are manifested through various proactive measures. These include enhancing English language proficiency, acquiring knowledge of British culture, initiating social networks, and seeking

academic support.

5.8.1.1 Skills Enhancement

In this study, international students actively enhanced their capabilities by participating in university-offered courses in English speaking and academic writing, watching videos related to their fields, and engaging in workshops. These efforts not only improved their overall academic performance and problem-solving abilities but also their capacity to assimilate into the new culture, thereby boosting their confidence in their own abilities. These experiences enhanced their self-efficacy, which, as Bandura (1977) notes, can increase an individual's persistence and effort when facing challenges, playing a key role in successful adaptation. As participant 10 shared:

My classmates, they are all very proficient in English. Sometimes when I try to express myself in English, I realise that my sentence structure and grammar are often incorrect and disorganised, whereas they can express their thoughts clearly. To be honest, I hadn't prepared adequately for my classes, including both the pre-class readings and the post-class reviews, which resulted in my reluctance to participate in class discussions or group presentations. Eventually, to make my tuition worthwhile, I enrolled in the university's English courses. These included a series of classes on academic writing and presentation skills, along with recommendations for useful resources. Although I haven't mastered the material, I now feel more confident when starting to write a paper. Despite still feeling nervous about speaking, seminars don't seem as lengthy anymore, even when I don't contribute much to the discussion.

In this research, international students often employed skill development as a strategy to address challenges related to academic integration and language barriers. Self-study,

as demonstrated by Participant 25, served as one such approach:

Due to my transition into a new field of my PhD study, I often find myself extremely busy and facing a lot of pressure. Currently, as I teach undergraduate courses, I am not well-acquainted with many of the subjects, nor am I proficient in them. Consequently, I make time to engage in self-study to address these deficiencies, simultaneously teaching and learning to bridge the gaps in my knowledge. Ultimately, I recognise the necessity of confronting these challenges head-on.

5.8.1.2 Social Network Development

This investigation identifies the process by which international students are consciously building and expanding their social networks to adapt to a new cultural environment, termed ‘Social Network Development’. This concept encompasses the multi-layered social connections that Chinese international students form with co-nationals, other international or local students, mentors and supervisors, university staff, as well as local community members. By enhancing interactions and resource acquisition, social network development aims to provide international students with diverse resources, such as emotional support, academic assistance, cultural adaptation guidance, and cultural understanding. This process not only facilitates international students’ adaptation to the new cultural environment but also contributes to their personal and professional growth.

More than two-thirds of the participants expressed a preference for discussing academic issues with peers, either one-on-one or in study groups. For example, Participant 3 highlighted this trend by pointing out how crucial peer discussions were to their learning process:

In our major, we are typically required to read a large number of assigned articles every week, the most demanding week involved reading 20 articles. To manage this workload, we often organize into literature review study groups. Each person is responsible for reading one article and then sharing its contents and their understanding with the group. If there are parts of the literature that I do not understand, I bring them up for discussion, and we discuss these issues together. Sometimes, we even search for additional relevant materials or consult experts in our field on forums to ensure that we fully comprehend the topics we are studying.

In addition to academic discussions, Participant 4 shared insights into forming meaningful friendships with foreign peers as a way to better understand and adapt to British culture:

When I first arrived in the UK, I went to some British pubs a few times. I thought it would be really cool to have a group of British friends or friends from other countries. I saw a very beautiful girl and plucked up the courage to ask for her contact information because she was really, really pretty. Later, when we hung out together, she would also bring some of her friends along. This way, I gradually got to know more people and started blending into the local scene.

It also becomes evident that Social Network Development and Skill Enhancement are often intertwined, which further confirm the effectiveness of task-oriented coping strategies. This pattern was clearly stated by Participant 17:

I usually start by studying on my own. If I really don't understand something, which means that I have watched the lecturer's recordings, reviewed the

PowerPoint slides, read the textbook, looked up English materials, watched videos on YouTube, and even searched for related courses on Bilibili in both Chinese and English and still didn't get it, only then might I consider sending an email to the academic tutor to schedule an office hour.

5.8.2 Emotion-oriented Coping

According to Richard S. Lazarus and Susan Folkman (1984), emotion-oriented coping or emotion-focused coping is defined as a coping strategy in which individuals regulate their emotional responses to stressors in order to reduce stress. This strategy focuses on regulating one's emotional state to mitigate the emotional distress associated with stressful situations, rather than directly addressing the problems. Additionally, emotion-oriented coping involves cognitive reappraisal of challenging circumstances, thereby reducing the negative emotional responses and subjective stress triggered by the stressor (Lazarus, 1993). In this study, Chinese international students in the UK employed emotion-oriented coping strategies such as emotional expression, seeking emotional support, self-comforting, and cognitive restructuring to address the challenges and pressures of cultural adaptation. 30 interviewees revealed that emotion-oriented coping was the most commonly used method to alleviate acculturative stress, with each participant having used these strategies to varying degrees to mitigate the psychological stress.

5.8.2.1 Emotional Communication and Resonance

During their overseas academic pursuits, Chinese international students often find themselves navigating a complex tapestry of emotional experiences and adaptation challenges. The novelty, sense of freedom, and opportunities for personal growth afforded by the new environment typically evoke feelings of excitement and joy. However, adapting to a new cultural milieu also presents a myriad of challenges and

difficulties, which can engender feelings of frustration, dejection, self-doubt, and even occasional anger or discontent. Confronted with these complex emotional experiences and acculturative stressors, many Chinese international students prefer to share their emotional experience with others as a means of ventilating negative affect and seeking emotional support, understanding, and resonance. Consistent with Bernard Rimé's (Rimé et al., 1991) Social Sharing Theory, which proposes that individuals commonly feel a strong need to share and discuss their experiences and associated reactions with others after experiencing emotional events, this phenomenon is clearly evidenced in this study. As Participant 27 remarked:

Thanks to technological advancements, I video chat with my family every week via WeChat, which makes me feel as though I've never left home. It somewhat eases feelings typically associated with guilt or homesickness.

Furthermore, Participant 27 highlights the crucial role of emotional communication and resonance within intimate relationships, particularly during the challenges posed by the COVID-19 pandemic:

My current intimate relationship coincided with the pandemic, and this relationship has been very important to me, accompanying me through this difficult period. My family back home is also reassured, knowing that my boyfriend and I are here for each other, which indeed has been the case. Their peace of mind comes from knowing that we can rely on each other.

Participant 14 provided an example of a method for ventilating negative emotions, a method also used by five other participants:

When I'm under intense stress, I often turn to my family or friends to share my feelings. During these moments, I tend to release my emotions, sometimes even bursting into tears, which serves as a powerful way to vent. This emotional outpouring usually brings me relief and helps me feel much better afterwards.

Social support is crucial for international students' adaptation and mental wellbeing. A strong social support network can provide emotional support, informational support, and instrumental support to international students, which helps alleviate their feelings of loneliness and stress, and enhances their psychological resilience and adaptability (Yeh & Inose, 2003). Despite its recognised importance, this study reveals that university-affiliated resources such as student counselling services, international student offices, or personal tutors are often underutilised. Only three participants reported seeking support from these formal systems, which frequently appear to be their second choice, as evidenced by Participant 13's response:

I don't have much contact with my personal tutor. We meet once a term, one-on-one, as required by the university. I don't really have much to share, so our conversations tend to be cursory and perfunctory, just to meet the official requirement. I have many other people I can confide in, and honestly, when I really face pressure and might consider reaching out to them, I'm not even sure I could get in touch. I asked for their help when I need an enrolment certificate for my bank account application or something similar. We communicate infrequently, and they seem very busy, often slow to respond.

Participant 6's experience with university-affiliated support showcases a mixed response. On one hand, it underscores the inconsistent responsiveness of university-affiliated support:

My personal tutor only replied to my email once. When I sent them further emails, they might not respond for an entire week. I found them on Teams and sent a direct message, but they still replied only the next day. Apart from this tutor, others are really nice and respond to emails very quickly. If they don't reply, I directly go to their office hour, because I can guarantee with 100% certainty that no one else in my class would attend the scheduled Q&A time.

This response from Participant 6 not only corroborates Participant 13's experiences but also highlights a broader hesitation among many international students to seek social support through formal channels. Despite their attempts to manage stress by engaging with their personal tutors, many students find that the reality often falls short of their expectations.

On the other hand, Participant 6's experience with the university's wellbeing support services stands in stark contrast to these challenges. She described:

I initially sought help because I was under a lot of stress from interpersonal relationships, which had started to affect my academic performance. At that time, I made an appointment with a psychologist, following the university's advice to have at least one counselling session every month. When I went to wellbeing support, I genuinely felt cared for and supported by others, which made me feel very happy and joyful.

Another answer from Participant 26 revealed a critical gap in how universities communicate their support services. She experienced a period of mild depression and, after struggling for a long time and with encouragement from friends and family, chose to see a doctor. When asked why she did not initially seek help from the university's

wellbeing support, she said *'It was purely because I wasn't aware that the university offered such a department and services.'* To bridge this disconnect, universities must improve their outreach to ensure all students, especially those from overseas, are both aware of and can comfortably access available support services. International students, in turn, should be proactive in seeking out and utilising these resources. Only through such two-way engagement can a truly supportive environment be created that boosts student wellbeing.

5.8.2.2 Self-Care Through Leisure Activities

Self-Care through leisure activities refers to the engagement of Chinese international students in self-selected leisure activities aimed at achieving psychological relaxation, emotional regulation, and enhanced personal wellbeing. This strategy posits that leisure activities serve not merely as a diversion but as an effective form of self-care. These activities facilitate international students in managing the pressures associated with cross-cultural adaptation and challenges by fostering positive emotional experiences and promoting both mental and physical relaxation. Consequently, leisure activities emerge as a tool of self-empowerment, enabling students to maintain emotional stability and psychological resilience within varying cultural contexts and effectively cope with the acculturative stress. In this study, leisure activities were confirmed as the most popular coping strategies among participants. These activities include exercising, cooking, watching movies, shopping, visiting museums, painting, traveling, engaging with nature, journaling, playing video games, and enjoying culinary experiences. All 30 participants reported that they would employ one or more of these strategies to handle stress. Below are the responses of five participants:

When I want to relax in my free time, I either play Ring Fit Adventure, a fitness game on Nintendo Switch, or engage in online shopping. (Participant

2)

Each time I feel unhappy, I go to eat, especially Chinese food, which is my favourite. After eating, it seems like all my worries disappear. That's why since coming to the UK, I've gained about 5 kilograms. Shopping is also a great way to relieve stress. (Participant 5)

Ever since I came to the UK, I have been writing a diary every day, and I have already written about 80,000 words. For me, keeping a diary is mainly for the purpose of recording. It's more like something that allows me to write down my sources of stress. Once I get those thoughts on paper, my mind usually feels clearer. (Participant 12)

I do a variety of things, sometimes I play soccer, badminton, or table tennis. Other times, I play the guitar. I brought a guitar with me, but I regret that I've only played it a few times. Anyway, it's all quite random and not fixed. Sometimes, I just want to relax. I cannot always be thinking long-term—I'm not Warren Buffett after all. (Participant 15)

I choose to listen to music or go out singing with friends, or sometimes I cook gourmet meals at home. (Participant 18)

Participant 20's answer provides a summary:

Actually, there are just two main categories. One aspect is that we are born with many things hardwired into us, like the simple joys of life, which are already encoded in our genes. I just need to use them. There's plenty of dopamine-induced happiness from eating, drinking, and playing. Occasionally, I might seek a deeper, almost spiritual climax, which involves

watching movies I love or reading books I enjoy. However, when I'm feeling down, I might only be able to watch movies because reading can be too challenging. I look for something that purifies my soul, maybe something sci-fi, and then I realise how insignificant my troubles are in the vastness of the universe. Why should I let these things make me unhappy?

5.8.2.3 Mindfulness

Mindfulness is a lifestyle that involves adopting an open, non-judgmental attitude to consciously observe and focus on present internal experiences (including emotions, thoughts, and bodily sensations) and the external environment. This mode of awareness emphasises active engagement and deep observation, enabling individuals in more peacefully managing daily challenges (Kabat-Zinn, 1994; Brown & Ryan, 2003). Mindfulness, embodying principles similar to traditional Chinese philosophies like Taoism's 'Wu Wei' (effortless action), Buddhism's 'Chan' (Zen), and the daily life philosophy of 'Sui Yuan' (following the flow) along with 'Danding' (tranquility), facilitates a non-conceptual appreciation of reality and inner peace during transitions. This cultural congruence suggests that mindfulness is particularly suited for Chinese international students, helping them navigate the challenges of cross-cultural environments. Below are four examples illustrating how participants' responses reflect these Chinese philosophical concepts: buddhist-inspired adaptation, inner reflection with non-reliance on external factors, effortless action in nature, and maintaining a tranquil mindset.

I consider myself to hold a slightly above-average, moderate viewpoint. I don't feel the need to be the best in everything, but I make sure I'm not holding anyone back. I maintain a fairly good position and can adapt to circumstances with a somewhat Buddhist approach. My first priority is to ensure that I'm not a drag on others, and being moderately above average

usually satisfies my own needs. After that, I engage in some leisure activities. I'm not exactly a workaholic or a study fanatic, but that's pretty much it. (Participant 7)

I am someone who likes to think. I believe that the way to relieve stress should primarily come from within oneself, rather than relying too much on external things. For instance, I might meditate for a while, or reflect and review, or think of something happy, or even just take a nap. (Participant 16)

Rather than saying that I often face pressure, or that I maintain a good mood, it's more about not letting my mood get too bad. The scenery where I am is quite beautiful. If you asked me to work in the laboratory, I would definitely feel a lot of pressure. But when I'm outside, like when I'm collecting data, and sometimes I don't feel like continuing, I just find a lakeside spot to sit for half an hour. After that, I feel ready to continue. (Participant 9)

It's really all about mindset. Once you have a good mindset, nothing really seems like a big deal anymore. I think my mindset wasn't great during my first term I was always worried about failing. A couple of days ago, my university roommate, who took a gap year, came back this year and kept asking me about writing dissertation. I told her not to overthink it. I said, 'Just keep a good attitude, do what you need to do, follow your supervisor's advice and you'll definitely graduate.' (Participant 8)

Embracing mindfulness can foster greater openness, patience, self-compassion, humility, gratitude, and non-judgmental acceptance of cultural differences among Chinese students studying abroad. Through present-moment engagement and deep self-observation, mindfulness allows students to create space for adapting to new

environments, learning from daily experiences, and growing through challenges, while appreciating the beauty in everyday life.

5.8.3 Avoidance-oriented Coping

Avoidance-oriented coping, also known as avoidant coping, is a strategy characterised by the evasion of stress-related situations, interactions, or activities, and the minimisation of engagement with stress-related information (Lazarus & Folkman, 1984). This strategy focuses on avoiding the source of stress rather than actively seeking solutions or managing emotions, often displaying passive and negative characteristics. In this study, Chinese international students studying in the UK, when confronted with the stress of cross-cultural adaptation, tend to adopt negative coping mechanisms such as avoidance, denial, and distraction. This approach, deeply rooted in the cultural norms of forbearance (ren) and characterised by endurance and emotional suppression, is not recommended. It represents a passive way of managing stress that may hinder effective adaptation

5.8.3.1 Immersion in the Virtual World

In this study, over half of the respondents, specifically 18 students, indicated a preference for relying on the internet as a coping mechanism. This tendency could potentially be attributable to digital relaxation fulfilling the three core psychological needs outlined in Edward Deci and Richard Ryan's Self-Determination Theory (1985): autonomy, competence, and relatedness. Evidenced by Participant 22's response, aspects of autonomy and competence are reflected:

Before the pandemic, I preferred playing escape-type games. Nowadays, I enjoy multiplayer competitive games more, where everyone collaborates and competes together. That feeling of companionship is quite joyful. Additionally,

the unique visual elements and designs in these games, which are not found in real life, I find quite refreshing and relaxing.

Interviewee 23's answer mainly showcased a sense of belonging, while also referencing autonomy and competence, as he shared:

During the lockdown period, I often spent time on social media platforms with live streaming features, hosting voice chat sessions. It was mainly me and a few friends who participated, as all of us were adhering to lockdown restrictions and staying home. However, some new international students also joined in. We would take turns speaking, lightheartedly griping, and sharing about our overseas lives. This made life feel less monotonous and boring.

Chinese international students, when engaging with digital entertainment, fulfil their needs for control and autonomy. The achievements and sense of interaction experienced within these online environments enhance their feelings of competence. Concurrently, the continual emergence of new challenges and narratives not only fascinates them but also bolsters their capabilities and self-confidence. Additionally, the internet as a social platform, facilitates their connection with their heritage culture, thereby fostering a sense of belonging.

While the virtual environment serves as a refuge for Chinese international students, where they can temporarily isolate themselves from the pressures of real life and forget the challenges encountered in their studies and life abroad. This behaviour of escaping reality is interpreted not only as a compensation for unsatisfied needs in real life but also, according to Reinforcement Theory (Skinner, 1971), as potentially being positively reinforced. Nevertheless, frequent reinforcement of such behaviour may

culminate in an over-dependence on the virtual environment, potentially leading to addiction. Participant 11 stated a typical experience falling into digital dependency:

When I'm under stress or feel boredom, I just keep playing video games, with the curtains drawn whether it's day or night outside. I just keep playing, barely noticing my hunger. When I'm tired, I sleep, then get up and continue playing. I play so much that I nearly reach a point of complete burnout. But in doing so, it feels like my emotional turmoil sort of dissipates.

Among the 18 respondents, five students exhibit signs of digital addiction or tendencies towards it, characterised by excessive internet use. This includes spending excessive time on online gaming, becoming overly immersed in social media engagement, and indulging in live-stream tipping and so forth.

5.8.3.2 Denial and Disengagement

Sigmund Freud (1989) defined 'denial' as a psychological defense mechanism. In psychoanalytic theory, denial is perceived as an unconscious refusal to acknowledge realities that are unpleasant, painful, or threatening. Building upon this foundation, Anna Freud's (2018) theoretical contributions further explain the various types of denial. It may involve direct denial to refuse acknowledgment of a fact, or cognitive distortion to make the reality more bearable. This also encompasses mechanisms like projection, avoidance, and rationalisation, employed as strategies to cope with internal stresses and anxieties.

In this study, when encountering a range of cultural adjustment difficulties, Chinese international students may psychologically engage in completely denying or refusing to acknowledge the relevance of these realities. This strategy serves to protect themselves from emotional discomfort and unresolved conflicts. For instance,

respondent number 21, in confronting the challenges associated with academic integration, demonstrated a psychological defense mechanism characterised by distortion of reality. Her articulation illustrates this point:

Listening to the lecture is somewhat uncomfortable because I struggle to keep up with the pace due to the accent, speaking speed, and unfamiliar words. However, I'm not really confused or annoyed. I think if I cannot manage it, others probably cannot either.

Although she expressed uncertainty and ambivalence about her own learning abilities ('I think if I cannot manage it'), she alleviated her personal anxiety through the mechanism of projection onto others ('others probably cannot either'). By avoiding addressing her own issues directly and rationalising the situation, she implies that other individuals might be facing similar difficulties, thereby diminishing direct self-questioning regarding her capabilities and rendering the reality more palatable. Participant 6's response exemplifies outright rejection of the fact, as evidenced in her statement:

It's not that I'm unable to cope with the sense of solitude, but I find myself wanting to do something to lift my spirits and not seem so isolated. So, I wear my headphones and pretend to be chatting with a friend on the phone as I walk. I even manage to keep up a semblance of a logical conversation, as if there's actually someone on the other line.

She also shared her motivation, explaining the background behind her actions:

I went to campus for a PCR test. On Wednesday, our university hosted an open day, and it was quite crowded – lots of parents and children were there,

looking around happily. Seeing their joy and togetherness, suddenly, I just felt... it's hard to put into words...

In light of this context, the participant engaged in the act of pretending to talk on the phone with others, effectively denying her true emotional state of loneliness. By fabricating non-existent social interactions, she avoided confronting and dealing with her actual feelings of solitude. This act, likely aimed at projecting an image of being socially connected in public, both to others and possibly to herself, was a strategy to alleviate her sense of isolation and potential social anxiety. Such imitation of social engagement temporarily eased her feelings of loneliness and homesickness.

Compared with the mechanism of denial, which is centred on the psychological refusal to acknowledge distressing realities, the construct of behavioural disengagement focuses more on the action-oriented response where individuals reduce or cease their efforts in addressing the stressor, reflecting a transition from cognitive avoidance to active withdrawal (Carver, Scheier, & Weintraub, 1989). The responses of participants 29 and 24 demonstrated this concept as detailed below:

On one hand, I'm not particularly interested in their culture, and on the other, adapting to it is quite difficult. Therefore, I feel that since I might not be able to adapt anyway, I should rather focus on my academics and research. I came here to gain real expertise and acquire substantial skills, which are more important to me. Not being able to adapt to the culture won't have a major negative impact on me.

During my undergraduate studies, I had a classmate with whom I had differing views on certain political issues, especially during a particularly sensitive period. I was very averse to engaging in debates or discussions with

the fellow student about that topic, as I'm not someone who enjoys conflict. However, this classmate was quite aggressive in their approach. As a result, my attendance during that period was considerably low.

In these two scenarios, the students avoid these sources of stress by changing their behaviours and focus. These tactics also encompass associating exclusively with compatriots (Participant 4), outsourcing academic assignments to mitigate scholastic challenges (Participant 19), and gravitating towards comfort zones like shopping at supermarkets catering to their cultural preferences (Participant 5).

Chapter 6. Discussion and Conclusion

6.1 Contribution to Knowledge: Core and Beyond

6.1.1 Chinese Community's Wellbeing Status in UK

This research utilises longitudinal data from the UK Household Longitudinal Study (UKHLS) to analyse the wellbeing status of the Chinese community in the UK over the period from 2009 to 2020. By examining the frequency with which participants reported feeling downhearted in the past four weeks, it was found that although the majority reported low levels of depression symptoms, a small portion exhibited depression symptoms. Furthermore, the average score for depression among the Chinese group showed a slight decline across the ten waves of data, indicating a marginal decrease in overall wellbeing over time.

This study addresses a significant gap in existing literature by focusing on the wellbeing of the Chinese community living in the UK, a demographic notably underrepresented in wellbeing and mental health research. While previous studies have employed the UKHLS to examine general mental health trends among diverse populations residing in the UK (e.g., Knies et al., 2016; Pierce et al., 2020; Smith et al., 2021), there remains a dearth of research specifically targeting the mental health and wellbeing of the Chinese community. The limited sample size of the Chinese population in the UKHLS dataset not only poses challenges to the research but also highlights how this group has been neglected in broader studies.

Despite these challenges, this study demonstrates the value of using nationally representative longitudinal data, such as the UKHLS, to examine the wellbeing of underrepresented groups. Employing a weighted analysis, it addresses the limited representation of the Chinese ethnic group, ensuring that the findings are as

representative as possible. Moreover, the study identifies a threshold for depression symptoms that are indicative of wellbeing concerns, demonstrating that 35% of the participants reported depressive feelings beyond this threshold, which is associated with problematic levels of wellbeing. Furthermore, this research underscores the importance of considering cultural variations and potential biases, such as self-selection and non-response, in mental health assessments. Careful consideration of how individuals with higher levels of wellbeing might disproportionately participate in surveys highlights a crucial area for rigorous bias mitigation to ensure the accuracy of wellbeing scores. Additionally, it is important to acknowledge that those experiencing lower levels of wellbeing or depression symptoms may be less inclined to engage in research activities. This reluctance can lead to underrepresentation of severe cases, further complicating the challenge of accurately assessing community mental health status.

6.1.2 Chinese International Students' Wellbeing in UK

6.1.2.1 Primary Data Methodological Strengths and Innovations

This research conducted a cross-sectional survey, collecting questionnaire data from 452 Chinese international students across the UK, including England, Scotland, Wales, and Northern Ireland. The stratification variable employed was the international students' length of stay in the UK, with a balance maintained across age, gender, and major. From this sample, 30 students with varying degrees and levels of language proficiency were selected for semi-structured interviews based on stratified criteria to further explore their experiences and challenges while studying in the UK. Although numerous studies have investigated the cultural adaptation of Chinese international students, research specifically focusing on the UK context remains relatively scarce. Moreover, studies employing a mixed-methods approach to examine these Chinese international students' wellbeing, acculturative stress, and coping strategies,

particularly in the face of challenges posed by the COVID-19 pandemic, are even rarer. By utilising a mixed-methods design, this study not only collected a substantial amount of primary data but also specifically targeted these currently understudied areas.

A groundbreaking innovation of this study is the application of multiple mathematical models to address and validate the mental health and wellbeing of Chinese international students in the UK, particularly under the backdrop of COVID-19. This approach not only addresses a lacuna in the current research landscape but also goes beyond previous studies that predominantly employed factor analysis, t-tests, or ANOVA. Initially, the study employed an Ordinary Least Squares (OLS) regression model as a baseline, which provided critical insights for subsequent qualitative discussions. The OLS model is advantageous for its ability to clearly delineate the linear relationships among independent variables, control variables, and dependent variable. By facilitating the incremental adjustment of model parameters through the inclusion or exclusion of variables, it enhances the interpretative clarity of variable effects. Particularly, it effectively manages categorical control variables, allowing for effective comparisons with reference groups and demonstrating variations in their impacts. The robustness of the OLS findings was then verified through an ordered logit model, which shares a methodological framework with the OLS. Furthermore, Structural Equation Modeling (SEM) was employed to explore acculturative stress as a latent variable, providing a fresh perspective by uncovering the complex relationships and foundational dynamics with observed variables that direct measurements might overlook. Moreover, Structural Equation Modeling (SEM) was utilised to investigate acculturative stress as a latent variable, providing a fresh perspective by uncovering the complex interactions and foundational dynamics often overlooked by direct measurements. This multifaceted methodology offers a more comprehensive and detailed analysis compared to traditional approaches, which tend to oversimplify the aspects of mental health phenomena.

Regarding sample size, this study has several advantages compared to previous research. For ordinary least squares (OLS) regression and ordered logit models, a sample size of 100-500 is generally considered adequate (Cohen, 1992; Long, 1997). For structural equation modelling (SEM), a minimum sample size of 200 is recommended, with larger samples providing more statistical power and stable parameter estimates (Kline, 2015). With 452 participants, the current study well exceeds the recommended thresholds for various statistical analyses, offering several key advantages: it enhances the reliability of findings by reducing the risk of Type II errors, which are the failure to detect a true effect when one actually exists (Cohen, 1992; VanVoorhis & Morgan, 2007). It also increases the generalisability of the results (Rothman et al., 2013; Polit & Beck, 2010) and ensures the stability and accuracy of parameter estimates in complex statistical models (Schreiber et al., 2006; Boomsma, 1985).

In contrast, a systematic review of 24 empirical studies on acculturative stress and coping strategies among Chinese international students revealed that only 7 out of 21 quantitative studies (included mixed methods research) had a sample size that met the recommended standards (see [Appendix A](#)). These studies primarily relied on descriptive statistics or correlational analyses, which may have limited their ability to detect significant effects or to explore complex relationships among variables. Moreover, the majority of these studies were conducted in the United States, Australia, and other EU countries, leaving the experiences of Chinese international students in other host countries, such as the United Kingdom, largely unexplored. By combining a relatively large, representative quantitative sample with in-depth qualitative insights, this study provides a more comprehensive and contextualised understanding of Chinese international students' acculturation experiences in the UK.

6.1.2.2 Chinese International Students' Acculturation Factors

This study aims to explore the acculturative stressors affecting the wellbeing of Chinese international students studying at UK universities, structured through three main steps: Firstly, a systematic literature review was carried out to identify and categorise the acculturative stressors, laying a theoretical foundation for subsequent data collection and analysis. Secondly, a quantitative questionnaire was utilised to further explore and validate the actual impact of these stress factors on the wellbeing of Chinese international students, providing a quantitative analysis of their correlations and impacts. Lastly, qualitative interviews were conducted to gain deeper insights into the students' lived experiences and perceptions, thereby uncovering the underlying social and psychological drivers of acculturative stress.

Through a systematic literature review, the current study selected 24 empirical studies published between 2000 and 2020, focusing on acculturative stress factors. Thematic analysis revealed six major themes, including Perceived Cultural Distance, Social Integration, Perceived Discrimination, Academic Integration, Language Barriers, and Homesickness, which comprised a total of 36 codes. This analysis identified a significant research gap: while the majority of acculturation studies concentrate on international students in the United States and other European countries, there is a notable scarcity of such studies specifically addressing Chinese international students in the UK. Furthermore, there had been no systematic reviews on this topic until this research was registered on PROSPERO in 2021 by Jiang, X., Xiao, Z., & Hetherington, L. ([PROSPERO](#)). This registration underscores the ongoing gap in comprehensive literature on this topic, confirming that this field remains inadequately explored. It highlights the originality and importance of this research in contributing to the academic understanding of acculturative stress among Chinese international students in the UK.

Building on the results of the systematic literature review, researcher's prior research experiences, and the context of the COVID-19 pandemic at its peak during 2020-2021, the research designed and distributed the questionnaire, which covered six major stressors along with the stressors of COVID-19 pandemic and coping strategies. The quantitative analysis confirmed a significant negative correlation between the identified stressors such as Perceived Cultural Distance, Social Integration, Perceived Discrimination, Academic Integration, Language Barriers, Homesickness, COVID-19, and wellbeing issues. However, the OLS regression results revealed a relatively small R-squared value, indicating that a significant portion of the variance in the dependent variable, which in this case is wellbeing problems, remained unexplained by the acculturative stressors included in the model. This suggests the presence of additional factors influencing the wellbeing of Chinese international students in the UK, which were not captured by the quantitative analysis. To explore these dimensions, the study employed semi-structured interviews using an abductive approach that combined both deductive and inductive reasoning. Thematic analysis of the interview data was conducted to identify and describe both common and distinctive experiences reported by the international students, which in turn facilitated a more in-depth and nuanced understanding of the interplay among various stressors within the complex framework of cultural adaptation.

In the concluding phase of the interviews performed as part of this study, an open-ended question was integrated to capture any additional stressors or challenges not covered in the primary investigation. This inquiry unveiled several new potential stress factors. Notably, these included issues related to intimate and academic tutors' relationships, positive discrimination, peer pressure, future uncertainty, and the challenges associated with adjusting to standard time from daylight saving time. Due to the fundamental complexities of cross-cultural research, the factors identified from a limited number of respondents lack substantial literature support, highlighting a research gap in this field.

Given that thematic analysis in this study primarily serves to identify patterns rather than to validate hypotheses thoroughly, it is challenging to conclusively determine whether these factors are direct acculturative stressors or merely associated. While there appears to be a connection between these factors and the wellbeing and acculturative stress of students, the nature of this relationship, whether direct or acting through potential mediating or moderating mechanisms, remains to be clarified. These preliminary findings, alongside their broader implications, will be further explored in the implications section of the study, in conjunction with the Bright Future dataset.

6.1.2.3 COVID-19 Pandemic Impact on Chinese International Students

Despite the world's transition into the post-pandemic era and the gradual fading of COVID-19-related discussions from mainstream media and public attention, the pandemic remains a significant marker of the times and a formidable challenge for Chinese international students (Ma & Miller, 2020). However, academic research on the impact of the COVID-19 pandemic on the wellbeing of this student population is still in its nascent stages, with limited attention from the scholarly community. This study categorises the effects of the pandemic on international students into two main types: direct and indirect impacts.

Direct impacts encompass factors arising directly from the pandemic, such as health concerns, isolation measures, travel restrictions, and academic disruptions, which have immediate consequences on students' daily lives and learning experiences. Indirect impacts, on the other hand, involve secondary effects triggered by the pandemic, such as the spread of rumours and misleading information on social media platforms. These indirect factors may significantly affect students' mental health by amplifying uncertainty and panic, which can exacerbate anxiety and stress and have far-reaching consequences, particularly through the rapid spread of misinformation on social media.

While the COVID-19 pandemic has undeniably been a source of stress for international students, its impact has been polarising. Several participants in this study, for instance, referred to the virus as a '*mild flu*,' noting that '*everyone around me has already been infected*,' or describing it as '*nothing serious*.' Feedback from participants in this study indicates that the effects of the pandemic were not as severe as initially anticipated, contrasting with the more distressing impacts identified in research conducted in 2020 (Jiang & Xiao, 2024). As this research's data collection occurred in 2021, when UK universities were no longer in a strict lockdown but operated under partial reopening, many students demonstrated resilience, managing to view the situation rationally. Some also reported consulting authoritative books and media outlets to assess the evolving pandemic landscape, thus approaching COVID-19 in a more informed and measured manner. Although the stress associated with COVID-19 persists, its nature has shifted significantly.

While intertwined with other sources of stress, the COVID-19 pandemic possesses its unique and distinctive impacts on international students. For these students, the pandemic should not be viewed merely as a temporal background factor, but rather as a specific and substantial source of pressure. Within this historical context, international students have encountered lockdowns, campus closures, frequent policy alterations, canceled incentives, and restricted flights, all of which significantly disrupted their daily routines and academic trajectories (Cheng et al., 2024). This study indicates that students' primary concerns have shifted from initial panic and anxiety towards frustrations over the practical limitations and inconveniences imposed by pandemic-related regulations. Current challenges revolve more around navigating daily disruptions and policy-induced complications rather than dealing with persistent fears or intense psychological distress. Although anxiety specifically related to the virus itself may have diminished, international students now frequently confront difficulties navigating complex healthcare systems abroad, encountering policy inconsistencies

and cultural barriers when accessing health and social care services. Fluctuating campus regulations and limitations on in-person support compound these difficulties, testing students' resilience and social adaptability. Therefore, rather than serving merely as a contextual backdrop, the pandemic emerges distinctly as a source of stress, one that exposes and intensifies existing vulnerabilities within cross-border health and social care infrastructures (Li et al., 2025).

6.1.2.4 Chinese International Students' Coping Strategies

Many previous studies that discussed coping strategies have commonly employed questionnaires for assessment, most of which are modified versions based on classic questionnaires such as the Ways of Coping Questionnaire (WCQ) developed by Folkman and Lazarus (1988), the Brief COPE proposed by Carver et al. (1997), and the Coping Inventory for Stressful Situations (CISS) designed by Endler and Parker (1990).

This research employed a qualitative approach, utilising semi-structured interviews to deeply explore the coping strategies and mental health of Chinese international students in the UK when faced with acculturative stress. Building upon Folkman and Lazarus's (1984) framework of three major coping strategies—problem-focused, emotion-focused, and avoidance coping—this research further explored how cultural factors influence these coping mechanisms. The findings revealed that Chinese international students' coping styles are profoundly shaped by Chinese philosophical concepts such as 'wu wei' (non-action), 'dan ding' (tranquility), 'sui yuan' (following fate), and 'chan' (Zen), which enable them to maintain composure and make decisions in the face of adversity. This integration of Eastern philosophical principles in their coping mechanisms allows them to navigate cultural conflicts and personal challenges in a distinctive manner, underscoring the complexity and dynamism of cross-cultural adaptation.

Furthermore, this study discovered that the concept of 'ren' (forbearance) intertwines with traditional avoidance coping strategies, manifesting in Chinese students' tendency to endure hardships independently rather than seeking external support. This coping approach stands in stark contrast to the encouragement of networking and social support in Western cultures, thus influencing the psychological adaptation process of these students to a certain extent (Kim et al., 2008; Taylor et al., 2004).

Moreover, this study analyses the experiences of Chinese international students in the UK as they confront acculturative stress and employ coping strategies, revealing a complex interaction between collectivism and individualism in their adaptation process. The findings indicate that although the influences of collectivism and individualism are clearly present when these students face acculturative stress, their actual coping decisions do not consistently align with either cultural orientation. Chinese students, often associated with a collectivistic background, tend to experience heightened psychological distress in response to certain stressors due to their strong inclination towards collectivism. For instance, they may worry excessively about their individual performance negatively impacting their group's scores or hesitate to ask questions in class, even when confused, to avoid occupying others' time, thus hindering their academic integration. However, when it comes to selecting coping strategies to alleviate stress, Chinese students do not exhibit a clear preference for either collectivistic or individualistic approaches. This observation challenges the simplistic dichotomous assumptions about collectivism and individualism widespread in cross-cultural research (e.g., Markus & Kitayama, 1991; Triandis, 1995). Instead, their coping choices emerge from a complex negotiation between cultural values, situational demands, and personal preferences (Brew & Cairns, 2004).

6.2 Research Limitations

This study has made some progress in providing insights into the acculturation factors

and wellbeing of Chinese students in the UK. However, there are several limitations that may affect the generalisability and applicability of the results.

First, this study utilised data from the UK Household Longitudinal Study (UKHLS) to analyse the wellbeing status of the Chinese community residing in the UK. However, the insufficiency of the sample size within the dataset, due to the study's decision not to boost sample Chinese people as they are not amongst the top five ethnic minority groups in the UK, constrained the potential for more in-depth analysis. Despite the dataset encompassing key variables such as income level, educational attainment, family membership, and English proficiency, the relatively small sample size of the Chinese community and issues of data missingness—including proxy responses, inapplicability, missing data, and refusals—further limited the quality and robustness of the analyses. These limitations not only prevented effective comparisons of the Chinese community's data with other ethnic groups or the broader UK population, but also compromised the soundness and feasibility of any further regression analyses intended to explore influential factors on wellbeing.

Second, constrained by time and resources, this study utilised a cross-sectional design in its primary data collection. While this design effectively explores the associations between acculturative stressors and wellbeing, it does not establish causal relationships or capture the dynamic changes in wellbeing over time. Wellbeing is a construct that varies throughout the adaptation process, and cross-sectional data may not fully represent international students' authentic experiences during this journey. To gain a more comprehensive understanding of the various stages of acculturation and the factors influencing wellbeing, future research could consider adopting a longitudinal design. For example, researcher could conduct multiple assessments of a cohort of students each term or annually track the evolution of their wellbeing and its dynamic interplay with acculturative stressors.

Moreover, as an insider researcher who shares the experience of studying abroad in the UK, the understanding of the challenges and opportunities faced by this group is deepened. This insight can be valuable in creating research tools sensitive to cultural nuances and in building trust with participants. However, this close connection may also lead to biases in data interpretation, as there might be an unconscious projection of personal experiences onto the data or an overlooking of perspectives different from those of the researcher. To limit these biases, several approaches were employed. Initially, the questionnaire was thoroughly tested beforehand to ensure its clarity and appropriateness for the cultural context. Secondly, data analysis was conducted transparently, as detailed in [Sections 3.8.2](#) and [Section 3.9](#), clearly distinguishing between what the participants actually said and the interpretations made by the researcher. Furthermore, findings were regularly discussed with the supervisor who helped look at the data from other viewpoints. Lastly, the researcher continuously examined personal beliefs and assumptions throughout the study. Despite these efforts, it is impossible to completely remove personal bias. Therefore, the results should be viewed as a joint creation between the participants and the researcher, influenced by their shared and individual experiences as Chinese international students in the UK (Finlay, 2002; Dwyer & Buckle, 2009). Future research could further reduce personal bias by incorporating team members from diverse backgrounds. Additionally, having outside experts review the research process and findings could enhance the reliability and trustworthiness of the results.

Last, the collection of questionnaire and interview data was influenced by several subjective factors that could impact the authenticity and accuracy of the data. To begin with, there were discrepancies in how participants understood the questions, leading to varied responses. For instance, while Participant 16 rated most acculturative stressors as 'never' or 'rarely' on a Likert scale, while he selected 'sometimes' for perceived

discrimination. Typically, a major stressor that significantly impacts an individual's wellbeing would be rated as 'often' or 'all the time'. In the interview, he clarified that discrimination was the primary stressor, having the greatest impact on him. This contrast between his quantitative ratings and qualitative feedback underscores the necessity of integrating both data types to fully grasp the implications of participant responses. In addition, certain phrases in the questionnaire may have held different meanings for different participants, thus resulting in inconsistent scoring to the same questions. Such differences in comprehension could introduce errors in data interpretation. Secondly, recall bias (Althubaiti, 2016; Raphael, 1987) presented a challenge, especially in interviews. Specifically, this bias occurs when participants attempt to recall past behaviours or emotional experiences, potentially leading to inaccurately reported information due to imprecise memories. Additionally, non-response bias (Groves & Peytcheva, 2008) is a common issue in survey research. This bias occurs when individuals who choose not to participate in the study differ systematically on certain key variables from those who do. For example, if students who are poorly adapted or have worse mental health conditions are less willing to take part in the study, the collected data might overestimate the overall adaptation level and mental health status of the student population. To minimise the likelihood of non-response bias, the research was advertised through various platforms in an effort to attract a broader and more representative group of participants.

6.3 Research Implications

6.3.1 Implications for Future Research

6.3.1.1 Chinese Community's Wellbeing Status

In this research, the comparison of wellbeing status among the Chinese community residing in the UK with British and other ethnic groups was not achieved, highlighting

a crucial area for future research focus. Analysis of the UK Household Longitudinal Study (UKHLS) dataset's racial classification codes (`a_racel_dv`) reveals that the sample encompasses a diverse range of ethnic groups including White (Irish, Gypsy or Irish Traveller, Any Other White Background), Mixed (White and Black Caribbean, White and Black African, White and Asian, Any Other Mixed Background), Asian or British Asian (Indian, Pakistani, Bangladeshi, Chinese, Any Other Asian Background), Black or British Black (Caribbean, African, Any Other Black Background), and other ethnic categories.

Considering this backdrop, the scope of future studies will be expanded to include a broader range of diverse populations, thus enabling comparative analyses. Specifically, future research will focus on examining the wellbeing differences among various Asian backgrounds by comparing Asian or British Asian populations with the Chinese community. This analysis may reveal how cultural and socio-economic factors influence the quality of life among different Asian subgroups. Additionally, it will explore the potential effects of cultural integration on wellbeing through interactions between the Chinese community and both British White and mixed Asian ethnic groups, aiming to understand the benefits or challenges presented by these cultural intersections. Furthermore, the study will include comparisons between the Chinese community and other Asian groups, providing insights into how differing cultural backgrounds within the same racial category affect wellbeing.

Building upon the diversity observed in the UKHLS dataset, future studies will employ causal inference statistical models to investigate the interaction of cultural and socio-economic factors impacting wellbeing. The implementation of fixed effects models will control for individual characteristics, enhancing the precision of analyses concerning how variables such as income, employment, marital status, and education affect wellbeing. Additionally, employing a difference-in-differences approach will facilitate

a detailed assessment of the COVID-19 pandemic's impacts on diverse ethnic groups, providing valuable insights into the differential effects of cultural and societal dynamics on wellbeing.

6.3.1.2 Chinese International Students' Wellbeing and Mental Health

Interpretative Phenomenological Analysis and Localised Questionnaire

Although academia has conducted detailed studies on various types of acculturative stressors, providing certain interpretations and perspectives, there has been limited research integrating all types of stress factors about Chinese international students for comprehensive discussion. This study considered all conceivable acculturative stress factors, identifying perceived discrimination as a significantly overlooked yet critical stress source that merits in-depth exploration. Through qualitative analysis, meaningful progress was made in summarising the potential impacts of this overlooked stressor, with detailed discussions to be presented in the subsequent [Section 6.3.2](#). Moreover, it was revealed that the fundamental reason for the neglect of this stressor is the selective silence of international students. The reasons for this silence include reluctance, inability, disdain, and uncertainty.

For future research, it is recommended to employ Interpretative Phenomenological Analysis (IPA) for data analysis. Compared to Thematic Analysis, IPA allows for a deeper exploration of richer content and individual experiences. Building upon this qualitative research foundation, the development of a more localised questionnaire is suggested. Although existing questionnaires can assess perceived discrimination, these measurement tools and questionnaire designs are primarily based on Western culture. Therefore, developing a questionnaire tailored specifically for international students with local cultural characteristics remains a research gap. By adopting this approach, the identification of effective coping strategies that promote the wellbeing of

international students is anticipated.

Bright Future

The ‘Bright Futures’ large-scale dataset (Soysal Nuhoglu & Cebolla Boado, 2021), which encompasses data from both local and international students in China, the UK, Germany, and Japan, provides a rich comparative background that makes it a valuable supplementary resource for this research*. Data on emotional distress (‘distress 1-7’) and sleep quality (‘slpwkday’ and ‘slpwkend’) over the past thirty days were used as dependent variables to measure mental health. Employing machine learning via cross-validation techniques, the Lasso model was selected as the optimal statistical model. Through the Lasso model, this study effectively identified key variables influencing stress in intimate relationships (see [Table 6.1](#)), further validating the findings presented in [Section 6.1.2](#).

Moreover, the dataset offers a comprehensive set of information on personal characteristics, covering aspects such as respondents’ personality traits (‘values1-4’), academic performance (‘difficulty6_cUKDE’, ‘langielts’ and ‘stulev’), future plans (‘plan’ and ‘termabrdug’), family income (‘famincome_c’), and parental education levels (‘fedu_c’ and ‘medu_c’). Future research can utilise these control variables to investigate the relationships between the target variables and the dependent variables. This approach not only contributes to filling in research gaps but also corroborates the primary data findings of the current study, providing deeper insights and empirical support for research and practice related to international students’ intimate relationships.

* Although the ‘Bright Futures’ dataset was collected during 2017-2018, access to the raw data for analysis was only available from February 2023. By this time, the primary data collection for this research had been completed, and analysis was already underway. Given that the sample from this dataset bears a high similarity to the sample used in this study, it has been utilised as supplementary data for analysis. However, due to its secondary nature and research timeline, it is not extensively discussed in this thesis.

Table 6.1 Key Variables Influencing Acculturative Stress in Intimate Relationships from the ‘Bright Futures’ Dataset

Variable Name	Question Description
<i>partnerstat</i>	Relationship status
<i>partnertime</i>	Time when relationship started
<i>homosex</i>	Opinion on homosexuality
<i>presex</i>	Opinion on premarital sex
<i>genroles1</i>	Agreement – Married people are generally happier than unmarried people
<i>genroles2</i>	Agreement – It is acceptable for an unmarried couple to live together
<i>genroles3</i>	Agreement – It is more important for a wife to support her husband’s career than to develop her own career
<i>genroles4</i>	Agreement – The husband’s role is to make money, and the wife’s role is to look after family
<i>genroles5</i>	Agreement – To preserve family lineage, one should have at least one male child
<i>genroles6</i>	Agreement – A married woman should help her husband’s family first

Green Space

In the post-pandemic era, the ‘Twenty-Minute Park Effect’ has increasingly become a trend. Based on Attention Restoration Theory (Kaplan, 1995) and Stress Reduction Theory (Ulrich et al., 1991), exploring the impact of green spaces on the academic and life stresses of Chinese international students in the UK holds crucial importance. This research employed a quantitative analysis through questionnaire, specifically incorporating a question regarding green spaces in the coping strategy section: ‘Direct contact with nature (e.g., green spaces) helps me feel less stressed.’ The results revealed a significant negative correlation between contact with green spaces and stress levels, with an average score of 81.08, ranking second among five coping strategies. This

confirms that accessing green spaces is a widely accepted and effective method among Chinese international students.

Given that the relationship between green spaces and stress levels among Chinese students in the post-pandemic living and learning environments remains a research gap, future studies will utilise mixed methods for a deeper exploration. Initially, satellite maps will be used to locate and measure the area of green spaces surrounding student accommodations. Subsequently, surveys including stress scales and green space utilisation scales will collect data on students' evaluations of their surrounding environments and their frequency of using these green areas. Additionally, the study will include on-site photographs and area calculations of selected green spaces to obtain more precise data. Such initiatives are anticipated to create healthier and more conducive learning environments, consistent with the findings that reduced exposure to green spaces correlates negatively with stress levels, thereby enhancing student wellbeing.

6.3.2 Implications for UK Universities and Chinese International Students

Enhancing EDI (Equality, Diversity, and Inclusion) Efforts

Although discrimination is not a new area of acculturative stressors, its actual impact far exceeds what has been previously revealed in studies. For example, reduced English proficiency among some students led to a lower awareness of linguistic discrimination, hampering their ability to identify and respond to such biases and inadvertently exposing them to greater harm. Additionally, fear of discrimination prompted some to self-isolate, further complicating their adaptation and leading to serious wellbeing and mental health issues. The research findings highlight that traditional views of discrimination such as social, racial, and linguistic discrimination do not fully capture the complexities international students face. Microaggressions, namely academic and

invisible discrimination and so forth, are more prevalent in the university context, often based on stereotypes and prejudices. Moreover, this research has identified that for under-represented groups, particularly international students, discrimination and prejudice are not merely singular acculturative stressors; rather, they trigger a ‘domino effect’, significantly impacting their overall cultural adaptation in the host country. Specifically, discriminatory experiences often cause reduced communication, worsening language barriers, and negatively affecting academic and social engagement. The COVID-19 pandemic has exacerbated these problems and stress. Furthermore, influenced by East Asian cultural norms valuing stoicism, many students tend to endure or avoid these challenges rather than seeking university or social support, potentially leading to long-term wellbeing problems and mental health issues. This highlights the critical need for thorough understanding and proactive engagement in EDI courses and peer-mentoring programme.

Cultivating Self-Awareness and Independence

When exploring the experiences of Chinese international students in the UK, various factors were found to influence their decision to study abroad. Many students indicated that they chose to study overseas because they perceived it as a desirable experience or were following their parents’ wishes. Particularly in terms of major selection, over half of the respondents admitted to being significantly influenced by their parents and agents, with a tendency to prioritise school rankings over personal interests and compatibility with the subject. This phenomenon suggests that international students often lack self-motivation and careful consideration when making educational and career choices, which may be an underlying cause of wellbeing problems and mental health issues. Given that most respondents are from the younger generation (see [Table 4.1](#)), helping them establish a proper understanding of studying abroad and discover their own goals and interests is crucial. It is recommended that students understand the true meaning of studying abroad, clarify their personal objectives, and make educational choices based

on their own interests and career plans before deciding to study overseas. Additionally, they should be encouraged to step out of their comfort zone and actively participate in social activities to deepen their understanding of the study abroad experience through interactions with people from diverse cultural backgrounds. Furthermore, younger international students may feel confused and struggle to adapt when faced with cultural differences in Western countries. For example, Western dating culture and pub culture may conflict with their existing values. Therefore, international students should strive to find a balance between Chinese and Western cultures, learn to think independently, and establish a proper value system. UK universities should strengthen the promotion of support services to ensure that all students, especially international students, are aware of and can easily access these resources. Moreover, universities can offer cultural adaptation courses to help international students better understand and integrate into the local society. Only through proactive engagement from both sides can a truly supportive environment be created to enhance students' overall wellbeing. In conclusion, Chinese international students should approach studying abroad with an open and positive attitude while fully utilising university resources to achieve personal growth and development. UK universities, in turn, should further improve their services for international students, providing them with more assistance and guidance to create a favourable study abroad environment together.

References

- Abraham, A., Sommerhalder, K., & Abel, T. (2009). Landscape and well-being: A scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health*, 55(1), 59–69. <https://doi.org/10.1007/s00038-009-0069-z>
- Adams, W. C. (2015). Conducting semi-structured interviews. *Handbook of practical program evaluation*, 492-505. <http://dx.doi.org/10.1002/9781119171386.ch19>
- Aday, L. A. (2001). Who are the vulnerable? In: *At Risk in America: The Health and Health Care Needs of Vulnerable Populations in the United States*. San Francisco: Jossey-Bass.
- Agresti, A. (2010). *Analysis of Ordinal Categorical Data*. Hoboken, NJ, Wiley.
- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International journal of educational research open*, 1, 100011. <https://doi.org/10.1016/j.ijedro.2020.100011>
- Aisha, S., & Mulyana, D. (2020). International students' communication adaptation to academic environment in the United Kingdom. *Jurnal Penelitian Komunikasi*, 23(2). <https://doi.org/10.20422/jpk.v2i23.678>
- Akaike, H. (1974). A new look at the statistical model identification. *IEEE transactions on automatic control*, 19(6), 716-723. <https://doi.org/10.1109/TAC.1974.1100705>
- Akhtar, M., & Kröner-Herwig, B. (2015). Acculturative stress among international students in context of socio-demographic variables and coping styles. *Current Psychology*, 34 (4), 803-815. <https://doi.org/10.1007/s12144-015-9303-4>
- Albrecht, T. L., & Adelman, M. B. (1987). *Communicating Social Support*. Newbury Park, CA, Sage.
- Alderson, P. (1999). *Learning and Inclusion: Cleves School Experience*. London: David Fulton.

- Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of multidisciplinary healthcare*, 211-217. <https://doi.org/10.2147/JMDH.S104807>
- Amado, S., Snyder, H. R., & Gutchess, A. (2020). Mind the gap: the relation between identity gaps and depression symptoms in cultural adaptation. *Frontiers in Psychology*, 11, 1156. <https://doi.org/10.3389/fpsyg.2020.01156>
- American Psychiatric Association, D. S. M. T. F., & American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (Vol. 5, No. 5). Washington, DC: American psychiatric association.
- Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The coping strategy indicator. *Journal of Personality and Social Psychology*, 59, 1066-1074. <http://doi.org/10.1037/0022-3514.59.5.1066>
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411. <https://doi.org/10.1037/0033-2909.103.3.411>
- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International education*, 5(2), 131-154. <https://doi.org/10.1177/1475240906065589>
- Ang, P. L. D., & Liamputtong, P. (2008). “Out of the circle”: International students and the use of university counselling services. *Australian Journal of Adult Learning*, 48(1), 108–130. <https://search.informit.org/doi/10.3316/informit.148964326232340>
- Arain, M., Campbell, M. J., Cooper, C. L., and Lancaster, G. A. (2010). What is a pilot or feasibility study? A review of current practice and editorial policy. *BMC Medical Research Methodology*, 10(1), 1-7. <https://doi.org/10.1186/1471-2288-10-67>
- Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.

- Axinn, W.G., & Pearce, L.D. (2006). *Mixed Method Data Collection Strategies*. Cambridge: Cambridge University Press.
- Azungah, T. (2018). Qualitative research: deductive and inductive approaches to data analysis. *Qualitative research journal*, 18(4), 383-400. <https://doi.org/10.1108/QRJ-D-18-00035>
- Babb, S. J., Rufino, K. A., Johnson, R. M. (2020). Assessing the Effects of the COVID-19 Pandemic on Nontraditional Students' Mental Health and Well-Being. *Adult Education Quarterly*, 1-18. <https://doi.org/10.1177/07417136211027508>
- Babiker, I. E., Cox, J. L., & Miller, P. M. (1980). The measurement of cultural distance and its relationship to medical consultations, symptomatology and examination performance of overseas students at Edinburgh University. *Social psychiatry*, 15, 109-116. <https://doi.org/10.1007/BF00578141>
- Bai, J. (2016). Development and Validation of the Acculturative Stress Scale for Chinese College Students in the United States (ASSCS). *Psychological Assessment*, 28, 443-447. <https://doi.org/10.1037/pas0000198>
- Bailey, F. J., & Dua, J. (1999). Individualism-collectivism, coping styles, and stress in international and Anglo-Australian students: A comparative study. *Australian Psychologist*, 45, 177-182. <https://doi.org/10.1080/00050069908257451>
- Balibar, E. (2007). Is there a 'neo-racism'?. *Race and racialization: Essential readings*, 83.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191. <https://doi.org/10.1037/0033-295X.84.2.191>
- Banks, K. H., Kohn-Wood, L. P., & Spencer, M. (2006). An examination of the African American experience of everyday discrimination and symptoms of psychological distress. *Community Mental Health Journal*, 42(6), 555-570. <https://doi.org/10.1007/s10597-006-9052-9>
- Bara, A. C., & Arber, S. (2009). Working shifts and mental health—findings from the

- British Household Panel Survey (1995-2005). *Scandinavian journal of work, environment & health*, 361-367.
- Bardeen, J. R. (2015). Short-term pain for long-term gain: The role of experiential avoidance in the relation between anxiety sensitivity and emotional distress. *Journal of anxiety disorders*, 30, 113-119. <https://doi.org/10.1016/j.janxdis.2014.12.013>
- Barron, P. (2006). Stormy outlook? Domestic students' impressions of international students at an Australian university. *Journal of Teaching in Travel & Tourism*, 6(2), 5-22. https://doi.org/10.1300/J172v06n02_02
- Bartlett, M. S. (1954). A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society. Series B (Methodological)*, 296-298.
- Bateson, G., Jackson, D. D., Haley, J., & Weakland, J. H. (1963). A note on the double bind- 1962. *Family process*, 2(1), 154-161. <https://doi.org/10.1111/j.1545-5300.1963.00154.x>
- Beauchamp, T. L., & Childress, J. E. (2001). *Principles of Biomedical Ethics* (5th ed.). Oxford: Oxford University Press.
- Beauducel, A., & Herzberg, P. Y. (2006). On the performance of maximum likelihood versus means and variance adjusted weighted least squares estimation in CFA. *Structural Equation Modeling*, 13(2), 186-203. https://doi.org/10.1207/s15328007sem1302_2
- Benatar, S. R. (2002). Reflections and recommendations on research ethics in developing countries. *Social Science & Medicine*, 54(7), 1131-1141. [https://doi.org/10.1016/S0277-9536\(01\)00327-6](https://doi.org/10.1016/S0277-9536(01)00327-6)
- Bender, M., van Osch, Y., Slegers, W., & Ye, M. (2019). Social support benefits psychological adjustment of international students: Evidence from a meta-analysis. *Journal of Cross-Cultural Psychology*, 50(7), 827-847. <https://doi.org/10.1177/0022022119861151>

- Benzie, H. J., Pryce, A., & Smith, K. (2016). The wicked problem of embedding academic literacies: exploring rhizomatic ways of working through an adaptive leadership approach. *Higher Education Research & Development*, 36(2), 227–240. <https://doi.org/10.1080/07294360.2016.1199539>
- Biesta, G. (2010). Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (2nd ed.). Thousand Oaks, CA: Sage.
- Biesta, G. J. J., & Burbules, N. C. (2003). *Pragmatism and Educational Research*. Lanham, MD: Rowman & Littlefield.
- Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and Public Health. *American Journal of Preventive Medicine*, 28(2), 159–168. <https://doi.org/10.1016/j.amepre.2004.10.024>
- Beil, K., & Hanes, D. (2013). The influence of urban natural and built environments on physiological and psychological measures of stress— a pilot study. *International Journal of Environmental Research and Public Health*, 10(4), 1250–1267. <https://doi.org/10.3390/ijerph10041250>
- Belleville, G., Ouellet, M., & Morin, C. M. (2019). Post-traumatic stress among evacuees from the 2016 Fort McMurray wildfires: Exploration of psychological and sleep symptoms three months after the evacuation. *International Journal of Environmental Research and Public Health*, 16(9), 1604. <https://doi.org/10.3390/ijerph16091604>
- Belsley, D. A., Kuh, E., & Welsch, R. E. (1980). *Regression diagnostics: Identifying influential data and sources of collinearity*. John Wiley & Sons, New York.
- Bemak, F., & Chung, R. C-Y. (2000). Psychological intervention with immigrant and refugees. In J. F. Aponte & J. Wohl (Eds.) *Psychological Intervention and Cultural Diversity* (2nd ed.) (pp. 200-213). Boston: Allyn and Bacon.
- Ben-Ari, A., & Lavee, Y. (2004). Cultural orientation, ethnic affiliation, and negative daily occurrences: A multidimensional cross-cultural analysis. *American*

- Journal of Orthopsychiatry*, 74, 102-111. <https://doi.org/10.1037/0002-9432.74.2.102>
- Berry, J. W. (1992). Acculturation and adaptation in a newsociety. *International Migration*, 30, 69-85.
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, 46, 1-30. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied psychology*, 46(1), 5-34. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>
- Berry, J. W. (1997). *Acculturation and adaptation*. In *Handbook of cross-cultural psychology* (Vol. 3, pp. 291-326).
- Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations*, 29, 697-712. <https://doi.org/10.1016/j.ijintrel.2005.07.013>
- Berry, J. W. (2006a). Acculturative stress. In P. Wong & L. Wong (Eds), *Handbook of Multicultural Perspectives on Stress and Coping* (pp. 287-298). Dallas, TX: Spring.
- Berry, J. W. (2006b). Stress perspectives on acculturation. In D. L. Sam & J. W. Berry (Eds), *The Cambridge Handbook of Acculturation Psychology* (pp. 43-57). New York: Cambridge University Press.
- Berry, J.W., Phinney, J., Sam, D., & Vedder, P. (2006). Immigrant youth: acculturation, identity, and adaptation. *Applied Psychology: An International Review*, 55, 303-332. <https://doi.org/10.1111/j.1464-0597.2006.00256.x>
- 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. <https://doi.org/10.1002/j.2161-1912.2014.00048.x>
- Bhaskar-Shrinivas, P., Harrison, D. A., Shaffer, M. A., & Luk, D. M. (2005). Input-

- based and time-based models of international adjustment: Meta-analytic evidence and theoretical extensions. *Academy of management Journal*, 48(2), 257-281. <https://doi.org/10.5465/amj.2005.16928400>
- Bhowmik, M.K., Cheung, R., & Hue, M.K. (2018). Acculturative stress and coping strategies among mainland Chinese university students in Hong Kong: A qualitative inquiry. *American Journal of Orthopsychiatry*, 88(5), 550 -562. <https://doi.org/10.1037/ort0000338>
- Bierwiazek, K., & Waldzus, S. (2016). Socio-cultural factors as antecedents of cross-cultural adaptation in expatriates, international students. *Journal of Cross-Cultural Psychology*, 47(6), 767-817. <https://doi.org/10.1177/0022022116644526>
- Biesta, G. (2021). Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Sage handbook of mixed methods in social & behavioral research* (2nd ed., pp. 95-118). Thousand Oaks, CA: Sage.
- Bjorck, J. P., Cuthbertson, W., Thurman, J. W., Lee, Y. S. (2001). Ethnicity, coping, and distress among Korean Americans, Filipino Americans, Caucasian Americans. *The Journal of Social Psychology*, 141, 421-442. <https://doi.org/10.1080/00224540109600563>
- Black, J. S., & Mendenhall, M. (1991). The U-curve adjustment hypothesis revisited: A review and theoretical framework. *Journal of International Business Studies*, 22(2), 225–247. <https://doi.org/10.1057/palgrave.jibs.8490301>
- Boomsma, A. (1985). Nonconvergence, improper solutions, and starting values in LISREL maximum likelihood estimation. *Psychometrika*, 50(2), 229-242. <https://doi.org/10.1007/BF02294248>
- Borsboom, D., Mellenbergh, G. J., & Van Heerden, J. (2003). The theoretical status of latent variables. *Psychological review*, 110(2), 203. <https://doi.org/10.1037/0033-295X.110.2.203>

- Boyatzis, R.E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. Sage.
- Bracken-Roche, D., Bell, E., Macdonald, M. E., & Racine, E. (2017). The concept of 'vulnerability in research ethics: An in-depth analysis of policies and guidelines. *Health Research Policy and Systems*, 1-18. <https://doi.org/10.1186/s12961-016-0164-6>
- Brant, R. (1990). Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics*, 1171-1178. <https://doi.org/10.2307/2532457>
- Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The impacts of nature experience on human cognitive function and Mental Health. *Annals of the New York Academy of Sciences*, 1249(1), 118–136. <https://doi.org/10.1111/j.1749-6632.2011.06400.x>
- Bratman, G. N., Hamilton, J. P., Hahn, K. S., Daily, G. C., & Gross, J. J. (2015). Nature experience reduces rumination and subgenual prefrontal cortex activation. *Proceedings of the National Academy of Sciences*, 112(28), 8567–8572. <https://doi.org/10.1073/pnas.1510459112>
- Braun, V. & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589-597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and psychotherapy research*, 21(1), 37-47. <https://doi.org/10.1002/capr.12360>
- Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative psychology*, 9(1), 3. <https://doi.org/10.1037/qup0000196>
- Braun, V., & Clarke, V. (2023). Toward good practice in thematic analysis: Avoiding common problems and becoming a knowing researcher. *International journal of transgender health*, 24(1), 1-6.

<https://doi.org/10.1080/26895269.2022.2129597>

- Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica: Journal of the econometric society*, 1287-1294.
- Brew, F. P., & Cairns, D. R. (2004). Do culture or situational constraints determine choice of direct or indirect styles in intercultural workplace conflicts?. *International Journal of Intercultural Relations*, 28(5), 331-352. <https://doi.org/10.1016/j.ijintrel.2004.09.001>
- Brinkmann, S., & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing*. Sage publications.
- Briones, E., Verkuyten, M., Cosano, J., & Tabernero, C. (2012). Psychological adaptation of Moroccan and Ecuadorean immigrant adolescents in Spain. *International Journal of Psychology*, 47(1), 28-38. <https://doi.org/10.1080/00207594.2011.569722>
- Brislin, R.W. (1970) Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216. <https://doi.org/10.1177/135910457000100301>
- Brittian, A. S., Kim, S. Y., Armenta, B. E., Lee, R. M., Umaña-Taylor, A. J., Schwartz, S. J., & Hudson, M. L. (2015). Do dimensions of ethnic identity mediate the association between perceived ethnic group discrimination and depressive symptoms? *Cultural Diversity and Ethnic Minority Psychology*, 21(1), 41-53.
- Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design. *Harvard University Press google schola*, 2, 139-163.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G.J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet*. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.).

Guilford publications.

- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, 84(4), 822. <https://doi.org/10.1037/0022-3514.84.4.822>
- Brown, L., & Holloway, I. (2008). The initial stage of the International Sojourn: Excitement or Culture Shock? *British Journal of Guidance & Counselling*, 36(1), 33–49. <https://doi.org/10.1080/03069880701715689>
- Brown, L., & Holloway, I. (2008). The adjustment journey of international postgraduate students at an English university: An ethnographic study. *Journal of research in International Education*, 7(2), 232-249. <https://doi.org/10.1177/1475240908091306>
- Brown, L., & Jones, I. (2013). Encounters with racism and the international student experience. *Studies in Higher education*, 38(7), 1004-1019. <https://doi.org/10.1080/03075079.2011.614940>
- Brown, T. N., Williams, D. R., Jackson, J. S., Neighbors, H. W., Torres, M., Sellers, S. L., & Brown, K. T. (2000). “Being black and feeling blue”: The mental health consequences of racial discrimination. *Race and Society*, 2(2), 117-131. [https://doi.org/10.1016/S1090-9524\(00\)00010-3](https://doi.org/10.1016/S1090-9524(00)00010-3)
- Brunsting, N. C., Zachry, C., & Takeuchi, R. (2018). Predictors of undergraduate international student psychosocial adjustment to US universities: A systematic review from 2009-2018. *International journal of intercultural relations*, 66, 22-33. <https://doi.org/10.1016/j.ijintrel.2018.06.002>
- Brunsting, N. C., Zachry, C., Liu, J., Bryant, R., Fang, X., Wu, S., & Luo, Z. (2021). Sources of perceived social support, social-emotional experiences, and psychological well-being of international students. *The Journal of Experimental Education*, 89(1), 95-111. <https://doi.org/10.1080/00220973.2019.1639598>
- Bryman, A. (2008). *Social Research Methods* (3rd Ed). New York: Oxford University Press.

- Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford: Oxford University Press.
- Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. routledge.
- Buck, N., & McFall, S. (2012). Understanding Society: design overview. *Longitudinal and Life Course Studies*, 3(1), 5-17. <https://doi.org/10.14301/llcs.v3i1.159>
- Burgess, D., Lee, R., Tran, A., & Van Ryn, M. (2007). Effects of perceived discrimination on mental health and mental health services utilization among gay, lesbian, bisexual and transgender persons. *Journal of LGBT Health Research*, 3(4), 1-14. <https://doi.org/10.1080/15574090802226626>
- But, C. H., Li, J. C. H., & Tze, V. M. (2023). Boredom coping profiles among international students in Canada and Canadian students: Similarities and differences. *Current Psychology*, 42(21), 18431-18446.
- Caligiuri, P. M. (2017). Selecting expatriates for personality characteristics: A moderating effect of personality on the relationship between host national contact and cross-cultural adjustment. In *International human resource management* (pp. 33-52). Routledge. <https://doi.org/10.4324/9781315252506-3>
- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied linguistics*, 1(1), 1-47.
- Candilis, P.J. & Lidz, C. W. (2010). Advances in informed consent research. In F.G. Miller & A. Wertheimer (ed.), *The Ethics of Consent: Theory and Practice*. New York: Oxford University Press.
- Cao, C., Meng, Q., & Shang, L. (2018). How can Chinese international students' host-national contact contribute to social connectedness, social support and reduced prejudice in the mainstream society? Testing a moderated mediation model. *International Journal of Intercultural Relations*, 63, 43-52. <https://doi.org/10.1016/j.ijintrel.2017.12.002>
- Cao, C., Zhang, J., & Meng, Q. (2023). A social cognitive model predicting

- international students' cross-cultural adjustment in China. *Current Psychology*, 42(17), 14529-14541. <https://doi.org/10.1007/s12144-022-02784-x>
- Cao, C., Zhu, 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. <https://doi.org/10.1016/j.ijintrel.2016.08.003>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in human behavior*, 26(5), 1089-1097. <https://doi.org/10.1016/j.chb.2010.03.012>
- Carter, R. T., Johnson, V. E., Kirkinis, K., Roberson, K., Muchow, C., & Galgay, C. (2019). A metaanalytic review of racial discrimination: Relationships to health and culture. *Race and Social Problems*, 11(1), 15-32. <https://doi.org/10.1007/s12552-018-9256-y>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92-100. https://doi.org/10.1207/s15327558ijbm0401_6
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283. <https://doi.org/10.1037/0022-3514.56.2.267>
- Cavaleiro Rufo, J., Ribeiro, A. I., Paciência, I., Delgado, L., & Moreira, A. (2020). The influence of species richness in primary school surroundings on children lung function and allergic disease development. *Pediatric Allergy and Immunology*, 31(4), 358–363. <https://doi.org/10.1111/pai.13213>

- 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. <https://doi.org/10.1177/0022022108323787>
- 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. <https://doi.org/10.1016/j.ijintrel.2011.04.001>
- Chapdelaine, R. F., & Alexitch, L. R. (2004). Social skills difficulty: Model of culture shock for international graduate students. *Journal of College Student Development*, 45(2), 167–184. <https://doi.org/10.1353/csd.2004.0021>
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). London: Sage.
- Chataway, C. J., & Berry, J. W. (1989). Acculturation experiences, appraisal, coping, and adaptation: A comparison of Hong Kong Chinese, French, and English students in Canada. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 21(3), 295. <https://doi.org/10.1037/h0079820>
- Chatterjee, S., Malathesh, B., & Mukherjee, A. (2020). Impact of COVID-19 pandemic on pre-existing mental health problems. *Asian Journal of Psychiatry*, doi: <https://doi.org/10.1016/j.ajp.2020.102071>.
- Chavajay, P., & Skowronek, J. (2008). Aspects of acculturative stress among international students attending a university in the USA. *Psychological Reports*, 103(3), 827-835. <https://doi.org/10.2466/pr0.103.3.827-835>
- Cheema, J. R. (2014). Some general guidelines for choosing missing data handling methods in educational research. *Journal of Modern Applied Statistical Methods*, 13(2), 53-75. <https://doi.org/10.22237/jmasm/1414814520>
- Chen, C. P. (1999). Professional issues: Common stressors among international college students: Research and counseling implications. *Journal of college counseling*, 2(1), 49-65. <https://doi.org/10.1002/j.2161-1882.1999.tb00142.x>
- Cheng, M., Friesen, A., & Adekola, O. (2019). Using emotion regulation to cope with

- challenges: a study of Chinese students in the United Kingdom. *Cambridge Journal of Education*, 49(2), 133-145.
<https://doi.org/10.1080/0305764X.2018.1472744>
- Cheng, M. T., & Agyeiwaah, E. (2022). Exploring Chinese students' issues and concerns of studying abroad amid COVID-19 pandemic: An actor-network perspective. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 30, 100349. <https://doi.org/10.1016/j.jhlste.2021.100349>
- Cheng, Y. E., Yang, P., Lee, J., Waters, J., & Yeoh, B. S. (2024). Migration governance and higher education during a pandemic: Policy (mis) alignments and international postgraduate students' experiences in Singapore and the UK. *Journal of Ethnic and Migration Studies*, 50(5), 1138-1156.
<https://doi.org/10.1080/1369183X.2023.2279731>
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural equation modeling*, 9(2), 233-255.
https://doi.org/10.1207/S15328007SEM0902_5
- Child, D. (2006). *The essentials of factor analysis*. A&C Black.
- Christensen, A. J., Benotsch, E. G., Wiebe, J. S., & Lawton, W. J. (1995). Coping with treatment-related stress: Effects on patient adherence in hemodialysis. *Journal of Consulting and Clinical Psychology*, 63, 454-459.
<https://doi.org/10.1037/0022-006X.63.3.454>
- Chun, C. A., Moos, R. H., & Cronkite, R. C. (2006). Culture: A fundamental context for the stress and coping paradigm. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of Multicultural Perspectives on Stress and Coping* (pp. 29–53). New York, NY: Springer.
- Church, T. A. (1982). Sojourner Adjustment. *Psychology Bulletin*, 91(3), 540-572.
- Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The psychologist*, 26(2), 120-123.

- Clarke, V., & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, 12(3), 297-298. <https://doi.org/10.1080/17439760.2016.1262613>
- Clarke, V., & Braun, V. (2021). "Thematic Analysis: A Practical Guide." *Thematic Analysis*.
- Coates, A. (2020). The prevalence of philosophical assumptions described in mixed methods research in education. *Journal of Mixed Methods Research*, 1-19. <https://doi.org/10.1177/1558689820958210>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Cohen, J. (2013). *Statistical power analysis for the behavioural sciences*. Academic press.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education (6th edition)* (6th ed.). London and New York: Routledge.
- Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of consulting and clinical psychology*, 55(4), 584-594. <https://doi.org/10.1037/0022-006X.55.4.584>
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127, 87-127. <https://doi.org/10.1037/0033-2909.127.1.87>
- Connor-Smith, J. K., & Compas, B. E. (2002). Vulnerability to social stress: Coping as a moderator of sociotropy and symptoms of anxiety and depression. *Cognitive Therapy and Research*, 26(1), 39-55. <https://doi.org/10.1023/A:1013889504101>
- Connor-Smith, J. K., & Compas, B. E. (2004). Coping as a moderator of relations between reactivity to interpersonal stress, health status, and internalizing

- problems. *Cognitive Therapy and Research*, 28, 347-368.
<https://doi.org/10.1023/B:COTR.0000031806.25021.d5>
- Constantine M. G., Okazaki S., & Utsey S. O. (2004). Self-concealment, social self-efficacy, acculturative stress, and depression in African, Asian, and Latin American international college students. *American Journal of Orthopsychiatry*, 74, 230-241. <https://doi.org/10.1037/0002-9432.74.3.230>
- Constantine, M. G., Anderson, G. M., Berkel, L. A., Caldwell, L. D., & Utsey, S. O. (2005). Examining the cultural adjustment experiences of African international college students: A qualitative analysis. *Journal of Counseling Psychology*, 52(1), 57–66. <https://doi.org/10.1037/0022-0167.52.1.57>
- Costello, A. B., & Osborne, J. (2019). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, 10(1), 7. <https://doi.org/10.7275/jyj1-4868>
- Creamer, E. G. (2018). An introduction to fully integrated mixed methods research. Sage.
- Creswell, J. W. (2010). Mapping the developing landscape of mixed methods research. In Edited by: A.Tashakkori & C.Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: Sage publications.
- Creswell, J., & Plano-Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.
- Creswell, J. W., & Plano Clark, V. L. P. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). Sage publications.
- Crockett, L. J., Iturbide, M. I., Torres Stone, R. A., McGinley, M., Raffaelli, M., & Carlo, G. (2007). Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology*, 13(4), 347–355.

<https://doi.org/10.1037/1099-9809.13.4.347>

- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334. <https://doi.org/10.1007/BF02310555>
- Cruwys, T., Dingle, G. A., Haslam, C., Haslam, S. A., Jetten, J., & Morton, T. A. (2013). Social group memberships protect against future depression, alleviate depression symptoms and prevent depression relapse. *Social science & medicine*, 98, 179-186. <https://doi.org/10.1016/j.socscimed.2013.09.013>
- 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), 287–295.
- Daly, M., & Robinson, E. (2021). Longitudinal changes in psychological distress in the UK from 2019 to September 2020 during the COVID-19 pandemic: Evidence from a large nationally representative study. *Psychiatry research*, 300, 113920. <https://doi.org/10.1016/j.psychres.2021.113920>
- Daly, M., Sutin, A. R., & Robinson, E. (2022). Longitudinal changes in mental health and the COVID-19 pandemic: Evidence from the UK Household Longitudinal Study. *Psychological medicine*, 52(13), 2549-2558. <https://doi.org/10.1017/S0033291720004432>
- Davis-Kean, P. E., & Jager, J. (2012). The use of large-scale data sets for the study of developmental science. *Handbook of Developmental Research Methods*, 148-162.
- Dawes, J., May, T., McKinlay, A., Fancourt, D., & Burton, A. (2021). Impact of the COVID-19 pandemic on the mental health and wellbeing of parents with young children: a qualitative interview study. *BMC Psychology*, 9(194), 1-13. <https://doi.org/10.1186/s40359-021-00701-8>
- Dawson, D. L., & Golijani-Moghaddam, N. (2020). COVID-19: Psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. *Journal of Contextual Behavioral Science*, 17(July), 126-134.

<https://doi.org/10.1016/j.jcbs.2020.07.010>

- Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. *Perspectives in social psychology*.
- 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. <https://doi.org/10.1177/0022022113487590>
- 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), 316–337. <https://doi.org/10.1037/pspp0000046>
- Denzin, N. K. (2010). Moments, mixed methods, and paradigm dialogs. *Qualitative Inquiry*, 16(6), 419–427. <https://doi.org/10.1177/1077800410364608>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. sage.
- De Man, J., Buffel, V., Van de Velde, S., Bracke, P., Van Hal, G. F., Wouters, E., & Belgian COVID-19 International Student Well-being Study (C19 ISWS) team Sylvie Gadeyne Hanne PJ Kindermans Mathilde Joos Sander Vanmaercke Vlaamse Vereniging van Studenten Anne-Sophie Nyssen Ninon Puttaert Dries Vervecken Marlies Van Guyse. (2021). Disentangling depression in Belgian higher education students amidst the first COVID-19 lockdown (April-May 2020). *Archives of public health*, 79, 1–10. <https://doi.org/10.1186/s13690-020-00522-y>
- Douglas, I. (2012). Urban Ecology and urban ecosystems: Understanding the links to human health and well-being. *Current Opinion in Environmental Sustainability*, 4(4), 385–392. <https://doi.org/10.1016/j.cosust.2012.07.005>
- Dovchin, S. (2020). The psychological damages of linguistic racism and international students in Australia. *International Journal of Bilingual Education and Bilingualism*, 23(7), 804–818. <https://doi.org/10.1080/13670050.2020.1759504>

- Dubois, A., & Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. *Journal of business research*, 55(7), 553-560. [https://doi.org/10.1016/S0148-2963\(00\)00195-8](https://doi.org/10.1016/S0148-2963(00)00195-8)
- Dunahoo, C. L., Hobfoll, S. E., Monnier, J., Hulsizer, M. R., & Johnson, R. (1998). There's more than rugged individualism in coping. Part 1: Even the Lone Ranger had Tonto. *Anxiety, Stress, and Coping*, 11, 137-165. <https://doi.org/10.1080/10615809808248309>
- Dwyer, S. C., & Buckle, J. L. (2009). The space between: On being an insider-outsider in qualitative research. *International journal of qualitative methods*, 8(1), 54-63. <https://doi.org/10.1177/160940690900800105>
- Earl Rinehart, K. (2021). Abductive analysis in qualitative inquiry. *Qualitative inquiry*, 27(2), 303-311. <https://doi.org/10.1177/1077800420935912>
- Elmer, T., Mephram, K., & Stadtfeld, C. (2020). Students under lockdown: comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *PLoS One*, 15, e0236337. <https://doi.org/10.1371/journal.pone.0236337>
- Endler, N. S., & Parker, J. D. A. (1990). *Coping Inventory for Stressful Situations (CISS): Manual*. Toronto, Canada: Multi-Health Systems.
- Endler, N. S., & Parker, J. D. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, 58(5), 844-854. <https://doi.org/10.1037/0022-3514.58.5.844>
- Endler, N. S., & Parker, J. D. A. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies. *Psychological Assessment*, 6(1), 50-60. <https://doi.org/10.1037/1040-3590.6.1.50>
- Eyal, N. (2014). Using informed consent to save trust. *Journal of Medical Ethics*, 40, 437-444. <https://doi.org/10.1136/medethics-2012-100490>
- Eyal, N. (2018). *The Routledge Handbook of the Ethics of Consent*. Routledge.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating

- the use of exploratory factor analysis in psychological research. *Psychological methods*, 4(3), 272. <https://doi.org/10.1037/1082-989X.4.3.272>
- Farmer, P. (1996). On suffering and structural violence: A view from below. *Daedalus*, 125(1), 261-283. <https://doi.org/10.1525/9780520353695-014>
- Feast, V. (2002). The impact of IELTS scores on performance at university. *International Education Journal*, 3(4), 70-85.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International journal of qualitative methods*, 5(1), 80-92. <https://doi.org/10.1177/160940690600500107>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Finlay, L. (2002). "Outing" the researcher: The provenance, process, and practice of reflexivity. *Qualitative health research*, 12(4), 531-545. <https://doi.org/10.1177/104973202129120052>
- Fisher, R. A. (1922). On the mathematical foundations of theoretical statistics. *Philosophical transactions of the Royal Society of London. Series A, containing papers of a mathematical or physical character*, 222(594-604), 309-368. <https://doi.org/10.1098/rsta.1922.0009>
- Fisher, R. A. (1936). *Statistical methods for research workers* (6th ed.). Oliver and Boyd. https://doi.org/10.1007/978-1-4612-4380-9_6
- Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological methods*, 9(4), 466. <https://doi.org/10.1037/1082-989X.9.4.466>
- Flora, D. B., & Flake, J. K. (2017). The purpose and practice of exploratory and confirmatory factor analysis in psychological research: Decisions for scale development and validation. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 49(2), 78-88.

<https://doi.org/10.1037/cbs0000069>

- Folkman, S., & Lazarus, R. S. (1988). *Manual for the Ways of Coping Questionnaire*. Palo Alto, CA: Consulting Psychologists Press. <https://doi.org/10.1037/t06501-000>
- Forbush, E., & Foucault-Welles, B. (2016). Social media use and adaptation among Chinese students beginning to study in the United States. *International Journal of Intercultural Relations*, 50, 1-12. <https://doi.org/10.1016/j.ijintrel.2015.10.007>
- França, T., Gaspar, S., & Mathias, D. (2024). “It’s not good, but it could be worse”: racial microaggressions toward Chinese international students during the COVID-19 pandemic. *Diaspora, Indigenous, and Minority Education*, 18(1), 9-22. <https://doi.org/10.1080/15595692.2022.2098274>
- Freshwater, D. (2007). Reading mixed methods research: Contexts for criticism. *Journal of Mixed Methods Research*, 1(2), 134-145. <https://doi.org/10.1177/1558689806298578>
- Freud, A. (2018). *The ego and the mechanisms of defence*. Routledge.
- Freud, S. (1989). *The ego and the id*. WW Norton & Company.
- Fritz, M. V., Chin, D., & DeMarinis, V. (2008). Stressors, anxiety, acculturation and adjustment among international and North American students. *International Journal of Intercultural Relations*, 32(3), 244-259. <https://doi.org/10.1016/j.ijintrel.2008.01.001>
- Frumkin, H. (2001). Beyond toxicity: human health and the natural environment. *American Journal of Preventive Medicine*, 20, 234-240. [https://doi.org/10.1016/S0749-3797\(00\)00317-2](https://doi.org/10.1016/S0749-3797(00)00317-2)
- Fullinwider, R. (2018). Affirmative Action. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2018 Edition). Stanford University. <https://plato.stanford.edu/archives/sum2018/entries/affirmative-action/>
- Furnham, A., & Alibhai, N. (1985). The friendship networks of foreign students: A

- replication and extension of the functional model. *International Journal of Psychology*, 20(6), 709-723. <https://doi.org/10.1080/00207598508247565>
- Galchenko, I., & van de Vijver, F.J.R. (2007). The role of perceived cultural distance in the acculturation of exchange students in Russia. *International Journal of Intercultural Relations*, 31(2), 181-197. <https://doi.org/10.1016/j.ijintrel.2006.03.004>
- Gallagher, H. C. (2013). Willingness to communicate and cross-cultural adaptation: L2 communication and acculturative stress as transaction. *Applied Linguistics*, 34(1), 53-73. <https://doi.org/10.1093/applin/ams023>
- Gallagher, H. L., Doherty, A. Z., & Obonyo, M. (2020). International student experiences in Queensland during COVID-19. *International Social Work*, 63(6), 815-819. <https://doi.org/10.1177/0020872820949621>
- Gao, J., Zheng, P., Jia, Y., Chen, H., Mao, Y., & Chen, S. (2020). Mental health problems and social media exposure during COVID-19 outbreak. *PLoS One*, 15, e0231924. <https://doi.org/10.1371/journal.pone.0231924>
- Garcia, A., Powell, G. B., Arnold, D., Ibarra, L., Pietrucha, M., Thorson, M. K., ... & Webb, S. (2021, May). Learned helplessness and mental health issues related to distance learning due to COVID-19. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*(pp. 1-6). <https://doi.org/10.1145/3411763.3451526>
- Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Forns, J., Plasència, A., & Nieuwenhuijsen, M. (2015). Mental health benefits of long-term exposure to residential green and Blue Spaces: A systematic review. *International Journal of Environmental Research and Public Health*, 12(4), 4354–4379. <https://doi.org/10.3390/ijerph120404354>
- Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Forns, J., Plasència, A., & Nieuwenhuijsen, M. (2015). Mental health benefits of long-term exposure to residential green and Blue Spaces: A systematic review. *International Journal*

- of *Environmental Research and Public Health*, 12(4), 4354–4379.
<https://doi.org/10.3390/ijerph120404354>
- Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Rojas-Rueda, D., Plasència, A., & Nieuwenhuijsen, M. J. (2016). Residential green spaces and mortality: A systematic review. *Environment International*, 86, 60–67.
<https://doi.org/10.1016/j.envint.2015.10.013>
- Geeraert, N., & Demoulin, S. (2013). Acculturative stress or resilience? A longitudinal multilevel analysis of sojourners' stress and self-esteem. *Journal of Cross-Cultural Psychology*, 44(8), 1241–1262.
<https://doi.org/10.1177/0022022113478656>
- Gentin, S. (2011). Outdoor Recreation and ethnicity in Europe—a review. *Urban Forestry & Urban Greening*, 10(3), 153–161.
<https://doi.org/10.1016/j.ufug.2011.05.002>
- Gill, S. (2007). Overseas students' intercultural adaptation as intercultural learning: a transformative framework. *Compare*, 37(2), 167–183.
<https://doi.org/10.1080/03057920601165512>
- Gloria, A. M., Castellanos, J., & Orozco, V. (2005). Perceived educational barriers, cultural fit, coping responses, and psychological well-being of Latina undergraduates. *Hispanic Journal of Behavioural Sciences*, 27 (2), 161–183.
<https://doi.org/10.1177/0739986305275097>
- Gorsuch, R. L. (1988). Exploratory factor analysis. In: Nesselroade, J.R., Cattell, R.B. (eds) *Handbook of multivariate experimental psychology* (pp. 231–258). Boston, MA: Springer US. https://doi.org/10.1007/978-1-4613-0893-5_6
- GOV. UK (2022). Coronavirus (COVID-19) in the UK. Retrieved 5 January 2022, from <https://coronavirus.data.gov.uk/>
- Graves, T. (1967). Psychological acculturation in a tri-ethnic community. *South-Western Journal of Anthropology*, 23, 337–350.
<https://doi.org/10.1086/soutjanth.23.4.3629450>

- Green, A. (2007). *IELTS washback in context: Preparation for academic writing in higher education* (Vol. 25). Cambridge University Press.
- Greene, J. (2007). *Mixed Methods in Social Enquiry*. San Francisco: Wiley.
- Greene, J. (2007). *Mixed Methods in Social Inquiry*. San Francisco: Jossey-Bass.
- Greene, J. C. (2008). Is mixed methods social inquiry a distinctive methodology? *Journal of Mixed Methods Research*, 7(2), 7–22. <https://doi.org/10.1177/1558689807309969>
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255–274. <https://doi.org/10.3102/01623737011003255>
- Greene, J., & Hall, J. (2010). Dialectics and pragmatism: Being of consequence. In Edited by: A.Tashakkori & C.Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (2nd ed., pp. 119–143). Thousand Oaks, CA: Sage.
- Griner, D., & Smith, T. B. (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, research, practice, training*, 43(4), 531. <https://doi.org/10.1037/0033-3204.43.4.531>
- Groenewegen, P. P., van den Berg, A. E., de Vries, S., & Verheij, R. A. (2006). Vitamin G: Effects of green space on health, well-being, and Social Safety. *BMC Public Health*, 6(1). <https://doi.org/10.1186/1471-2458-6-149>
- Groves, R. M., & Peytcheva, E. (2008). The impact of nonresponse rates on nonresponse bias: a meta-analysis. *Public opinion quarterly*, 72(2), 167–189. <https://doi.org/10.1093/poq/nfn011>
- Gu, Q., Schweisfurth, M., & Day, C. (2010). Learning and growing in a ‘foreign’ context: Intercultural experiences of international students. *Compare*, 40(1), 7–23. <https://doi.org/10.1080/03057920903115983>
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological bulletin*, 103(2), 265–275.

<https://doi.org/10.1037/0033-2909.103.2.265>

- Guan, Y., Liu, S., Guo, M., Li, M., Wu, M., Chen, X., Xu, L., & Tian, Lin. (2018). Acculturation orientations and Chinese student Sojourners' career adaptability: The roles of career exploration and cultural distance. *Journal of Vocational Behavior*, 104, 228-239. <https://doi.org/10.1016/j.jvb.2017.11.008>
- Guay, F., Marsh, H. W., & Boivin, M. (2003). Academic self-concept and academic achievement: Developmental perspectives on their causal ordering. *Journal of educational psychology*, 95(1), 124. <https://doi.org/10.1037/0022-0663.95.1.124>
- Gudiño, O.G., Stiles, A. A., Diaz, K. I. (2018). Violence exposure and psychopathology in Latino youth: The moderating role of active and avoidant coping. *Child Psychiatry & Human Development*, 49 (3), 468-479. <https://doi.org/10.1007/s10578-017-0767-3>
- Guest, G., MacQueen, K. M., & Namey, E. E. (2011). *Applied thematic analysis*. sage publications.
- Gullahorn, J. T., & Gullahorn, J. E. (1963). An extension of the U-curve hypothesis. *Journal of Social Issues*, 19(3), 33–47. <https://doi.org/10.1111/j.1540-4560.1963.tb00447.x>
- Gyamerah, K. G., Osafo, P. J., Gyasi-Gyamerah, A. A., & Boadu, E. S. (2024). Examining acculturative stress among international students in Ghana using an interpretative phenomenological approach. Unpacking the social support systems. *Plos one*, 19(9), e0311123. <https://doi.org/10.1371/journal.pone.0311123>
- Hair, J. H., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. (2019). *Multivariate Data Analysis*. 8th ed. London: Cengage Learning.
- Hall, E.T. (1976) *Beyond Culture*. New York: Doubleday.

- Hammer, M. R. (2023). A New Frontier in Assessment and Development of Intercultural Competence. *Student Learning Abroad: What Our Students Are Learning, What They're Not, and What We Can Do About It*.
- Harkness, J.A., Van de Vijver, F.J. and Mohler, P.P. (eds.) (2003) *Cross-cultural Survey Methods*. Hoboken, NJ: Wiley-Interscience.
- Harrington, D. (2009). *Confirmatory factor analysis*. Oxford: Oxford University Press.
- Harrits, G. S. (2011). More than method? A discussion of paradigm differences within mixed methods research. *Journal of Mixed Methods Research*, 5(2), 150-166. <https://doi.org/10.1177/1558689811402506>
- Hart Abney, B. G., Lusk, P., Hovermale, R., & Melnyk, B. M. (2019). Decreasing depression and anxiety in college youth using the Creating Opportunities for Personal Empowerment Program (COPE). *Journal of American Psychiatric Nurses Association*, 25(2), 89-98. <https://doi.org/10.1177/1078390318779205>
- Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, 35(1), 207–228. <https://doi.org/10.1146/annurev-publhealth-032013-182443>
- Hazer, M., Formica, M. K., Dieterlen, S., & Morley, C. P. (2018). The relationship between self-reported exposure to greenspace and human stress in Baltimore, MD. *Landscape and Urban Planning*, 169, 47–56. <https://doi.org/10.1016/j.landurbplan.2017.08.006>
- Harzing, A.W. (2005) Does the use of English-language questionnaires in cross-national research obscure national differences? *International Journal of Cross Cultural Management*, 5(2), pp. 213-224. <https://doi.org/10.1177/1470595805054494>
- He, F. X., Lopez, V., & Leigh, M. C. (2012). Perceived acculturative stress and sense of coherence in Chinese nursing students in Australia. *Nurse Education Today*, 32(4), 345-350. <https://doi.org/10.1016/j.nedt.2011.05.004>
- He, R. (2021). *A 'mirror-image' investigation: foreign language learners' acculturation*

- experiences in Chinese and British Study Abroad Programmes* (Doctoral dissertation, University of Glasgow).
- Hechanova-Alampay, R., Beehr, T. A., Christiansen, N. D., & van Horn, R. K. (2002). Adjustment and strain among domestic and international student sojourners: A longitudinal study. *School Psychology International*, 23, 458 – 474. <http://dx.doi.org/10.1177/0143034302234007>
- Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the econometric society*, 153-161. <https://doi.org/10.2307/1912352>
- Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry*, 79(4), 491-499. <https://doi.org/10.1037/a0016918>
- 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. <https://doi.org/10.1016/j.ijintrel.2010.08.001>
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological measurement*, 66(3), 393-416. <https://doi.org/10.1177/0013164405282485>
- Heppner, P. P., Kivlighan, D. M., & Wampold, B. E. (2015). *Research design in counseling*. 4th ed. Boston, MA: Cengage Learning. Pacific Grove, CA: Brooks/Cole Publishing Company.
- Heppner, P. P., & Krauskopf, C. J. (1987). An information-processing approach to personal problem solving. *The Counseling Psychologist*, 15, 371-447. <https://doi.org/10.1177/0011000087153001>
- Heppner, P. P., Cook, S. W., Wright, D. M., & Johnson, C. (1995). Progress in resolving problems: A problem-focused style of coping. *Journal of Counseling Psychology*, 42, 279-293. <https://doi.org/10.1037/0022-0167.42.3.279>

- Herrera, R., Markevych, I., Berger, U., Genuneit, J., Gerlich, J., Nowak, D., Schlotz, W., Vogelberg, C., von Mutius, E., Weinmayr, G., Windstetter, D., Weigl, M., Heinrich, J., & Radon, K. (2018). Greenness and job-related chronic stress in young adults: A prospective cohort study in Germany. *BMJ Open*, 8(6). <https://doi.org/10.1136/bmjopen-2018-021599>
- Hershberger, S. L. (2003). The growth of structural equation modeling: 1994-2001. *Structural equation modeling*, 10(1), 35-46. https://doi.org/10.1207/S15328007SEM1001_2
- Hinkle, D. E., Wiersma, W., & Jurs, S. G. (2003). *Applied statistics for the behavioral sciences* (5th ed.). Boston: Houghton Mifflin.
- Hismanoglu, M. (2011). An investigation of ELT students' intercultural communicative competence in relation to linguistic proficiency, overseas experience and formal instruction. *International Journal of Intercultural Relations*, 35(6), 805-817. <https://doi.org/10.1016/j.ijintrel.2011.09.001>
- Hofhuis, J., Hanke, K., & Rutten, T. (2019). Social network sites and acculturation of international sojourners in the Netherlands: the mediating role of psychological alienation and online social support. *International Journal of Intercultural Relations*, 69, 120-130. <https://doi.org/10.1016/j.ijintrel.2019.02.002>
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values* (Vol. 5). Beverly Hills, CA: Sage.
- Hofstede, G., & Consequences, C. S. (1980). International differences in work-related values. *Beverly Hills, CA*.
- Hofstede Insights (n.d.). Country Comparison. <https://www.hofstede-insights.com/country-comparison/china,the-uk/>
- Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, 52, 946-955. <https://doi.org/10.1037/0022-3514.52.5.946>
- Holt, E., Lombard, Q., Best, N., Smiley-Smith, S., & Quinn, J. (2019). Active and

- passive use of green space, health, and well-being amongst university students. *International Journal of Environmental Research and Public Health*, 16(3), 424. <https://doi.org/10.3390/ijerph16030424>
- Horita, R., Nishio, A., & Yamamoto, M. (2021). The effect of remote learning on the mental health of first year university students in Japan. *Psychiatry Research*, 295, 113561. <https://doi.org/10.1016/j.psychres.2020.113561>
- Houlden, V., Weich, S., Porto de Albuquerque, J., Jarvis, S., & Rees, K. (2018). The relationship between greenspace and the mental wellbeing of adults: A systematic review. *PLOS ONE*, 13(9). <https://doi.org/10.1371/journal.pone.0203000>
- Hovey, J.D., & King, C.A. (1996). Acculturative stress, depression, and suicidal ideation among immigrant and second-generation Latino adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 1183-1192. <https://doi.org/10.1097/00004583-199609000-00016>
- Hu, Y. (2017). *Educational, sociocultural and employment experience of Chinese international students in the UK* (Doctoral dissertation, Durham University). <http://etheses.dur.ac.uk/12076/>
- Huang, L., Kern, M. L., & Oades, L. G. (2020). Strengthening university student wellbeing: Language and perceptions of Chinese international students. *International Journal of Environmental Research & Public Health*, 17, 5538. <https://doi.org/10.3390/ijerph17155538>
- Huppert, F. A., Marks, N., Clark, A., Siegrist, J., Stutzer, A., Vittersø, J., & Wahrendorf, M. (2009). Measuring well-being across Europe: Description of the ESS well-being module and preliminary findings. *Social Indicators Research*, 91, 301-315. <https://doi.org/10.1007/s11205-008-9346-0>
- Hwang, W. C., & Ting, J. Y. (2008). Disaggregating the effects of acculturation and acculturative stress on the mental health of Asian Americans. *Cultural Diversity and Ethnic Minority Psychology*, 14(2), 147-154. <https://doi.org/10.1037/1099->

9809.14.2.147

- Ihm, L., Zhang, H., van Vijfeijken, A., & Waugh, M.G. (2021). Impacts of the Covid-19 pandemic on the health of university students. *International Journal of Health Planning and Management*, 36 (3), 618-627. <https://doi.org/10.1002/hpm.3145>
- Ivankova, N. V., & Plano Clark, V. L. (2018). Teaching mixed methods research: Using a socio-ecological framework as a pedagogical approach for addressing the complexity of the field. *International Journal of Social Research Methodology*, 21(4), 409-424. <https://doi.org/10.1080/13645579.2018.1427604>
- Jennings, V., & Gaither, C. (2015). Approaching environmental health disparities and green spaces: An Ecosystem Services Perspective. *International Journal of Environmental Research and Public Health*, 12(2), 1952–1968. <https://doi.org/10.3390/ijerph120201952>
- Jiang, M. (2018). *Chinese students' adjustment to studying in UK Higher Education: Academic self-efficacy and psychological well-being* (Doctoral dissertation, University of York).
- Xiaoming Jiang, ZhiMin Xiao, Lindsay Hetherington. The wellbeing-threatening acculturative stressors of Chinese international students in the UK and coping strategies: a systematic review. PROSPERO 2021 CRD42021233261 Available from: https://www.crd.york.ac.uk/prospERO/display_record.php?ID=CRD42021233261
- Jiang, X., & Xiao, Z. (2024, July). “Struggling like fish out of water”: a qualitative case study of Chinese international students’ acculturative stress in the UK. In *Frontiers in Education* (Vol. 9, p. 1398937). Frontiers Media SA. <https://doi.org/10.3389/feduc.2024.1398937>
- Johnson, B., & Gray, R. (2010). A history of philosophical and theoretical issues for mixed methods research. In A.Tashakkori & C.Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (2nd ed.). Thousand Oaks,

CA: Sage.

- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33, 14–26. <https://doi.org/10.3102/0013189X033007014>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1, 112–133. <https://doi.org/10.1177/1558689806298224>
- Jolliffe, I. T. (2002). *Principal component analysis for special types of data* (pp. 338–372). Springer New York. <https://doi.org/10.1007/b98835>
- Jose, P. E., & Huntsinger, C. S. (2005). Moderation and mediation effects of copying by Chinese American and European American adolescents. *The Journal of Genetic Psychology*, 166(1), 16–43. <https://doi.org/10.3200/GNTP.166.1.16-44>
- Jurcik, T., Ahmed, R., Yakobov, E., Solopieieva-Jurcikova, I., & Ryder, A. G. (2013). Understanding the role of the ethnic density effect: Issues of acculturation, discrimination and social support. *Journal of Community Psychology*, 41(6), 662–678. <https://doi.org/10.1002/jcop.21563>
- Kabat-Zinn, J. (2023). *Wherever you go, there you are: Mindfulness meditation in everyday life*. Hachette UK.
- Kaiser, H. F. (1974). An index of factorial simplicity. *psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>
- Kaplan, R. (2001). The nature of the view from home. *Environment and Behavior*, 33(4), 507–542. <https://doi.org/10.1177/00139160121973115>
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of environmental psychology*, 15(3), 169–182. [https://doi.org/10.1016/0272-4944\(95\)90001-2](https://doi.org/10.1016/0272-4944(95)90001-2)
- 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.

<https://doi.org/10.1016/j.ijintrel.2005.12.003>

- Kelle, U. (2007). "Emergence" vs. "forcing" of empirical data? A crucial problem of "grounded theory" reconsidered. *Historical Social Research/Historische Sozialforschung. Supplement*, 133-156.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., ... & Wang, P. S. (2003). The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *Jama*, 289(23), 3095-3105. <https://doi.org/10.1001/jama.289.23.3095>
- Kessler, R. C., & Üstün, T. B. (2004). The world mental health (WMH) survey initiative version of the world health organization (WHO) composite international diagnostic interview (CIDI). *International journal of methods in psychiatric research*, 13(2), 93-121. <https://doi.org/10.1002/mpr.168>
- Keyes, C. L. (2006). Mental health in adolescence: is America's youth flourishing?. *American journal of orthopsychiatry*, 76(3), 395-402. <https://doi.org/10.1037/0002-9432.76.3.395>
- Khine, M. S. (Ed.). (2013). *Application of structural equation modeling in educational research and practice* (Vol. 7). Rotterdam: SensePublishers.
- Kim, B. S. K., Abreu, J. M. (2001). Acculturation measurement: Theory, current instruments, and future directions. In Suzuki, L. A., Casas, J. M., Alexander, C. M., Ponterotto, J. C. (Eds.), *Handbook of Multicultural Counseling* (pp. 394-424). Thousand Oaks, CA: Sage.
- Kim, H. S., Sherman, D. K., & Taylor, S. E. (2008). Culture and social support. *American Psychologist*, 63, 518-526. <https://doi.org/10.1037/0003-066X>
- Kim, U., Triandis, H. C., Kagitcibasi, C., Choi, S. C., & Yoon, G. (Eds.). (1994). *Individualism and collectivism: Theory, Method, and Applications*. Thousand Oaks, CA: Sage
- Kim, Y. Y. (2001). *Becoming intercultural: An integrative theory of communication and crosscultural adaptation*. Sage.

- Kitchener, K. & Kitchener, R. (2009). Social science research ethics: historical and philosophical issues. In: D. M. Mertens & P. E. Ginsberg (eds.), *The Handbook of Social Research Ethics*. SAGE Publications.
- Kline, P. (2014). *An easy guide to factor analysis*. New York: Routledge.
- Kleinman, A. (1997). *Writing at the margin: Discourse between anthropology and medicine*. Univ of California Press.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.
- Knies, G., Nandi, A., & Platt, L. (2016). Life satisfaction, ethnicity and neighbourhoods: Is there an effect of neighbourhood ethnic composition on life satisfaction? *Social science research*, 60, 110-124.
<https://doi.org/10.1016/j.ssresearch.2016.01.010>
- Kobau, R., Safran, M. A., Zack, M. M., Moriarty, D. G., & Chapman, D. (2004). Sad, blue, or depressed days, health behaviors and health-related quality of life, Behavioral Risk Factor Surveillance System, 1995–2000. *Health and Quality of Life Outcomes*, 2, 1-8. <https://doi.org/10.1186/1477-7525-2-40>
- Koenig, H., George, L., & Siegler, I. (1998). The use of religion and other emotion-regulating coping strategies among older adults. *The Gerontologist*, 28, 303-310.
<https://doi.org/10.1093/geront/28.3.303>
- Kolmogorov, A. N. (1933). Sulla determinazione empirica di una legge di distribuzione. *Giorn Dell'inst Ital Degli Att*, 4, 89-91.
- Kondo, M., Fluehr, J., McKeon, T., & Branas, C. (2018). Urban green space and its impact on human health. *International Journal of Environmental Research and Public Health*, 15(3), 445. <https://doi.org/10.3390/ijerph15030445>
- Koo, K., Baker, I., & Yoon, J. (2021). The first year of acculturation: A longitudinal study on acculturative stress and adjustment among first-year international college students. *Journal of International Students*, 11(2), 278-298.
<https://doi.org/10.32674/jis.v11i2.1726>

- Kuhn, T. S. (1996). *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press.
- Kuo, B. C. H. (2011). Culture's consequences on coping: Theories, evidence, and dimensionalities. *Journal of Cross-Cultural Psychology*, 42(6), 1084-1100. <https://doi.org/10.1177/0022022110381126>
- Kuo, B. C. H. (2013). Collectivism and coping: Current theories, evidence, and measurements of collective coping. *International Journal of Psychology*, 48(3), 374-388. <https://doi.org/10.1080/00207594.2011.640681>
- Kuo, B., Soucie, K.M., Huang, S., & Laith, R. (2018). The mediating role of cultural coping behaviours on the relationships between academic stress and positive psychosocial well-being outcomes. *International Journal of Psychology*, 53(S1), 27-36. <https://doi.org/10.1002/ijop.12421>
- Kuo, B., Roysircar, G., & Newby-Clark, I.R. (2006). Development of the cross-cultural coping scale: Collective, avoidance, and engagement coping. *Measurement and Evaluation in Counseling and Development*, 39(3), 161-181. <https://doi.org/10.1080/07481756.2006.11909796>
- Kvale, S. (1995). The social construction of validity. *Qualitative Inquiry*, 1(1), 19-40. <https://doi.org/10.1177/107780049500100103>
- Kwapong, Y. A., Boakye, E., Khan, S. S., Honigberg, M. C., Martin, S. S., Oyeka, C. P., ... & Sharma, G. (2023). Association of Depression and Poor Mental Health With Cardiovascular Disease and Suboptimal Cardiovascular Health Among Young Adults in the United States. *Journal of the American Heart Association*, 12(3), e028332. <https://doi.org/10.1161/JAHA.122.028332>
- Kyriazos, T. A. (2018). Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, 9(08), 2207. <https://doi.org/10.4236/psych.2018.98126>
- Lai, A. Y. K., Lee, L., Wang, M. P., Feng, Y., Lai, T. T. K., Ho, L. M., ... & Lam, T. H. (2020). Mental health impacts of the COVID-19 pandemic on international

- university students, related stressors, and coping strategies. *Frontiers in Psychiatry*, 11, 584240. <https://doi.org/10.3389/fpsyt.2020.584240>
- Lam, A. G. & Zane, N. W. (2004). Ethnic differences in coping with interpersonal stressors: A test of self-construals as cultural mediators. *Journal of Cross-Cultural Psychology*, 35, 44-59. <https://doi.org/10.1177/0022022104266108>
- Lam, A. G., & Zane, N. W. S. (2004). Ethnic differences in coping with interpersonal stressors. *Journal of Cross-Cultural Psychology*, 35, 446-459. <https://doi.org/10.1177/0022022104266108>
- Lancee, W. J., Maunder, R. G., & Goldbloom, D. S. (2008). Prevalence of psychiatric disorders among Toronto hospital workers one to two years after the SARS outbreak. *Psychiatric Services*, 59(1), 91-95. <https://doi.org/10.1176/ps.2008.59.1.91>
- Lane, K. J., Stokes, E. C., Seto, K. C., Thanikachalam, S., Thanikachalam, M., & Bell, M. L. (2017). Associations between greenness, impervious surface area, and nighttime lights on biomarkers of vascular aging in Chennai, India. *Environmental health perspectives*, 125(8), 087003. <https://doi.org/10.1289/EHP541>
- Larsson, B. J., Nordin, K., & Nygren, I. (2016). Coping with amyotrophic lateral sclerosis: an integrative view. *Journal of Neurology, Neurosurgery and Psychiatry*, 81(8), 893-898. <https://doi.org/10.1136/jnnp.2009.201285>
- Law, S. (2021). *Chinese international students' cross-cultural adaptation, mental health and related coping strategies and help-seeking behaviours in the UK* (Doctoral dissertation, Canterbury Christ Church University).
- Lazarus, R. S. (1990). Theory-based stress measurement. *Psychological Inquiry*, 1(1), 3-13. https://doi.org/10.1207/s15327965pli0101_1
- Lazarus, R. S. (1991). *Emotion and Adaptation*. New York: Oxford University Press.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine*, 55(3), 234-247. <https://doi.org/10.1097/00006842->

199305000-00002

- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal and Coping*. New York: Springer. https://doi.org/10.1007/978-3-030-39903-0_215
- Leavy, P. (2017). *Research Design: Quantitative, Qualitative, Mixed-Methods, Arts-Based, and Community-Based Participatory Research Approaches*. New York: Guilford Press.
- Lee, A. C., & Maheswaran, R. (2010). The health benefits of Urban Green Spaces: A review of the evidence. *Journal of Public Health*, 33(2), 212–222. <https://doi.org/10.1093/pubmed/fdq068>
- Lee, D. L., & Ahn, S. (2011). Racial discrimination and Asian mental health: A meta-analysis. *The Counseling Psychologist*, 39, 463-489. <https://doi.org/10.1177/0011000010381791>
- Lee, J. (2006). International student experiences: Neo-racism and discrimination. *International Higher Education*, (44).
- Lee, J. J., & Rice, C. (2007). Welcome to America? International student perceptions of discrimination. *Higher education*, 53(3), 381-409. <https://doi.org/10.1007/s10734-005-4508-3>
- Lee, J. S., Koeske, G. F., & Sales, E. (2004). Social support buffering of acculturative stress: a study of mental health symptoms among Korean international students. *International Journal of Intercultural Relations*, 28(5), 399–414. <https://doi.org/10.1016/j.ijintrel.2004.08.005>
- Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and social assurance scales. *Journal of Counseling Psychology*, 42, 232-241. <https://doi.org/10.1037/0022-0167.42.2.232>
- Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology*, 48, 310-318. <https://doi.org/10.1037/0022-0167.48.3.310>

- Lee, S. (2018). Understanding the dynamics among acculturative stress, coping, and growth: A grounded theory of the Korean immigrant adolescent experience. *Children and Youth Services Review*, 94, 105-114. <https://doi.org/10.1016/j.childyouth.2018.09.030>
- Leech, N. L., & Onwuegbuzie, A. J. (2010). Epilogue: The journey: From where we started to where we hope to go. *International Journal of Multiple Research Approaches*, 4(1), 73-88. <https://doi.org/10.5172/mra.2010.4.1.073>
- Lehavot, K., & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *Journal of consulting and clinical psychology*, 79(2), 159. <https://doi.org/10.1037/a0022839>
- Leon, A. C., Davis, L. L., and Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of Psychiatric Research*, 45(5), 626-629. <https://doi.org/10.1016/j.jpsychires.2010.10.008>
- Li, A., & Gasser, M. B. (2005). Predicting Asian international students' sociocultural adjustment: A test of two mediation models. *International Journal of Intercultural Relations*, 29, 561-576. <https://doi.org/10.1016/j.ijintrel.2005.06.003>
- Li, J., Vazsonyi, A. T., & Dou, K. (2018). Is individualism-collectivism associated with self-control? Evidence from Chinese and U.S. samples. *PLoS One*, 13(12), e0208541. <https://doi.org/10.1371/journal.pone.0208541>
- Li, J., Wang, Y., & Xiao, F. (2014). East Asian international students and psychological well-being: A systematic review. *Journal of International Students*, 4(4), 301-313. <https://doi.org/10.1007/s10980-024-02039-z>
- Li, M., Dai, S., Shi, Y., Qin, K., Brownson, R. C., Kestens, Y., ... & Jia, P. (2025). Heterogeneous impacts of and vulnerabilities to the COVID-19 pandemic. *Landscape Ecology*, 40(2), 32.
- Li, R., & Kaye, M. (1998). Understanding overseas students' concerns and problems. *Journal of Higher Education Policy and Management*, 20(1), 41-50.

<https://doi.org/10.1080/1360080980200105>

- Li, Z., Heath, M. A., Jackson, A. P., Allen, G. E., Fischer, L., & Chan, P. (2017). Acculturation experiences of Chinese international students who attend American universities. *Professional psychology: Research and practice*, 48(1), 11. <https://doi.org/10.1037/pro0000117>
- Lin, J.-H., Peng, W., Kim, M., Kim, S.Y., & LaRose, R. (2012). Social networking and adjustments among international students. *New Media & Society*, 14, 421-440. <https://doi.org/10.1177/1461444811418627>
- Lin, N. (2005). *Social Capital: A Theory of Social Structure and Action*. Shanghai: Century Press.
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research*, 4(2), 97-128. Thousand Oaks, CA: Sage.
- Lipson, S. K., Zhou, S., Wagner III, B., Beck, K., & Eisenberg, D. (2016). Major differences: Variations in undergraduate and graduate student mental health and treatment utilization across academic disciplines. *Journal of college student psychotherapy*, 30(1), 23-41. <https://doi.org/10.1080/87568225.2016.1105657>
- Little, T. D. (2013). *Longitudinal structural equation modeling*. Guilford Publications.
- Liu, L. (2016). Using generic inductive approach in qualitative educational research: A case study analysis. *Journal of Education and Learning*, 5(2), 129-135. <https://doi.org/10.5539/jel.v5n2p129>
- Llurda, E. (2000). On competence, proficiency, and communicative language ability. *International Journal of Applied Linguistics*, 10(1), 85-96. <https://doi.org/10.1111/j.1473-4192.2000.tb00141.x>
- Lou, C. (2023). *The adaptation experiences of Chinese PhD students in the UK* (Doctoral dissertation, University of Leicester). <https://doi.org/10.25392/leicester.data.21959966.v1>
- Lu, L. (1990). Adaptation to British universities: Homesickness and mental health of

- Chinese students. *Counselling Psychology Quarterly*, 3(3), 225-232.
<https://doi.org/10.1080/09515079008254253>
- Lucas, K. J. (2019). Chinese Graduate Student Understandings and Struggles with Critical Thinking: A Narrative-Case Study. *International Journal for the Scholarship of Teaching and Learning*, 13(1), 5.
<https://doi.org/10.20429/ijstl.2019.130105>
- Lysgaard, S. (1955). Adjustment in a foreign society: Norwegian Fulbright grantees visiting the United States. *International Social Science Bulletin*, 7, 45-51.
- Ma, H., & Miller, C. (2021). Trapped in a double bind: Chinese overseas student anxiety during the COVID-19 pandemic. *Health communication*, 36(13), 1598-1605.
<https://doi.org/10.1080/10410236.2020.1775439>
- Ma, L. (2012). Some philosophical considerations in using mixed methods in library and information science research. *Journal of the American Society for Information Science & Technology*, 63(9), 1859-1867.
<https://doi.org/10.1002/asi.22711>
- Maas, J., van Dillen, S. M. E., Verheij, R. A., & Groenewegen, P. P. (2009). Social contacts as a possible mechanism behind the relation between green space and health. *Health & Place*, 15(2), 586-595.
<https://doi.org/10.1016/j.healthplace.2008.09.006>
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual review of psychology*, 51(1), 201-226.
<https://doi.org/10.1146/annurev.psych.51.1.201>
- Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia: the Asia-Pacific's Voice in Language and Language Teaching*, 19, 5-11.
- Mak, A. S., Bodycott, P., & Ramburuth, P. (2015). Beyond host language proficiency, beyond host language proficiency: Coping resources predicting international students' satisfaction. *Journal of Studies in International Education*, 19(5), 460-475. <https://doi.org/10.1177/1028315315587109>

- Maller, C., Townsend, M., Pryor, A., Brown, P., & St Leger, L. (2005). Healthy nature healthy people: 'contact with nature' as an upstream health promotion intervention for populations. *Health Promotion International*, 21(1), 45–54. <https://doi.org/10.1093/heapro/dai032>
- Manson, N.C. & O'Neill, O. (2007). *Rethinking Informed Consent in Bioethics*. Cambridge: Cambridge University Press.
- Manti, S. & Licari, A. (2018). How to obtain informed consent for research. *Breathe*, 14(2), 145-152. <https://doi.org/10.1183/20734735.001918>
- Marangell, S., & Baik, C. (2022). International Students' Suggestions for What Universities Can Do to Better Support Their Mental Wellbeing. *Journal of International Students*, 12(4), 921-942. <https://doi.org/10.32674/jis.v12i4.3877>
- Markevych, I., Schoierer, J., Hartig, T., Chudnovsky, A., Hystad, P., Dzhambov, A. M., de Vries, S., Triguero-Mas, M., Brauer, M., Nieuwenhuijsen, M. J., Lupp, G., Richardson, E. A., Astell-Burt, T., Dimitrova, D., Feng, X., Sadeh, M., Standl, M., Heinrich, J., & Fuertes, E. (2017). Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environmental Research*, 158, 301–317. <https://doi.org/10.1016/j.envres.2017.06.028>
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253
- Marsella, A. J. (1993). Counseling and psychotherapy with Japanese Americans: Cross-cultural considerations. *American Journal of Orthopsychiatry*, 63, 200-208. <https://doi.org/10.1037/h0079431>
- Marselle, M., Warber, S., & Irvine, K. (2019). Growing resilience through interaction with nature: Can group walks in nature buffer the effects of stressful life events on mental health? *International Journal of Environmental Research and Public Health*, 16(6), 986. <https://doi.org/10.3390/ijerph16060986>
- Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance

- across groups. *Psychological bulletin*, 97(3), 562-582.
<https://doi.org/10.1037/0033-2909.97.3.562>
- Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: Relations and causal ordering. *British journal of educational psychology*, 81(1), 59-77. <https://doi.org/10.1348/000709910X503501>
- Martin, J. N., & Nakayama, T. K. (2004). *Intercultural Communication in contexts*. McGraw Hill Education.
- Martin, M., Sadlo, G., & Stew, G. (2006). The phenomenon of boredom. *Qualitative Research in Psychology*, 3(3), 193-211.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396. <https://doi.org/10.1037/h0054346>
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper & Row.
- Matsumoto, D., Weissman, M. D., Preston, K., Brown, B. R., & Kupperbusch, C. (1997). Context-specific measurement of individualism-collectivism on the individual level: The Individualism-Collectivism Interpersonal Assessment Inventory. *Journal of Cross-Cultural Psychology*, 28, 743-767.
- Matthews, B., & Ross, L. (2010). *Research Methods: A Practical Guide for the Social Sciences*. Harlow: Longman.
- Maunder, R. G. (2009). Was SARS a mental health catastrophe? *General Hospital Psychiatry*, 31, 316-317.
- Maxwell, J. A., & Mittapalli, K. (2010). *Realism as a Stance for Mixed Methods Research*. Los Angeles and London: Sage Publications.
- McCrae, R. R., Yik, M. S. M., Trapnell, P. D., Bond, M. H., & Paulhus, D. L. (1998). Interpreting personality profiles across cultures: Bilingual, acculturation, and peer rating studies of Chinese undergraduates. *Journal of Personality and Social Psychology*, 74(4), pp.1041-1055. <https://doi.org/10.1037/0022-3514.74.4.1041>
- McFarland, J., Hussar, B., Zhang, J., Wang, X., Wang, K., Hein, S., Diliberti, M.,

- Forrest Cataldi, E., Bullock Mann, F., & Barmer, A. (2019). *The Condition of Education 2019* (NCES 2019- 144). U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubs2019/2019144.pdf>
- McFadden, D. (1974). Conditional logit analysis of qualitative choice behaviors. *Frontier in econometrics*, 105-142.
- Mclachlan, D. A., & Justice, J. (2009). A grounded theory of international student well-being. *Journal of theory construction & testing*, 13(1). Retrieved from <http://iej.cjb.net>
- Mehdizadeh, N., & Scott, G. (2005). Adjustment problems of Iranian international students in Scotland. *International Education Journal*, 6(4), 484-493.
- Mena, F. J., Padilla, A. M., & Maldonado, M. (1987). Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of behavioral sciences*, 9(2), 207-225. <https://doi.org/10.1177/07399863870092006>
- Meng, Q., Li, J., & Zhu, C. (2019). Towards an ecological understanding of Chinese international students' intercultural interactions in multicultural contexts: Friendships, inhibiting factors and effects on global competence. *Current Psychology*, 40(4), 1517-1530. <https://doi.org/10.1007/s12144-019-00280-3>
- Meng, Q., Zhu, C., & Cao, C. (2018). Chinese international students' social connectedness, social and academic adaptation: The mediating role of global competence. *Higher Education*, 75, 131-147. <https://doi.org/10.1007/s10734-017-0129-x>
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Mesidor, J. K., & Sly, K. F. (2016). Factors that contribute to the adjustment of international students. *Journal of International Students*, 6(1), 262–282.
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2016). *Applied multivariate research: Design and interpretation*. Sage publications.

- Miles, R. T., Krishnan, A., Rabin, L. A., Brandt, S. A., & Crispino, M. L. (2024). Does major make a difference? Mental health literacy and its relation to college major in a diverse sample of undergraduate students. *Discover Mental Health*, 4(1), 42. <https://doi.org/10.1007/s44192-024-00099-w>
- Mikulas, W. L., & Vodanovich, S. J. (1993). The essence of boredom. *The Psychological Record*, 43(1), 3.
- 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. <https://doi.org/10.1037/1072-5245.11.2.132>
- Misra, R., & Castillo, L. G. (2004). Academic stress among college Students: Comparison of American and international Students. *International Journal of Stress Management*, 11, 132-148. <https://doi.org/10.1037/1072-5245.11.2.132>
- Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin*, 110(3), 406-425. <https://doi.org/10.1037/0033-2909.110.3.406>
- Moore, J. L., & Constantine, M. G. (2005). Development and initial validation of the collectivistic coping style measure with African, Asian, and Latin American international students. *Journal of Mental Health Counseling*, 27, 329-347. <https://doi.org/10.17744/mehc.27.4.frcqxuy1we5nwpqe>
- Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48-76. <https://doi.org/10.1177/2345678906292462>
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative inquiry*, 20(8), 1045-1053. <https://doi.org/10.1177/1077800413513733>
- Mori, S. C. (2000). Addressing the mental health concerns of international students. *Journal of counseling & development*, 78(2), 137-144.

<https://doi.org/10.1002/j.1556-6676.2000.tb02571.x>

- Morling, B., & Evered, S. (2006). Secondary control reviewed and defined. *Psychological Bulletin*, 132, 269-296. <https://doi.org/10.1037/0033-2909.132.2.269>
- Morling, B., & Fiske, S. T. (1999). Defining and measuring harmony control. *Journal of Research in Personality*, 33, 379-414. <https://doi.org/10.1006/jrpe.1999.2254>
- Mukaka, M. M. (2012). A guide to appropriate use of correlation coefficient in medical research. *Malawi medical journal*, 24(3), 69-71.
- Mulyana, D. & Murtiningsih, B.S.E. (2017). Indonesian students' cross-cultural adaptation in Busan, Korea. *Jurnal AspiKom*, 3 (2), 144–156.
- Nagelkerke, N. J. (1991). A note on a general definition of the coefficient of determination. *Biometrika*, 78(3), 691-692. <https://doi.org/10.1093/biomet/78.3.691>
- Nandi, A., Tracy, M., Aiello, A., Jarlais, D., Des, C., & Galea, S. (2008). Social support and response to AIDS and severe acute respiratory syndrome. *Emerging Infectious Diseases*, 14(5), 825-827. <https://doi.org/10.3201/eid1405.071070>
- Neri, F. V. & Ville, S. (2008). Social capital renewal and the academic performance of international students in Australia. *Journal of Socioeconomics*, 37(4), 1515-1538. <https://doi.org/10.1016/j.socec.2007.03.010>
- Ng, T. K., Wang, K. W. C., & Chan, W. (2017). Acculturation and cross-cultural adaptation: The moderating role of social support. *International journal of intercultural relations*, 59, 19-30. <https://doi.org/10.1016/j.ijintrel.2017.04.012>
- Nguyen, M. H., Le, T. T., Nguyen, H. K. T., Ho, M. T., Nguyen, H. T. T., & Vuong, Q. H. (2021). Alice in Suicideland: Exploring the suicidal ideation mechanism through the sense of connectedness and help-seeking behaviors. *International journal of environmental research and public health*, 18(7), 3681. <https://doi.org/10.3390/ijerph18073681>
- Nielsen, T. S., & Hansen, K. B. (2007). Do green areas affect health? results from a

- Danish survey on the use of green areas and health indicators. *Health & Place*, 13(4), 839–850. <https://doi.org/10.1016/j.healthplace.2007.02.001>
- Nielsen, T. S., & Hansen, K. B. (2007). Do green areas affect health? results from a Danish survey on the use of green areas and health indicators. *Health & Place*, 13(4), 839–850. <https://doi.org/10.1016/j.healthplace.2007.02.001>
- Nilsson, J. E., Butler, J., Shouse, S., & Joshi, C. (2008). The relationships among perfectionism, acculturation, and stress in Asian international students. *Journal of College Counseling*, 11(2), 147-158. <https://doi.org/10.1002/j.2161-1882.2008.tb00031.x>
- Noh, S., & Kaspar, V. (2003). Perceived discrimination and depression: Moderating effects of coping, acculturation, and ethnic support. *American Journal of Public Health*, 93, 232-238. <https://doi.org/10.2105/AJPH.93.2.232>
- Noh, S., Beiser, M., Kaspar, V., Hou, F., & Rummens, J. (1999). Perceived racial discrimination, depression, and coping: A study of Southeast Asian refugees in Canada. *Journal of Health and Social Behavior*, 40, 193-207. <https://doi.org/10.2307/2676348>
- Nohria, N., & Eccles, R. (1992). *Networks and Organizations Structure, Form, and Action*. Boston: Harvard Business School Press.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, 16(1), 1-13. <https://doi.org/10.1177/1609406917733847>
- O'brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & quantity*, 41, 673-690. <https://doi.org/10.1007/s11135-006-9018-6>
- Oberg, K. (1960). Cultural shock: Adjustment to new cultural environments. *Practical Anthropology*, 7(4), 177–182. <https://doi.org/10.1177/009182966000700405>
- Oliver, P. (2010). *The Student's Guide to Research Ethics*. McGraw-Hill Education.
- Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism

- and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3-72. <https://doi.org/10.1037/0033-2909.128.1.3>
- Ozer, S. (2015). Predictors of international student' psychological and sociocultural adjustment to the context of reception while studying at Aarhus University, Denmark. *Scandinavian Journal of Psychology*, 56, 717-725. <https://doi.org/10.1111/sjop.12258>
- Paltridge, T., Mayson, S., & Schapper, J. (2012). Covering the gap: Social inclusion, international students and the role of local government. *Australian Universities' Review*, 54(2), 29-39. <https://search.informit.org/doi/10.3316/ielapa.754792641466514>
- Pan, J. Y., Fu Keung Wong, D., 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 & New Zealand Journal of Psychiatry*, 41(9), 740-750. <https://doi.org/10.1080/00048670701517942>
- Pan, J. Y., & Keung Wong, D. F. (2011). Acculturative stressors and acculturative strategies as predictors of negative affect among Chinese international students in Australia and Hong Kong: A cross-cultural comparative study. *Academic Psychiatry*, 35, 376-381. <https://doi.org/10.1176/appi.ap.35.6.376>
- Pan, J., Wong, D. F., Joubert, L., & Chan, C. L. (2007). Acculturative stressor and meaning of life as predictors of negative effect in acculturation: A cross-cultural comparative study between Chinese international students in Australia and Hong Kong. *The Australian and New Zealand Journal of Psychiatry*, 41(9), 740-750. <https://doi.org/10.1080/00048670701517942>
- 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. <https://doi.org/10.3200/JACH.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 HK. *Psychologia: An International Journal of Psychological Sciences*, 53, 163-178. <https://doi.org/10.2117/psysoc.2010.163>
- Pantelidou, S., & Craig, T. K. J. (2006). Culture shock and social support: A survey in Greek migrant students. *Social Psychiatry and Psychiatric Epidemiology*, 41(10), 777–781. <https://doi.org/10.1007/s00127-006-0096-5>
- Paquette, E. T., & Ross, L. F. (2015). Consent is the cornerstone of ethically valid research: Ethical issues in recontacting subjects who enrolled in research as a minor. *The American Journal of Bioethics*, 15(10), 61-63. <https://doi.org/10.1080/15265161.2015.1075800>
- Park, C. L., Armeli, S., & Tennen, H. (2004). Appraisal-coping goodness of fit: A daily internet study. *Personality and Social Psychology Bulletin*, 30, 558-569. <https://doi.org/10.1177/0146167203262855>
- Pascarella, E. T., & Terenzini, P. T. (2005). *How College Affects Students: A Third Decade of Research. Volume 2*. Jossey-Bass, An Imprint of Wiley. 10475 Crosspoint Blvd, Indianapolis, IN 46256.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Pearson, D. G., & Craig, T. (2014). The great outdoors? exploring the mental health benefits of Natural Environments. *Frontiers in Psychology*, 5. <https://doi.org/10.3389/fpsyg.2014.01178>
- Peirce, C. S. (1974). *Collected papers of charles sanders peirce* (Vol. 5). Harvard University Press.
- Pekerti, A. A., van de Vijver, F. J., Moeller, M., & Okimoto, T. G. (2020). Intercultural contacts and acculturation resources among International students in Australia:

- A mixed-methods study. *International Journal of Intercultural Relations*, 75, 56-81. <https://doi.org/10.1016/j.ijintrel.2019.12.004>
- Perera, J., & Chang, E. C. (2015). Depression symptoms in South Asian, East Asian, and European Americans: Evidence for ethnic differences in coping with academic versus interpersonal stress? *Asian American Journal of Psychology*, 6 (4), 350- 358. <https://doi.org/10.1037/aap0000030>
- Pettigrew, T. F. (1997). Generalized intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin*, 23(2), 173-185. <https://doi.org/10.1177/0146167297232006>
- Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *International Journal of Intercultural Relations*, 32, 187-199. <https://doi.org/10.1016/j.ijintrel.2007.12.002>
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90 (5), 751-783. <https://doi.org/10.1037/0022-3514.90.5.751>
- Phua, D. Y., Meaney, M. J., Khor, C. C., Lau, I. Y. & Hong, Y. (2017). Effects of bonding with parents and home culture on intercultural adaptations and the moderating role of genes. *Behavioural Brain Research*, 325(B), 223-236. <https://doi.org/10.1016/j.bbr.2017.02.012>
- Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., ... & Abel, K. M. (2020). Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *The Lancet Psychiatry*, 7(10), 883-892. [https://doi.org/10.1016/S2215-0366\(20\)30308-4](https://doi.org/10.1016/S2215-0366(20)30308-4)
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, 47(11), 1451-1458. <https://doi.org/10.1016/j.ijnurstu.2010.06.004>
- Poyrazli, S., & Kavanaugh, P. R. (2006). Marital status, ethnicity, academic achievement, and adjustment strains. *College student journal*, 40(4), 767-780.

- 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), 73-82. <https://doi.org/10.1002/j.2161-1882.2004.tb00261.x>
- Poyrazli, S., & Lopez, M. D. (2007). An exploratory study of perceived discrimination and homesickness: A comparison of international students and American students. *The Journal of Psychology*, 141(3), 263–280. <https://doi.org/10.3200/JRLP.141.3.263-280>
- Poyrazli, S., Arbona, C., Bullington, R., & Pisecco, S. (2001). Adjustment issues of Turkish college students studying in the United States. *College Student Journal*, 35(1), 52-62.
- Pritchard, M. E., & Wilson, G. S. (2003). Using emotional and social factors to predict student success. *Journal of college student development*, 44(1), 18-28. <https://doi.org/10.1353/csd.2003.0008>
- Pruitt, F. J. (1978). The adaptation of African students to American society. *International Journal of Intercultural Relations*, 2(1), 90-118. [https://doi.org/10.1016/0147-1767\(78\)90030-5](https://doi.org/10.1016/0147-1767(78)90030-5)
- Qi, W. G., Wang, K. T., Pincus, A. L., & Wu, L. Z. (2018). Interpersonal problems and acculturative stress over time among Chinese international students from mainland China and Taiwan. *Asian American Journal of Psychology*, 9(3), 237. <https://doi.org/10.1037/aap0000119>
- Qin, X., Wang, S., & Hsieh, C. R. (2018). The prevalence of depression and depressive symptoms among adults in China: estimation based on a National Household Survey. *China Economic Review*, 51, 271-282. <https://doi.org/10.1016/j.chieco.2016.04.001>
- Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3(9), 369-387. <https://doi.org/10.5281/zenodo.887089>

- Raaper, R., Brown, C., & Llewellyn, A. (2022). Student support as social network: Exploring non-traditional student experiences of academic and wellbeing support during the Covid-19 pandemic. *Educational Review*, 74(3), 402-421. <https://doi.org/10.1080/00131911.2021.1965960>
- Ra, Y. A. (2024). Roles of social support on acculturative stress of Asian international students. *Current Psychology*, 43(5), 3882-3888. <https://doi.org/10.1007/s12144-023-04696-w>
- Ra, Y., & Trusty, J. (2015). Coping strategies for managing acculturative stress among Asian international students. *International Journal for the Advancement of Counselling*, 37, 319-329. <https://doi.org/10.1007/s10447-015-9246-3>
- Ra, Y., & Trusty, J. (2017). Impact of social support and coping on acculturation and acculturative stress of East Asian international students. *Journal of Multicultural Counselling and Development*, 45(4), 276-291. <https://doi.org/10.1002/jmcd.12078>
- Ramsay, S., Jones, E., & Barker, M. (2007). Relationship between adjustment and support types: Young and mature-aged local and international first year university students. *Higher education*, 54, 247-265. <https://doi.org/10.1007/s10734-006-9001-0>
- Randolph, S. M., & Banks, H. D. (1993). Making a way out of no way: The promise of Africentric approaches to HIV prevention. *Journal of Black Psychology*, 19, 204-214. <https://doi.org/10.1177/00957984930192009>
- Raphael, K. (1987). Recall bias: a proposal for assessment and control. *International journal of epidemiology*, 16(2), 167-170.
- Rapley, T. (2007). *Doing Conversation, Discourse and Document Analysis*. SAGE Publications.
- Redfern, K. (2016). An empirical investigation of the incidence of negative psychological symptoms among Chinese international students at an Australian university. *Australian Journal of Psychology*, 68(4), 281-289.

<https://doi.org/10.1111/ajpy.12106>

- Redfield, R., Linton, R., & Herskovits, M. (1936). Memorandum for the study of acculturation. *American Anthropologist*, 38(1), 149-152.
- Redmond, M. V. (2000). Cultural distance as a mediating factor between stress and intercultural communication competence. *International Journal of Intercultural Relations*, 24(1), 151-159. [https://doi.org/10.1016/S0147-1767\(99\)00028-0](https://doi.org/10.1016/S0147-1767(99)00028-0)
- Reichertz, J. (2007). Abduction: The logic of discovery of grounded theory. *The SAGE handbook of grounded theory*, 214-228.
- Ribeiro, A. I., Tavares, C., Guttentag, A., & Barros, H. (2019). Association between neighbourhood green space and biological markers in school-aged children. findings from the generation XXI birth cohort. *Environment International*, 132, 105070. <https://doi.org/10.1016/j.envint.2019.105070>
- Rice, K. G., Choi, C. C., Zhang, Y., Morero, Y. I., & Anderson, D. (2012). Self-critical perfectionism, acculturative stress, and depression among international students. *The Counseling Psychologist*, 40(4), 575-600. <https://doi.org/10.1177/0011000011427061>
- Richardson, E. A., & Mitchell, R. (2010). Gender differences in relationships between urban green space and health in the United Kingdom. *Social Science & Medicine*, 71(3), 568-575. <https://doi.org/10.1016/j.socscimed.2010.04.015>
- Richardson, R., & Kramer, E. H. (2006). Abduction as the type of inference that characterizes the development of a grounded theory. *Qualitative research*, 6(4), 497-513. <https://doi.org/10.1177/1468794106068019>
- Rienties, B., & Tempelaar, D. (2013). The role of cultural dimensions of international and Dutch students on academic and social integration and academic performance in the Netherlands. *International Journal of Intercultural Relations*, 37, 188-201. <https://doi.org/10.1016/j.ijintrel.2012.11.004>
- Rimé, B., Mesquita, B., Boca, S., & Philippot, P. (1991). Beyond the emotional event: Six studies on the social sharing of emotion. *Cognition and Emotion*, 5(5-6),

- 435–465. <https://doi.org/10.1080/02699939108411052>
- Roberto, K. J., Johnson, A. F., & Rauhaus, B. M. (2020). Stigmatization and prejudice during the COVID-19 pandemic. *Administrative Theory & Praxis*, 42(3), 364-378. <https://doi.org/10.1080/10841806.2020.1782128>
- Robson, C. (2011). *Real World Research*. John Wiley & Sons.
- Rokach, A., Bacanli, H., & Ramberan, G. (2000). Coping with loneliness: A cross-cultural comparison. *European Psychologist*, 5, 302-311. <https://doi.org/10.1027/1016-9040.5.4.302>
- Rose, L. E., & Campbell, J. (2000). The role of social support and family relationships in women's responses to battering. *Health Care for Women International*, 21, 27- 39. <https://doi.org/10.1080/073993300245384>
- Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A 2-process model of perceived control. *Journal of Personality and Social Psychology*, 42, 5-37. <https://doi.org/10.1037/0022-3514.42.1.5>
- Rothman, K. J., Gallacher, J. E., & Hatch, E. E. (2013). Why representativeness should be avoided. *International Journal of Epidemiology*, 42(4), 1012-1014. <https://doi.org/10.1093/ije/dys223>
- Roy, A., Newman, A., Ellenberger, T., & Pyman, A. (2019). Outcomes of international student mobility programs: a systematic review and agenda for future research. *Studies in Higher Education*, 44(9), 1630-1644. <https://doi.org/10.1080/03075079.2018.1458222>
- Rudmin, F. (2009). Constructs, measurements and models of acculturation and acculturative stress. *International Journal of Intercultural Relations*, 33(2), 106-123. <https://doi.org/10.1016/j.ijintrel.2008.12.001>
- Russell, J., Rosenthal, D., & Thomson, G. (2010). The international student experience: Three styles of adaptation. *Higher education*, 60, 235-249. <https://doi.org/10.1007/s10734-009-9297-7>
- Salem, D. A., Bogat, G. A., & Reid, C. (1997). Mutual help goes online. *Journal of*

- Community Psychology*, 25, 189-207. [https://doi.org/10.1002/\(SICI\)1520-6629\(199703\)25:2<189::AID-JCOP7>3.0.CO;2-T](https://doi.org/10.1002/(SICI)1520-6629(199703)25:2<189::AID-JCOP7>3.0.CO;2-T)
- Sam, D. L., Tetteh, D. K., & Amponsah, B. (2015). Satisfaction with life and psychological symptoms among international students in Ghana and their correlates. *International Journal of Intercultural Relations*, 49, 156–167. <https://doi.org/10.1016/j.ijintrel.2015.09.001>
- Samuels, P. (2017). *Advice on Exploratory Factor Analysis*. https://www.researchgate.net/publication/319165677_Advice_on_Exploratory_Factor_Analysis
- Sandhu, D.S. & Asrabadi, B.R. (1994). Development of an acculturative stress scale for international students: Preliminary findings. *Psychological Reports*, 75(1), 435-448. <https://doi.org/10.2466/pr0.1994.75.1.435>
- Sandhu D. S., & Asrabadi B. R. (1998). An acculturative stress scale for international students: A practical approach to stress measurement. In C. P. Zalaquett, R. J. Wood, *Evaluating Stress: A Book of Resources* (pp. 1-33). Lanham, MD: Scarecrow Press.
- Sapranaviciute L., Perminas, A., & Pauziene, N. (2012). Stress coping and psychological adaptation in the international students. *Central European Journal of Medicine*, 7(3), 335-343. <https://doi.org/10.2478/s11536-011-0161-7>
- Sarkar, C., Webster, C., & Gallacher, J. (2018). Residential greenness and prevalence of major depressive disorders: A cross-sectional, observational, associational study of 94 879 adult UK Biobank participants. *The Lancet Planetary Health*, 2(4). [https://doi.org/10.1016/s2542-5196\(18\)30051-2](https://doi.org/10.1016/s2542-5196(18)30051-2)
- 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. <https://doi.org/10.1177/1028315307299699>
- Schaubroeck, J., Lam, S. S. K., & Xie, J. L. (2000). Collective efficacy versus self-

- efficacy incoping responses to stressors and control: A cross-cultural study. *Journal of Applied Psychology*, 85, 512-525. <https://doi.org/10.1037/0021-9010.85.4.512>
- Schnitzler, K., Holzberger, D., & Seidel, T. (2021). All better than being disengaged: Student engagement patterns and their relations to academic self-concept and achievement. *European Journal of Psychology of Education*, 36(3), 627-652. <https://doi.org/10.1007/s10212-020-00500-6>
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of educational research*, 99(6), 323-338. <https://doi.org/10.3200/JOER.99.6.323-338>
- Schroeder, D., & Gefenas, E. (2009). Vulnerability: Too vague and too broad? *Camb Q Healthc Ethics*, 18, 113-121. <https://doi.org/10.1017/S0963180109090203>
- Schwandt, T. A. (2007). *The SAGE Dictionary of Qualitative Inquiry*. Thousand Oaks, CA: Sage.
- 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, 237-251. <https://doi.org/10.1037/a0019330>
- Schwarz, G. (1978). Estimating the dimension of a model. *The annals of statistics*, 461-464.
- Searle, W., & Ward, C. (1990) The Prediction of Psychological and Sociocultural Adjustment during Cross-Cultural Transitions. *International of Journal Intercultural Relations*, 14, 449-464. [https://doi.org/10.1016/0147-1767\(90\)90030-Z](https://doi.org/10.1016/0147-1767(90)90030-Z)
- Selby, H. A., & Woods, C. M. (1966). Foreign students at a high-pressure university. *Sociology of Education*, 39(2), 138. <https://doi.org/10.2307/2111864>
- Seligman, M. E. (1972). Learned helplessness. *Annual review of medicine*, 23(1), 407-412.

- Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 52(3-4), 591-611.
<https://doi.org/10.1093/biomet/52.3-4.591>
- Sharma, V., Reina Ortiz, M., & Sharma, N. (2020). Risk and protective factors for adolescent and young adult mental health within the context of COVID-19: A perspective from Nepal. *Journal of Adolescent Health*, 67(1), 135-137.
<https://doi.org/10.1016/j.jadohealth.2020.04.006>
- Sheinbaum, T., Kwapil, T. R., Ballespí, S., Mitjavila, M., Chun, C. A., Silvia, P. J., & Barrantes-Vidal, N. (2015). Attachment style predicts affect, cognitive appraisals, and social functioning in daily life. *Frontiers in psychology*, 6, 296.
<https://doi.org/10.3389/fpsyg.2015.00296>
- Sherry, M., Thomas, P., & Chui, W. H. (2010). International students: A vulnerable student population. *Higher education*, 60, 33-46.
<https://doi.org/10.1007/s10734-009-9284-z>
- Shevlin, M., Butter, S., McBride, O., Murphy, J., Gibson-Miller, J., Hartman, T. K., ... & Bentall, R. P. (2023). Refuting the myth of a ‘tsunami’ of mental ill-health in populations affected by COVID-19: Evidence that response to the pandemic is heterogeneous, not homogeneous. *Psychological medicine*, 53(2), 429-437.
<https://doi.org/10.1017/S0033291721001665>
- Shu, F., Ahmed, S. F., Pickett, M. L., Ayman, R., & McAbee, S. T. (2020). Social support perceptions, network characteristics, and international student adjustment. *International Journal of Intercultural Relations*, 74, 136-148.
<https://doi.org/10.1016/j.ijintrel.2019.11.002>
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, 20, 580-591.
<https://doi.org/10.1177/0146167294205014>
- Sinha, B. K., Willson, L. R., & Watson, D. C. (2000). Stress and coping among students in India and Canada. *Canadian Journal of Behavioural Science*, 32, 218-225.

<https://doi.org/10.1037/h0087118>

Skinner, B. F. (1973). *Beyond Freedom and Dignity* (1971). *New York: Bantam, Vintage Book.*

Sleat, M. (2017). Responsible to whom? Obligations to participants and society in social science research. In *Finding Common Ground: Consensus in Research Ethics Across the Social Sciences* (Advances in Research Ethics and Integrity). Emerald Publishing Limited.

Smirnov, N. (1948). Table for estimating the goodness of fit of empirical distributions. *The annals of mathematical statistics*, 19(2), 279-281. <https://doi.org/10.1214/aoms/1177730256>

Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In: J. A. Smith (eds.), *Qualitative Analysis: A Practical Guide to Research Methods* (pp. 53–80). London: Sage. <http://digital.casalini.it/9781526422866>

Smith, N. R., Marshall, L., Albakri, M., Smuk, M., Hagell, A., & Stansfeld, S. (2021). Adolescent mental health difficulties and educational attainment: findings from the UK household longitudinal study. *BMJ open*, 11(7), e046792. <http://dx.doi.org/10.1136/bmjopen-2020-046792>

Smith, R. A., & Khawaja, N.G. (2011). A review of the acculturation experiences of international students. *International Journal of Intercultural Relations*, 35, 699-713. <https://doi.org/10.1016/j.ijintrel.2011.08.004>

Sosoo, E. E., Bernard, D. L., & Neblett, E. W. (2019). The influence of internalized racism on the relationship between discrimination and anxiety. *Cultural Diversity and Ethnic Minority Psychology*, 26(4), 570-580. <https://doi.org/10.1037/cdp0000320>

Sovic S. (2008). Coping with stress: the perspective of international students. *ADCHE*, 6(3), 145-158. https://doi.org/10.1386/adch.6.3.145_1

Soysal Nuhoglu, Y., & Cebolla Boado, H. (2021). *Bright futures: Survey of Chinese international students in the UK 2017-2018* [Data set]. UK Data

- Service. <https://doi.org/10.5255/UKDA-SN-853568>
- 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. <https://doi.org/10.1080/07908310608668753>
- Spencer-Oatey, H., Dauber, D., Jing, J., & Lifei, W. (2017). Chinese students' social integration into the university community: Hearing the students' voices. *Higher Education*, 74, 739-756. <https://doi.org/10.1007/s10734-016-0074-0>
- Squires, A. (2009). Methodological challenges in cross-language qualitative research: A research review. *International journal of nursing studies*, 46(2), 277-287. <https://doi.org/10.1016/j.ijnurstu.2008.08.006>
- Stevens, S. S. (1946). On the theory of scales of measurement. *Science*, 103(2684), 677-680. <https://doi.org/10.1126/science.103.2684.677>
- Stone, M., McGinley, M., & Raffaelli, G. C (2007). Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology*, 13(4), 347-355. <https://doi.org/10.1037/1099-9809.13.4.347>
- 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, 581-592. <https://doi.org/10.1023/A:1007094931292>
- Student. (1908). The probable error of a mean. *Biometrika*, 6(1), 1-25. <https://doi.org/10.2307/2331554>
- Su, Z., McDonnell, D., Shi, F., Liang, B., Li, X., Wen, J., ... & Yang, L. (2021). Chinese international students in the United States: The interplay of students' acculturative stress, academic standing, and quality of life. *Frontiers in Psychology*, 12, 625863. <https://doi.org/10.3389/fpsyg.2021.625863>
- Suan, L. V., & Tyler, J. D. (1990). Mental health values and preferences for mental health resources of Japanese-American and Caucasian-American students.

- Professional Psychology: Research and Practice*, 21, 291-296.
<https://doi.org/10.1037/0735-7028.21.4.291>
- Sullivan, W. C., Kuo, F. E., & Depooter, S. F. (2004). The fruit of urban nature. *Environment and Behavior*, 36(5), 678–700.
<https://doi.org/10.1177/0193841x04264945>
- Sullivan, C., & Kashubeck-West, S. (2015). The interplay of international students' acculturative stress, social support, and acculturation modes. *Journal of International Students*, 5(1), 1-11. <https://doi.org/10.32674/jis.v5i1.441>
- Sümer, S., Poyrazli, S., & Grahame, K. (2008). Predictors of depression and anxiety among international students. *Journal of counseling & development*, 86(4), 429-437. <https://doi.org/10.1002/j.1556-6678.2008.tb00531.x>
- Sumer, S. (2009). *International students' psychological and sociocultural adaptation in the United States*. Georgia State University.
- Sun, X., Hall, G., DeGarmo, D., Chain, J., & Fong, M. (2021). A longitudinal investigation of discrimination and mental health in Chinese international students: The role of social connectedness. *Journal of Cross-Cultural Psychology*, 52(1), 61-77. <https://doi.org/10.1177/0022022120979625>
- Swagler, M. A., & Ellis, M. V. (2003). Crossing the distance: Adjustment of Taiwanese graduate students in the United States. *Journal of Counseling Psychology*, 50(4), 420-437. <https://doi.org/10.1037/0022-0167.50.4.420>
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2013). *Using multivariate statistics* (Vol. 6, pp. 497-516). Boston, MA: pearson.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed methods research: From data triangulation to mixed model designs. In Edited by: A.Tashakkori & C.Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 671–701). Thousand Oaks, CA: Sage.

- Taušová, J., Bender, M., Dimitrova, R., & van de Vijver, F. (2019). The role of perceived cultural distance, personal growth initiative, language proficiencies, and tridimensional acculturation orientations for psychological adjustment among international students. *International Journal of Intercultural Relations*, 69, 11-23. <https://doi.org/10.1016/j.ijintrel.2018.11.004>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: Who seeks it and why?. *Journal of personality and social psychology*, 87(3), 354. <https://doi.org/10.1037/0022-3514.87.3.354>
- Taylor, Y., Everett, A. M., & Edgar, F. (2021). Perception of cross-cultural adjustment by immigrant professionals from three ethnic groups in one host context. *International Journal of Cross Cultural Management*, 21(2), 227-244. <https://doi.org/10.1177/14705958211001889>
- Teddlie, C., & Johnson, R. B. (2009b). Methodological thought since the 20th century. In Edited by: C.Teddlie & A.Tashakkori, *Foundations of mixed methods research: Integrating quantitative and qualitative techniques in the social and behavioral sciences* (pp. 62–82). Thousand Oaks, CA: Sage.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of Mixed Methods Research. Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. Thousand Oaks: Sage.
- Temple, B., & Young, A. (2004). Qualitative research and translation dilemmas. *Qualitative research*, 4(2), 161-178. <https://doi.org/10.1177/1468794104044430>
- Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, 2(17-37), 25.
- Teo, T., Tsai, L. T., & Yang, C. C. (2013). Applying structural equation modeling (SEM)

- in educational research: An introduction. In *Application of structural equation modeling in educational research and practice* (pp. 1-21). Brill.
<https://doi.org/10.1007/978-94-6209-332-4>
- Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L. P., ... & Goldsmith, C. H. (2010). A tutorial on pilot studies: the what, why and how. *BMC medical research methodology*, 10, 1-10. <https://doi.org/10.1186/1471-2288-10-1>
- Theodossiou, I. (1998). The effects of low-pay and unemployment on psychological well-being: a logistic regression approach. *Journal of health economics*, 17(1), 85-104. [https://doi.org/10.1016/S0167-6296\(97\)00018-0](https://doi.org/10.1016/S0167-6296(97)00018-0)
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of health and social behavior*, 52(2), 145-161. <https://doi.org/10.1177/0022146510395592>
- Thomas, G. (2013). *How to Do Your Research Project: A Guidebook for Students in Education and Applied Social Sciences*. London: SAGE Publications.
- Thompson, B. (2004). Exploratory and confirmatory factor analysis: Understanding concepts and applications. *Washington, DC*, 10694(000), 3. <https://doi.org/10.1037/10694-000>
- Thuen, F. (1995). Satisfaction with bereavement support groups. Evaluation of the Norwegian Bereavement Care Project. *Journal of Mental Health*, 4, 499-510. <https://doi.org/10.1080/09638239550037334>
- Thurber, C. A., & Walton, E. A. (2012). Homesickness and adjustment in university students. *Journal of American college health*, 60(5), 415-419. <https://doi.org/10.1080/07448481.2012.673520>
- Tian, F., Li, H., Tian, S., Yang, J., Shao, J., & Tian, C. (2020). Psychological symptoms of ordinary Chinese citizens based on SCL-90 during the level I emergency response to COVID-19. *Psychiatry Research*, 288, 112992-112992. <https://doi.org/10.1016/j.psychres.2020.112992>
- Timmermans, S., & Tavory, I. (2012). Theory construction in qualitative research: From

- grounded theory to abductive analysis. *Sociological theory*, 30(3), 167-186.
<https://doi.org/10.1177/0735275112457914>
- Tindle, R., Ahmed, A., & Moustafa, A. A. (2021). Psychological distress, social support, and psychological flexibility during COVID-19. *Mental Health Effects of COVID-19*. In A. A. Moustafa (Eds), *Mental Health Effects of Covid-19* (pp. 89-101). London: Academic Press. <https://doi.org/10.1016/B978-0-12-824289-6.00012-X>
- Tinto, V. (2012). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago press.
- Tip, L. K., Zagefka, H., González, R., Brown, R., Cinnirella, M., & Na, X. (2012). Is support for multiculturalism threatened by... threat itself? *International Journal of Intercultural Relations*, 36(1), 22-30.
<https://doi.org/10.1016/j.ijintrel.2010.09.011>
- Todorova, I. L., Falcón, L. M., Lincoln, A. K., & Price, L. L. (2020). Perceived discrimination, psychological distress and health. *Sociology of Health and Illness*, 32(6), 843-861. <https://doi.org/10.1111/j.1467-9566.2010.01257.x>
- Torres, L., Driscoll, M. W., & Voell, M. (2012). Discrimination, acculturation, acculturative stress, and Latino psychological distress: a moderated mediational model. *Cultural Diversity and Ethnic Minority Psychology*, 18(1), 17.
<https://doi.org/10.1037/a0026710>
- Treharne, G. J., Lyons, A. C., & Tupling, R. E. (2001). The effects of optimism, pessimism, social support, and mood on the lagged relationship between daily stress and symptoms. *Current Research in Social Psychology*, 7, 60-81.
- Tremblay, P. F., & Gardner, R. C. (1995). Expanding the motivation construct in language learning. *The modern language journal*, 79(4), 505-518.
<https://doi.org/10.1111/j.1540-4781.1995.tb05451.x>
- Triandis, H. C. (1995). *Individualism and Collectivism*. Boulder, CO: Westview Press.
- Triandis, H. C., Leung, K., Villareal, M. V., & Clark, F. L. (1985). Allocentric versus

- idiocentric tendencies: Convergent and discriminant validation. *Journal of Research in Personality*, 19, 395-415. [https://doi.org/10.1016/0092-6566\(85\)90008-X](https://doi.org/10.1016/0092-6566(85)90008-X)
- Triguero-Mas, M., Dadvand, P., Cirach, M., Martínez, D., Medina, A., Mompert, A., Basagaña, X., Gražulevičienė, R., & Nieuwenhuijsen, M. J. (2015). Natural outdoor environments and mental and physical health: Relationships and mechanisms. *Environment International*, 77, 35–41. <https://doi.org/10.1016/j.envint.2015.01.012>
- Tsai, P., & Wei, M. (2018). Racial discrimination and experience of new possibilities among Chinese international students. *Counselling Psychologist*, 46(3), 351-378. <https://doi.org/10.1177/0011000018761892>
- Tsai, W.L., McHale, M., Jennings, V., Marquet, O., Hipp, J., Leung, Y.-F., & Floyd, M. (2018). Relationships between characteristics of urban green land cover and mental health in U.S. metropolitan areas. *International Journal of Environmental Research and Public Health*, 15(2), 340. <https://doi.org/10.3390/ijerph15020340>
- Tummala-Narra, P., Alegria, M., & Chen, C. N. (2012). Perceived discrimination, acculturative stress, and depression among South Asians: Mixed findings. *Asian American Journal of Psychology*, 3(1), 3-16. <https://doi.org/10.1037/a0024661>
- Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the Great Outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, 166, 628–637. <https://doi.org/10.1016/j.envres.2018.06.030>
- Uchino, B. N. (2004). *Social Support and Physical Health: Understanding the Health Consequences of Relationships*. New Haven: Yale University Press.
- Udah, H., & Francis, A. (2022). Vulnerability and well-being: international students' experience in north queensland, Australia. *Journal of Comparative & International Higher Education*, 14(5), 171-196.

<https://doi.org/10.32674/jcihe.v14i5.3942>

- UK Data Service. (2020). Understanding Society: The UK Household Longitudinal Study (GN 33423 6614). Retrieved from <https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000053>.
- Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science*, 224(4647), 420–421. <https://doi.org/10.1126/science.6143402>
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and Urban Environments. *Journal of Environmental Psychology*, 11(3), 201–230. [https://doi.org/10.1016/s0272-4944\(05\)80184-7](https://doi.org/10.1016/s0272-4944(05)80184-7)
- Understanding Society. (n.d.). Why use weights? Retrieved November 10, 2023, from <https://www.understandingsociety.ac.uk/documentation/mainstage/user-guides/main-survey-user-guide/why-use-weights/>
- United States. National Commission for the Protection of Human Subjects of Biomedical, & Behavioral Research. (1978). *The Belmont report: ethical principles and guidelines for the protection of human subjects of research* (Vol. 1). Department of Health, Education, and Welfare, National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.
- University of Essex, Institute for Social and Economic Research. (2024). *Understanding Society*. [data series]. 12th Release. UK Data Service. SN: 2000053, DOI: <http://doi.org/10.5255/UKDA-Series-2000053>
- Utsey, S. O., Adams, E. P., & Bolden, M. (2000). Development and initial validation of the Africultural Coping Systems Inventory. *Journal of Black Psychology*, 26(2), 194-215. <https://doi.org/10.1177/0095798400026002005>
- Valenzuela, M. A., Palacios, S., Intindola, M. L. (2015). Acculturative stress: Untold stories of international students in the US. *Journal for Critical Organization Inquiry*, 13(4), 5-20.
- Van den Berg, A. E., Maas, J., Verheij, R. A., & Groenewegen, P. P. (2010). Green space

- as a buffer between stressful life events and health. *Social Science & Medicine*, 70(8), 1203–1210. <https://doi.org/10.1016/j.socscimed.2010.01.002>
- Van Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: is meaning lost in translation?. *European journal of ageing*, 7, 313-316. <https://doi.org/10.1007/s10433-010-0168-y>
- Van Teijlingen, E., & Hundley, V. (2001). The importance of pilot studies. *Social research update*, (35), 1-4.
- VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50. <https://doi.org/10.20982/tqmp.03.2.p043>
- Völker, S., & Kistemann, T. (2011). The impact of Blue Space on human health and well-being – salutogenetic health effects of Inland Surface Waters: A Review. *International Journal of Hygiene and Environmental Health*, 214(6), 449–460. <https://doi.org/10.1016/j.ijheh.2011.05.001>
- Vuong, Q. H. (1989). Likelihood ratio tests for model selection and non-nested hypotheses. *Econometrica: journal of the Econometric Society*, 307-333. <https://doi.org/10.2307/1912557>
- Wald, A. (1943). Tests of statistical hypotheses concerning several parameters when the number of observations is large. *Transactions of the American Mathematical society*, 54(3), 426-482. <https://doi.org/10.2307/1990256>
- Walker, G. J., Deng, J., & Dieser, R. B. (2001). Ethnicity, acculturation, self-construal, and motivations for outdoor recreation. *Leisure Sciences*, 23(4), 263–283. <https://doi.org/10.1080/01490400152809115>
- Wang, A. (2017). *Chinese International Students' Health and Well-being in UK Universities*. Lancaster University (United Kingdom).
- Wang, Y. (2012). Mainland Chinese students' group work adaptation in a UK business school. *Teaching in Higher Education*, 17(5), 523-535. <https://doi.org/10.1080/13562517.2012.658562>

- Wang, C. C. D., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of counseling psychology*, 53(4), 422-433. <https://doi.org/10.1037/0022-0167.53.4.422>
- Wang, J., Mann, F., Lloyd-Evans, B., Ma, R., & Johnson, S. (2018). Associations between loneliness and perceived social support and outcomes of mental health problems: a systematic review. *BMC psychiatry*, 18(1), 1-16. <https://doi.org/10.1186/s12888-018-1736-5>
- 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), 424-436. <https://doi.org/10.1037/a0028532>
- Wang, C, Pan, R, Wan, X, Tan, Y, Xu, L, Ho, CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, 17(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- Ward, C., Bochner, S., & Furnham, A. (2020). *Psychology culture shock*. Routledge.
- Ward, C., & Kennedy, A. (1993). Psychological and sociocultural adjustment during cross-cultural transitions: A comparison of secondary students at home and abroad. *International Journal of Psychology*, 28, 129-147. <https://doi.org/10.1080/00207599308247181>
- Ward, C., & Kennedy, A. (1996). Crossing cultures: The relationship between psychological and sociocultural dimensions of cross-cultural adjustment. In J. Pandey, D. Bhawuk & D. Sinha (Eds.), *Asian Contributions to Cross-Cultural Psychology* (pp. 289-306). Dew Delhi: Sage.
- Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International journal of intercultural relations*, 23(4), 659-677.

[https://doi.org/10.1016/S0147-1767\(99\)00014-0](https://doi.org/10.1016/S0147-1767(99)00014-0)

- Ward, C., Bochner, S., & Furnham, A. (2001). *The Psychology of Culture Shock* (2nd Ed). Philadelphia: Routledge.
- Ward, C., Okura, Y., Kennedy, A., & Kojima, T. (1998). The U-curve on trial: A longitudinal study of psychological and sociocultural adjustment during cross-cultural transition. *International Journal of Intercultural Relations*, 22, 277-291. [https://doi.org/10.1016/S0147-1767\(98\)00008-X](https://doi.org/10.1016/S0147-1767(98)00008-X)
- Ward, C., Okura, Y., Kennedy, A., & Kojima, T. (1998). The U-curve on trial: A longitudinal study of psychological and sociocultural adjustment during Cross-Cultural Transition. *International Journal of Intercultural Relations*, 22(3), 277–291. [https://doi.org/10.1016/s0147-1767\(98\)00008-x](https://doi.org/10.1016/s0147-1767(98)00008-x)
- Ward Thompson, C., & Aspinall, P. A. (2011). Natural environments and their impact on activity, health, and quality of life. *Applied Psychology: Health and Well-Being*, 3(3), 230–260. <https://doi.org/10.1111/j.1758-0854.2011.01053.x>
- Ward Thompson, C., Aspinall, P., Roe, J., Robertson, L., & Miller, D. (2016). Mitigating stress and supporting health in deprived urban communities: The importance of green space and the Social Environment. *International Journal of Environmental Research and Public Health*, 13(4), 440. <https://doi.org/10.3390/ijerph13040440>
- Ward Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A., & Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landscape and Urban Planning*, 105(3), 221–229. <https://doi.org/10.1016/j.landurbplan.2011.12.015>
- Watkins, D. A., & Biggs, J. B. (1996). *The Chinese Learner: Hong Kong: Comparative Education*. Research Centre, HKU.
- Watson, D. C., & Sinha, B. (2008). Emotion regulation, coping, and psychological symptoms. *International Journal of Stress Management*, 15, 222-234. <https://doi.org/10.1037/1072-5245.15.3.222>

- Wawera, A. S., & McCamley, A. (2020). Loneliness among international students in the UK. *Journal of Further and Higher Education*, 44(9), 1262-1274. <https://doi.org/10.1080/0309877X.2019.1673326>
- Wei M., Heppner P. P., Mallen M. J., Ku T., Liao Y., & Wu T. (2007). Acculturative stress, perfectionism, years in the United States, and depression among Chinese international students. *Journal of Counseling Psychology*, 54, 385-394. <https://doi.org/10.1037/0022->
- Wei, M., Ku, T., Russell, D. W., Mallinckrodt, B., & Liao, K. (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), 451-462. <https://doi.org/10.1037/a0012511>
- Wei, M., Liang, Y., Du, Y., Botello, R., & Li, C. (2015). Moderating effects of perceived language discrimination on mental health outcomes among Chinese international students. *Asian American Journal of Psychology*, 6, 213-222. <https://doi.org/10.1037/aap0000021>
- Wei, M., Liao, K. Y. , 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), 97-106. <https://doi.org/10.1037/a0025473>
- Wei, M., Wang, K. T., & Ku, T. Y. (2012). A development and validation of the perceived language discrimination scale. *Cultural Diversity and Ethnic Minority Psychology*, 18(4), 340-351. <https://doi.org/10.1037/a0029453>
- Wei, Meifen, Liao, Kelly, Heppner, Puncy, Chao, Ruth & Ku, Tsun-Yao. (2012). Forbearance coping, identification with heritage culture, acculturative stress, and psychological distress among Chinese international students. *Journal of Counseling Psychology*, 59, 97-106. <https://doi.org/10.1037/a0025473>
- Weiss, E. R., Todman, M., Maple, E., & Bunn, R. R. (2022). Boredom in a time of

- uncertainty: State and trait boredom's associations with psychological health during COVID-19. *Behavioral Sciences*, 12(8), 298. <https://doi.org/10.3390/bs12080298>
- Wendelboe-Nelson, C., Kelly, S., Kennedy, M., & Cherrie, J. (2019). A scoping review mapping research on green space and associated mental health benefits. *International Journal of Environmental Research and Public Health*, 16(12), 2081. <https://doi.org/10.3390/ijerph16122081>
- Westland, J. C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic commerce research and applications*, 9(6), 476-487. <https://doi.org/10.1016/j.elerap.2010.07.003>
- Wilczewski, M., & Alon, I. (2023). Language and communication in international students' adaptation: a bibliometric and content analysis review. *Higher Education*, 85(6), 1235-1256. <https://doi.org/10.1007/s10734-022-00888-8>
- Williams, C. L., & Berry, J. W. (1991). Primary prevention of acculturative stress among refugees: Application of psychological theory and practice. *American Psychologist*, 46(6), 632-641. <https://doi.org/10.1037/0003-066X.46.6.632>
- Winkelman, M. (1994). Cultural shock and adaptation. *Journal of Counseling & Development*, 73(2), 121-126. <https://doi.org/10.1002/j.1556-6676.1994.tb01723.x>
- Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough.' *Landscape and Urban Planning*, 125, 234-244. <https://doi.org/10.1016/j.landurbplan.2014.01.017>
- Wong, P. T. P., & Wong, L. C. J. (2006). *Handbook of Multicultural Perspectives on Stress and Coping*. New York, NY: Springer.
- Wood, L., Hooper, P., Foster, S., & Bull, F. (2017). Public green spaces and positive mental health – investigating the relationship between access, quantity and types of parks and mental wellbeing. *Health & Place*, 48, 63-71.

<https://doi.org/10.1016/j.healthplace.2017.09.002>

- World Health Organization. (2016). *Urban Green Spaces and Health*. WHO Regional Office for Europe: Copenhagen. Available online: https://www.euro.who.int/data/assets/pdf_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf (accessed on 6 April 2021)
- World Health Organization. (2022). World mental health report: transforming mental health for all.
- World Health Organization. (n.d.). Depressive disorder (depression). Retrieved from <https://www.who.int/news-room/fact-sheets/detail/depression> (accessed on 6 April 2021)
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The counseling psychologist*, 34(6), 806-838. <https://doi.org/10.1177/0011000006288127>
- Wright, K. W. (2002). Social support within an on-line cancer community: An assessment of emotional support, perceptions of advantages and disadvantages, and motives for using the community from a communication perspective. *Journal of Applied Communication Research*, 30, 195-209. <https://doi.org/10.1080/00909880216586>
- Wu, C., Qian, Y., & Wilkes, R. (2020). Anti-Asian discrimination and the Asian-white mental health gap during COVID-19. *Ethnic and Racial Studies*, 44(5), 819–835. <https://doi.org/10.1080/01419870.2020.1851739>
- Xiao, Z. (2013). *“You are too out!”: a mixed methods approach to the study of “digital divides” in three Chinese senior secondary schools* (Doctoral dissertation, Durham University).
- Xie, M., Qin, D. B., Liu, S., Duan, Y., Sato, M., & Tseng, C. F. (2021). Crazy rich Chinese? A mixed-methods examination of perceived stereotypes and associated psychosocial adaptation challenges among Chinese international students in the United States. *Applied Psychology: Health and Well-*

- Being*, 13(3), 653-676. <https://doi.org/10.1111/aphw.12233>
- Xu, C. L. (2022). Portraying the 'Chinese international students': A review of English-language and Chinese-language literature on Chinese international students (2015–2020). *Asia Pacific Education Review*, 23(1), 151-167. <https://doi.org/10.1007/s12564-021-09731-8>
- Xu, J., Sun, G., Cao, W., Fan, W., Pan, Z., Yao, Z., & Li, H. (2021). Stigma, discrimination, and hate crimes in Chinese-speaking world amid Covid-19 pandemic. *Asian journal of criminology*, 16(1), 51-74. <https://doi.org/10.1007/s11417-020-09339-8>
- Xu, X., & Tran, L. T. (2022). A qualitative investigation into Chinese international doctoral students' navigation of a disrupted study trajectory during COVID-19. *Journal of Studies in International Education*, 26(5), 553-571. <https://doi.org/10.1177/10283153211042092>
- Xu, Y., Gibson, D., Pandey, T., Jiang, Y., & Olsoe, B. (2021). The lived experiences of Chinese international college students and scholars during the initial COVID-19 quarantine period in the United States. *International Journal for the Advancement of Counselling*, 43, 534-552. <https://doi.org/10.1007/s10447-021-09446-w>
- Yalçın, İ. (2011). Social support and optimism as predictors of life satisfaction of college students. *International Journal for the Advancement of Counselling*, 33, 79-87. <https://doi.org/10.1007/s10447-011-9113-9>
- Yamaguchi, S. (1994). Collectivism among the Japanese: A perspective from the self. In U. Kim & H. C. Triandis (Eds.) *Individualism and Collectivism: Theory, Method, and Applications* (pp. 175-188). Thousand Oaks, CA: Sage.
- Yan, K., & 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. <https://doi.org/10.1002/j.2161-1912.2014.00048.x>

- Yan, K., & Berliner, D.C. (2009). Chinese international students' academic stressors in the United States. *College Student Journal*, 43(4), 939-960.
- 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. <https://doi.org/10.1353/csd.2013.0010>
- Yang B., & Clum G. A. (1995a). Measures of life stress and social support specific to an Asian student population. *Journal of Psychopathology and Behavioral Assessment*, 17, 51-67. <https://doi.org/10.1007/BF02229203>
- Yang, B., & Clum, G. A. (1995b). Life Stress, Social Support, and Problem-Solving Skills Predictive of Depressive Symptoms, Hopelessness, and Suicide Ideation in an Asian Student Population: A Test of a Model. *Suicide and Life-Threatening Behavior*, 24(2), 127-139. <https://doi.org/10.1111/j.1943-278X.1994.tb00797.x>
- Yang, C. (2018). US-based social media use and American life: A study of Chinese students' acculturation and adaptation in America. *Global Media China*, (3), 75-91. <https://doi.org/10.1177/2059436418783765>
- Ye, J. (2005). Acculturative stress and use of the Internet among East Asian international students in the United States. *CyberPsychology & Behavior*, 8(2), 154-161. <https://doi.org/10.1089/cpb.2005.8.154>
- Ye, J. (2006). 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. <https://doi.org/10.1111/j.1083-6101.2006.00039.x>
- Ye, J. (2006). 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. <https://doi.org/10.1080/10646170500487764>
- 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.
<https://doi.org/10.1080/0951507031000114058>
- Yeh, C. J., & Wang, Y-W. (2000). Asian American coping attitudes, sources, and practices: Implications for indigenous counseling strategies. *Journal of College Student Development*, 41, 94-103.
- Yeh, C. J., Arora, A. K., & Wu, K. A. (2006). A new theoretical model of collectivistic coping. In P. T. P. Wong & L. C. J. Wong, *Handbook of Multicultural Perspectives on Stress and Coping* (pp. 55-72). New York, NY: Springer.
https://doi.org/10.1007/0-387-26238-5_3
- Yeh, C. J., Inman, A., Kim, A. B., & Okubo, Y. (2006). Asian American families' collectivistic coping strategies in response to 9/11. *Cultural Diversity & Ethnic Minority Psychology*, 12(1), 134-148. <https://doi.org/10.1037/1099-9809.12.1.134>
- 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.
<https://doi.org/10.1080/0951507031000114058>
- 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. <https://doi.org/10.1016/j.ijintrel.2005.04.003>
- Ying, Z., Ning, L. D., & Xin, L. (2015). Relationship between built environment, physical activity, adiposity, and health in adults aged 46–80 in Shanghai, China. *Journal of Physical Activity and Health*, 12(4), 569–578.
<https://doi.org/10.1123/jpah.2013-0126>
- Yoo, H. C., Steger, M. F., & Lee, R. M. (2010). Validation of the subtle and blatant racism scale for Asian American college students (SABR-A²). *Cultural Diversity and Ethnic Minority Psychology*, 16, 323-334. <https://doi.org/10.1037/a0018674>

- Yu, Y., & Moskal, M. (2019). Missing intercultural engagements in the university experiences of Chinese international students in the UK. *Compare: A Journal of Comparative and International Education*, 49(4), 654-671. <https://doi.org/10.1080/03057925.2018.1448259>
- Zahrae Afellat, F., & Alipour, H. (2021). The impact of boredom on the attitudes and behaviours of edutourists during the era of COVID-19 and the mediating role of psychological distress. *Tourism Management Perspectives*, 40, 100885. <https://doi.org/10.1016/j.tmp.2021.100885>
- Zakowski, S. G., Hall, M. H., Klein, L. C., & Baum, A. (2001). Appraised control, coping, and stress in a community sample: A test of the goodness-of-fit hypothesis. *Annals of Behavioral Medicine*, 23, 158-165. https://doi.org/10.1207/S15324796ABM2303_3
- Zhai, L. (2002). Studying International Students: Adjustment Issues and Social Support.
- Zhang, B., Bow, C. O., & Bow, J. M. (2020). The Intersection of racism and xenophobia on the rise amid COVID-19 pandemic: A qualitative study investigating experiences of Asian Chinese international students in America. *Revista Argentina de Clínica Psicológica*, 29(5), 1145-1156. <https://doi.org/10.24205/03276716.2020.1110>
- Zhang, J., & Goodson, P. (2011). Acculturation and psychosocial adjustment of Chinese international students: Examining mediation and moderation effects. *International Journal of Intercultural Relations*, 35(5), 614-627. <https://doi.org/10.1016/j.ijintrel.2010.11.004>
- Zhang, J., & Goodson, P. (2011). Predictors of international students' psychosocial adjustment to life in the United States: A systematic review. *International Journal of Intercultural Relations*, 35, 139-162. <https://doi.org/10.1016/j.ijintrel.2010.11.011>
- Zhang, L., & Zhu, Y. (2014). Rethinking “cultural adjustment”: Language learning, career choice and identity construction of Chinese international students in a

- University Preparation Program. *Critical Intersections in Education: An OISE/UT Students' Journal*, 2, 1-14.
- Zhang, Y., & Jung, E. (2017). Multi-Dimensionality of Acculturative Stress among Chinese International Students: What Lies behind Their Struggles?. *International Research and Review*, 7(1), 23-43.
- 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. <https://doi.org/10.1177/1028315306289834>
- Zhao, J., Chapman, E., & O'Donoghue, T. (2023). Threats to the emotional wellbeing of mainland Chinese students studying in Australia: An interpretivist study. *International Journal of Qualitative Studies on Health and Well-Being*, 18(1), 2221912. <https://doi.org/10.1080/17482631.2023.2221912>
- Zheng, X., & Berry, J. W. (1991). Psychological adaptation of Chinese sojourners in Canada. *International journal of Psychology*, 26(4), 451-470. <https://doi.org/10.1080/00207599108247134>
- Zhou, M., Tan, S., Tao, Y., Lu, Y., Zhang, Z., Zhang, L., & Yan, D. (2017). Neighborhood Socioeconomics, food environment and land use determinants of public health: Isolating the relative importance for essential policy insights. *Land Use Policy*, 68, 246–253. <https://doi.org/10.1016/j.landusepol.2017.07.043>
- 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. <https://doi.org/10.1080/03075070701794833>
- Zhou, Y., & Todman, J. (2009). Patterns of adaptation of Chinese postgraduate students in the United Kingdom. *Journal of Studies in International Education*, 13(4), 467-486. <https://doi.org/10.1177/1028315308317937>
- Zhou, Y., Zhang, H., & Stodolska, M. (2018). Acculturative stress and leisure among

- Chinese international graduate students. *Leisure Sciences*, 40(6), 557-577.
<https://doi.org/10.1080/01490400.2017.1306466>
- Zimmerman, S. (1995). Perceptions of intercultural communication competence and international student adaptation to an American campus. *Communication Education*, 44, 321-335. <https://doi.org/10.1080/03634529509379022>
- Zimmerman, B. J., & Schunk, D. H. (2001). Reflections on theories of self-regulated learning and academic achievement. *Self-regulated learning and academic achievement: Theoretical perspectives*, 2, 289-307.
- Zung, W. K. (1965). A self-rating depression scale. *Archives of General Psychiatry*, 12, 63-70. <https://doi.org/10.1001/archpsyc.1965.01720310065008>

Appendices

Appendix A. Data Extraction Form

Authors	Research Aims	Specific Purpose	Sample Nationality and Size	Study Design	Instruments/ Data Collection	Findings
Zhang, Y., & Jung, E. (2017)	To investigate and understand the multi-dimensional nature of acculturative stress among Chinese international students.	To identify the dimensions of acculturative stress of Chinese international students in the US	262 Chinese international students with an average age of 23 years at a Northeastern U.S. university	Quantitative design	Cross-sectional survey conducted using online questionnaires in English, including student background characteristics, a 26-item modified Acculturative Stress Scale for International Students (ASSIS), and a 12-item modified Multidimensional	Identified five dimensions of acculturative stress: perceived discrimination ($r = -0.22$), fearfulness ($r = -0.29$), homesickness ($r = -0.18$), stress due to change ($r = -0.30$), and guilt ($r = -0.15$), all p values < 0.05 . Comfort in

					Scale of Perceived Social Support (MSPSS)	English usage and academic status (undergraduate vs. graduate) were significant predictors of acculturative stress levels.
Li et al. (2016)	Acculturation experiences of Chinese international students who attend American universities	To identify the difficulties experienced by Chinese international students and their experience of utilising specific supports and strategies to cope with acculturation difficulties	13 Chinese international students representing five different American universities	Qualitative design	Interviews were audio recorded, transcribed, and analysed using the hermeneutic circle method. Interviews lasted 45-60 minutes each	The study found that the differences international students encountered with respect to their homeland and the new environment, including language/communication, culture, social interactions, learning and academic challenges, living in the

						U.S. can influence their psychological adjustments.
Wei et al. (2015)	Moderating effects of perceived language discrimination on mental health outcomes among Chinese international students	To test whether self-esteem and social connectedness (SC) in the ethnic community and mainstream society would be moderators that buffer the associations between perceived language discrimination (PLD) and outcomes (i.e. depression, anxiety,	201 Chinese international students at a university in Midwest, US	Quantitative design	Online survey with English instruments, i.e. Perceived Language Discrimination Scale, Rosenberg Self-Esteem Scale, Social Connectedness in the Ethnic Community Scale, Perceived English Proficiency Scale, etc.	The study found that the correlation between perceived language discrimination and anxiety was statistically significant at low self-esteem, with a beta coefficient of 0.15 and a p-value of 0.001, indicating a strong positive association at lower levels of self-esteem.

		and posttraumatic stress symptoms)				
Ye (2006)	An Examination of Acculturative Stress, Interpersonal Social Support, and Use of Online Ethnic Social Groups among Chinese International Students	To explore the relationships between acculturative stress, interpersonal social support, and use of online ethnic social groups.	112 Chinese international students at two large, diverse universities in the US	Quantitative design	Online survey, using the 36-item scale developed by Sandhu and Asradadi (1994) for measuring the acculturative stress of international students	The analysis revealed a main effect of stress, $F(3, 333) = 57.16$, $p < 0.001$, indicating significant differences in stress types. Post-hoc tests showed that the highest mean scores were for negative feelings caused by change ($M = 2.54$), followed by perceived discrimination ($M = 2.34$), fear ($M = 2.03$), and perceived hatred

						(M = 1.78), with all differences statistically significant.
Yeh & Inose (2003)	International students reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress	To explore how age, gender, self-reported English language fluency, social connectedness, and social support satisfaction, may predict acculturative distress.	372 international undergraduate and graduate students from a large urban university in the US	Quantitative design	Questionnaires, including Demographic questionnaire, the Acculturative Stress Scale for International Students (Sandhu and Asrabadi, 1994), the Social Connectedness Scale (Lee and Robbins, 1995), and the Social Support Questionnaire-Short Form (Sarason et al., 1987)	The overall regression model was significant ($F(8, 359) = 23.75$, $p < 0.001$) and accounted for 34% of the variance in the acculturative stress (adjusted $R^2 = 0.34$), region ($p < 0.001$), English fluency ($p < 0.001$), and social connectedness and social support network satisfaction ($p < 0.001$) were all significant

						predictors of acculturative stress. Age and gender were not significant predictors of acculturative stress.
Wei & Wang (2018)	Interpersonal Problems and Acculturative Stress Over Time Among Chinese International Students from Mainland China and Taiwan	To examine the role of interpersonal problems on the acculturative stress of Chinese international students	243 Chinese international students with Time 1 data; 177 of them with Time 2 data in the US	Quantitative design	Longitudinal survey using the Inventory of Interpersonal Problems-Short Circumplex (IIP-SC), Acculturative Stress Scale for International Students, and Brief Symptom Inventory-18 to measure interpersonal problems, acculturative stress, and psychological distress at two timepoints	The study confirmed that pre-arrival interpersonal problems, particularly lower agency, significantly predict increased acculturative stress. Significant decrease in communion over time ($F(1, 176) = 22.70$, $p < 0.001$) indicated increased distress related to disaffiliative behaviours,

						influencing acculturative stress.
Wang & Mallinckrodt (2006)	Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students.	To examine adult attachment and acculturation as predictors of Chinese international students' psychosocial adjustment.	104 Chinese and Taiwanese international students in the US	Quantitative design	A cross-sectional survey was conducted using instruments such as the Close Relationships Scale, the Acculturation Index, the Socio-Cultural Adaptation Scale, and the Brief Symptom Inventory-18.	The study found that attachment anxiety was negatively associated with students' acculturation to U.S. culture ($r = -0.38, p < 0.01$), and that attachment avoidance ($\beta = 0.227, p < 0.01$), attachment anxiety ($\beta = 0.311, p < 0.01$), and acculturation to U.S. culture were significant predictors for students' psychosocial adjustment,

						explaining 44% of the variance in psychological distress ($p < 0.01$).
Dao, Lee, & Chang (2007)	Acculturation level, perceived English fluency, perceived social support level, and depression among Taiwanese international students.	To examine the relationship between acculturation, perceived English fluency, social support, and depression among Taiwan international students	112 graduate Taiwanese in the US	Quantitative design	Cross-sectional survey with instruments like Self-Reported Fluency of English Scale (SRFES), Social Support Questionnaire-Short Form (SSQSR), Suinn-Lew Asian Self-Identity Acculturation Scale, and the Center for Epidemiologic Studies Depression Scale	The study found gender-specific predictors of depression among Taiwanese students. For males, perceived English fluency significantly predicted depression, explaining 39% of the variance ($R^2 = 0.39$, $F(6, 57) = 19.02$, $p < 0.001$). For females, perceived social support was the critical predictor,

						explaining 43% of the variance ($R^2 = 0.43$, $F(6, 41) = 3.19$, $p < 0.001$). Additionally, low acculturation and low English fluency were linked to higher depression risk, with English fluency mediating the effects of acculturation on depression for both genders.
Pan, Wong, Joubert, & Chan (2007)	Acculturative stressor and meaning of life as predictors of negative effect in acculturation: A	To compare the predictive effects of acculturative stressor and meaning of life on negative affect in the	400 mainland Chinese students studying at	Quantitative study	Cross-sectional survey with Acculturative Stressor Scale for Chinese Students (ASSCS), Chinese Personal Meaning Profile (CPMP), Chinese Affect	In Australia, Chinese international students exhibited significantly higher levels of acculturative stress

	cross-cultural comparative study between Chinese international students in Australia and Hong Kong.	process of acculturation between Chinese international students in Australia and Hong Kong	six universities in Hong Kong and 227 Chinese international students studying at the University of Melbourne in Australia		Scale–Negative Affect Subscale (CAS-NAS)	($F=18.64$, $p<0.001$) and negative affect compared to their counterparts in Hong Kong. Acculturative stress positively influenced negative affect in both regions, but its impact varied by group. In Hong Kong, meaning of life partially mediated this relationship, reducing negative affect (beta weight reduced from 0.443 to 0.417), and explaining 20.8% of the variance in negative affect. No
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						mediation effect was found in the Australian sample, indicating differing coping effectiveness between the two groups.
Zhang & Goodson (2011)	Acculturation and psychosocial adjustment of Chinese international students: Examining mediation and moderation effects	To examine the mechanisms (the mediating and moderating effects of social interaction and social connectedness with host nationals upon the acculturation) through which acculturation influenced	508 Chinese international students from four universities in Texas	Quantitative design	Acculturation was measured using the Vancouver Index of Acculturation. Social interaction and connectedness with host nationals were assessed, along with depression and sociocultural adjustment difficulties using the Center for Epidemiologic Studies Depression Scale and a modified Sociocultural	The study found that social connectedness with Americans fully mediated the relationship between adherence to the host culture and depression, significantly reducing the beta coefficient from -0.143 to -0.046 ($p = 0.362$), while explaining 67.08% of the variance in depression

		psychosocial adjustment of Chinese international students			Adaptation Scale	outcomes. Additionally, social connectedness also mediated the impact on sociocultural adjustment difficulties, with the beta coefficient decreasing from -0.280 to -0.203 ($p < 0.001$), accounting for 82.26% of the variance. Social interaction with Americans further moderated the effects of acculturation on depression.
Yan & Berliner (2009)	Chinese international students' academic stressors in the	To examine how individual predictors affect Chinese	18 Chinese international students	Qualitat ive design	Interviews	The study identified three main sources of acculturative stress for

	United States	international students' stress and coping process.	from a large public university in the Southwestern U.S.			Chinese international students: (a) language barriers impacting academic and social integration, (b) high achievement expectations causing significant stress, and (c) challenges in interacting with faculty due to cultural and communication differences.
Redfern (2016)	An empirical investigation of the incidence of negative psychological symptoms among	To examine comparative levels of depression, anxiety, and stress among a sample of Chinese	103 Chinese international and 98 local Australian students	Mixed research design	Used the Depression Anxiety Stress Scale (DASS-42) for quantitative measurement of psychological symptoms, supplemented by qualitative	Quantitative analysis revealed that Chinese international students experienced 'moderate' levels of anxiety

	Chinese international students at an Australian university	international students and local Australian students studying at a major Australian university, and to elicit the main sources of symptoms in these groups			interviews to gather contextual data on stress sources	(M = 14.17, SD = 8.65) and stress (M = 21.94, SD = 10.44), significantly higher than the 'mild' to 'moderate' levels observed among Australian students (anxiety: M = 7.49, SD = 4.74; stress: M = 18.26, SD = 7.83). These differences were statistically significant with t-values of 6.83 for anxiety and 2.84 for stress, both with $p < 0.01$, indicating a substantial impact even after controlling for gender
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						and age. Qualitatively, stressors included academic workload, life balance, and family expectations, underscoring the challenges contributing to these higher distress levels.
Pan & Keung Wong (2011)	Acculturative stressors and acculturative strategies as predictors of negative affect among Chinese international students in Australia and Hong Kong: A cross-	To compares the level of negative affect and acculturative stressors between Chinese international students in Australia and Mainland Chinese students in Hong Kong.	606 graduate students in Melbourne, and Hong Kong, China.	Quantitative design	Survey with the measurements, e.g. Acculturative Hassles Scale for Chinese Students, Acculturative Strategy Scale, and Chinese Affect Scale	Chinese students in Australia reported significantly higher acculturative stress ($M = 1.43$, $SD = 0.57$) and negative affect ($M = 31.10$, $SD = 8.47$) compared to those in Hong Kong (stress: $M = 1.21$, $SD = 0.55$;

	cultural comparative study					affect: $M = 28.32$, $SD = 7.61$; $p < 0.001$ for both). Academic workload was a significant stressor, negatively impacting negative affect in both groups, with stronger effects in Australia ($\beta = -0.38$, $p < 0.001$) than in Hong Kong ($\beta = -0.28$, $p < 0.001$).
Cao, Zhu, & Meng (2016)	An exploratory study of inter-relationships of acculturative stressors among Chinese students	To examine the inter-relationships of acculturative stressors experienced by Chinese international	463 Chinese international students across six EU	Quantitative design	Web-based survey	The findings indicated that language constraints and perceived cultural differences accounted for 62% of the total variance of

	from six European union (EU) countries.	students.	countries: UK, Germany, France, Netherlands, Spain, and Belgium			academic integration difficulty; language constraints accounted for 17% of the variance of problems in dealing with daily tasks; perceived cultural differences accounted for 56% of the variance of social integration difficulty; academic integration and problems in dealing with daily tasks explained 14% of the variance of homesickness.
Ying	Variation in	To examine	Taiwanese	Quantita	Migration–Acculturative	Acculturative stress among

(2005)	acculturative stressors over time: A study of Taiwanese students in the United States	acculturative stressors in Taiwanese international students over a 2-year period	international students; initial sample size of 216 students, with longitudinal follow-up data collected from 97 students	tive design	Stressor Scale (MASS) assessing various domains of acculturative stress	Taiwanese students significantly decreased over time. Key reductions included academic stress ($F(3.91, 347.80) = 19.58$, $p < 0.001$), homesickness (0.25 decrease, $p = 0.001$), social isolation (0.12 decrease, $p = 0.004$), cultural differences ($F(3.84, 341.79) = 3.29$, $p = 0.01$), and unfamiliar climate stress (0.16 decrease, $p = 0.006$).
Sun et al. (2020)	A Longitudinal Investigation of	To a investigate the effects of race- and	210 Chinese international	Quantitative	Longitudinal study with two measurement points: during the	Perceived discrimination was strongly linked to

	Discrimination and Mental Health in Chinese International Students: The Role of Social Connectedness	language-based discrimination on anxiety and depression symptoms of Chinese international students	students studying at the University of Oregon, USA	design	first and the third months of their academic term. Survey with measures including the Brief Perceived Discrimination Scale, the Perceived Language Discrimination Scale, the Social Connectedness Scale, the Beck Anxiety Inventory, and the Beck Depression Inventory-II.	increased negative mental health outcomes ($\beta = 0.51, p < 0.001$). Host social connectedness significantly moderated this relationship, reducing the impact of discrimination on mental health ($\beta = -3.23, p < 0.01$), and explained 22.82% of the variance in these outcomes ($F(5, 205) = 12.12, p < 0.001$). The protective role of social connections with host nationals was consistent over the study
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						period.
Tsai & Wei (2018)	Racial Discrimination and Experience of New Possibilities Among Chinese International Students	To examine whether the coping strategies of internalisation and resistance moderated the association between racial discrimination and experience of new possibilities for Chinese international students	258 Chinese international students in the United States	Quantitative design	Surveys included measures for racial discrimination, coping strategies (internalisation and resistance), and the experience of new possibilities.	Gender significantly influenced the effectiveness of coping strategies after racial discrimination. Female students experienced positive outcomes with higher internalisation ($p < 0.001$), while male students benefited from greater resistance ($p < 0.001$). The interaction between gender, discrimination, and coping strategies added 2% to the variance in experiencing

						new possibilities ($p < 0.05$).
Xie et al. (2020)	Crazy Rich Chinese? A Mixed-Methods Examination of Perceived Stereotypes and Associated Psychosocial Adaptation Challenges among Chinese International Students in the United States	This study examined stereotypes perceived by Chinese students arriving on US college campuses after 2010, their interpretations of the new stereotypes, and the associated psychosocial adaptation challenges they had to navigate.	196 questionnaire respondents and 51 interviewees	Mixed methods research	Survey instruments measured perceptions of stereotypes, while interviews explored deeper insights into students' experiences and interpretations of these stereotypes	The study showed that 37.6% of Chinese international students in the U.S. are stereotyped as wealthy, impacting perceptions of their academic abilities (20.1%), personality traits (16.5%), and social behaviours (12.9%). These stereotypes not only skew their social and academic image but also cause intergroup tensions and psychological challenges, such as lower

						self-esteem and increased feelings of shame, which hinder their integration and mental health.
Lu (2007)	Adaptation to British universities: Homesickness and mental health of Chinese students	To examine the psychological reactions towards university transition with cultural relocation	49 newly arrived Chinese students (40 males, 9 females) in the UK.	Quantitative design	Two sets of inventories: the first upon arrival in the UK measuring demographic information, personality traits, and initial mental health; the second after two months assessing perceived demands, homesickness, personality traits, and mental health changes	The study identified that 44% of homesickness variance among Chinese students in British universities was predicted by initial homesickness and perceived social demands. Psychological symptoms decreased significantly over time ($t = 3.41, p < 0.01$), while homesickness remained stable, influenced

						by different factors than other mental health symptoms. Prior mental health was the primary predictor of subsequent mental health, explaining 37% of its variance.
Gallagher (2013)	Willingness to Communicate and Cross-cultural Adaptation: L2 Communication and Acculturative Stress as Transaction	To test the links from L2 self-confidence to L2 WTC, and from daily hassles to perceived stress.	104 university students studying in Central England	Quantitative design	Survey with measurements, e.g. L2 confidence scale, Cross-cultural Daily Hassles Scale, Perceived stress scale and Willingness to Communicate Scale	The study suggested that L2 willingness to communicate significantly predicts reduced intercultural daily hassles, as evidenced by a path coefficient of -0.41 ($p < 0.05$). This indicates that higher L2 willingness to communicate

						directly lessens the frequency and severity of daily hassles related to communication barriers and social isolation among Chinese-speaking students in a British university setting.
Amado, Snyder, & Gutchess (2020)	Mind the gap: The relation between identity gaps and depression symptoms in cultural adaptation	To examine the relation between personal-enacted identity gaps formed through communication with Americans and depression.	171 undergraduate and graduate international students studying in the US	Quantitative design	Self-report questionnaires (Personal-Enacted Identity Gap Scale, Acculturative Stress Scale for International Students (ASSIS), Center for Epidemiologic Studies-Depression Scale (CES-D), Self-Construal Scale)	The study found that personal-enacted identity gaps were significantly associated with depression symptoms ($\beta = 0.360, p < 0.001$). Acculturative stress was shown to mediate this

						relationship significantly (Indirect effect: $\beta = 0.102$, $p = 0.003$). The model explained 28.1% of the total effect mediated by acculturative stress.
Wang et al. (2012)	Profiles of acculturative adjustment patterns among Chinese international students	To identify distinct acculturative adjustment patterns of new international students over their first 3 semesters in the United States.	507 Chinese international students (55% from Mainland China, 45% from Taiwan) studying in the US	Quantitative design	Survey: Brief Symptom Inventory (BSI), Acculturative Stress Scale (ASSIS), Self-Esteem Scale, Perfectionism Scale, Coping Strategies and Social Support Scales	The study found that having higher self-esteem ($M = 32.30$), positive problem-solving appraisal ($M = 47.89$), and lower maladaptive perfectionism prior to the acculturation process are significant predictors of a better acculturative adjustment

						pattern.
Spencer-Oatey & Xiong (2006)	Chinese students' psychological and sociocultural adjustments to Britain: An empirical study	To explore the psychological and sociocultural adjustment experiences of two cohorts of Chinese students at a British university	126 questionnaire respondents and 20 interviewees (Chinese international students in the UK)	Mixed research design	Zung's Depression Scale for psychological assessment, Sociocultural Adaptation Scale for measuring integration difficulties. Semi-structured interviews discussing daily life, social interactions, and academic experiences.	Significant findings included a strong positive correlation between psychological stress and sociocultural adjustment difficulties ($r = 0.495, p < 0.01$). Key stressors identified were social interaction, with a difficulty score of 2.68 and challenges such as understanding English humor (46.4% faced great difficulty) and making friends with British

						<p>nationals (41.6%). Daily life adjustments, though less stressful with a difficulty score of 1.89, and academic challenges like writing acceptable papers (31.2% faced great difficulty) also significantly contributed to stress. Notably, higher early academic year stress was linked to lower end-of-course GPA ($r = -0.237$, $p < 0.05$), suggesting that psychological stress</p>
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						adversely affects academic performance.
Meng et al. (2019)	Towards an ecological understanding of Chinese international students' intercultural interactions in multicultural contexts: Friendships, inhibiting factors and effects on global competence.	To examine Chinese international students' intercultural interactions with two distinctive groups of cultural others: multinational students and domestic students	21 Chinese students currently studying at three comprehensive research universities in Belgium	Qualitative design	semi-structured interviews	The study found that workload or pressure from academic study is an institutional inhibiting factor for socialising with multinational students and domestic students and that Chinese international students face significant language-related pressure

Appendix B. Quantitative Analysis and Findings from “The Understanding Society” Data

B.1 UK Household Longitudinal Study

The United Kingdom Household Longitudinal Study (UKHLS) is a nationally representative longitudinal survey that commenced in 2009, encompassing approximately 40,000 households from England, Scotland, Wales, and Northern Ireland, and reflecting the multi-ethnic diversity of the UK. As a panel study that annually collects data through fieldwork, UKHLS not only consistently tracks the same households and individuals each year but also adapts to the natural changes within these households. The principal objective of the UKHLS is to deepen understanding in key areas such as health, work, education, family, and social life, examining the implications and patterns arising from changes in these domains.

B.2 Depression, Mental health and Wellbeing

To examine research question ‘**What is the wellbeing status of the Chinese community in the UK?**’, this study focused on the questionnaire item ‘*How much of the time during the past four weeks have you felt downhearted and depressed?*’. The experience of feeling downhearted or depressed is not only an emotional response but can also be indicative of underlying mental health issues (Kessler et al., 2003). Specifically, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) identifies persistent or intense feelings of depression as potential symptoms of various mental disorders (American Psychiatric Association, 2013). Furthermore, the World Health Organisation (n.d.) states that depressive episodes that last most of the day, nearly every day, for at least two weeks, are indicative of a mental disorder, underscore the importance of both the duration and intensity of depression.

In the analysis of large-scale longitudinal social health surveys, many researchers have applied measures of depressed feelings to assess mental health and wellbeing. For instance, Huppert et al. (2009) utilised the question ‘How much of the time during the past week have you felt depressed?’ in their evaluation of the European Social Survey (ESS) to determine wellbeing. Similarly, Kobau et al. (2004) examined Behavioural Risk Factor Surveillance System (BRFSS) datasets of depressive symptoms among 166,564 participants, investigating their relationship with wellbeing related to health.

B.3 Data Cleaning Process

Data Cleaning Process Flowchart for the UK Household Longitudinal Study (UKHLS): Analysis of Depressive Feelings Questionnaire Results (Variables sf6c/scsf6c) from Waves 1 to 10 among the Chinese community in the UK (Figures B.1-B.10).



Figure B.1 Data Cleaning Process Flowchart for Wave 1

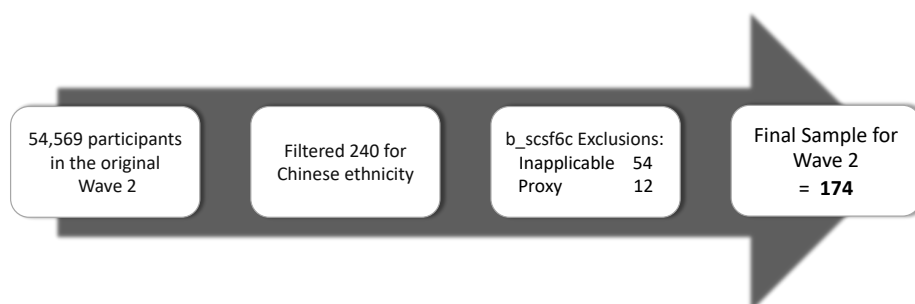


Figure B.2 Data Cleaning Process Flowchart for Wave 2

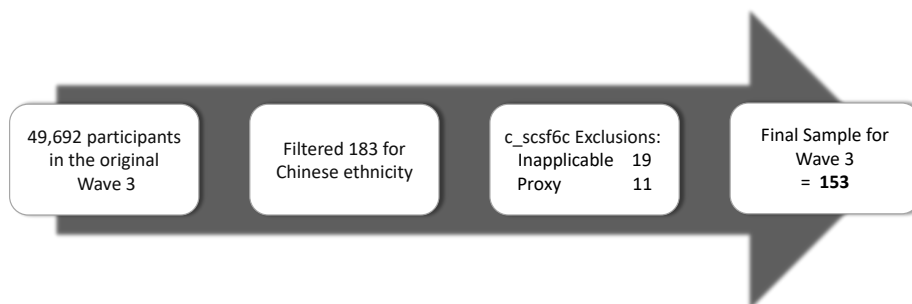


Figure B.3 Data Cleaning Process Flowchart for Wave 3

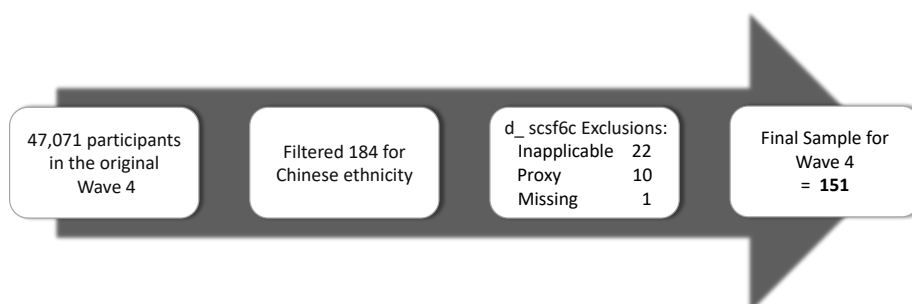


Figure B.4 Data Cleaning Process Flowchart for Wave 4



Figure B.5 Data Cleaning Process Flowchart for Wave 5



Figure B.6 Data Cleaning Process Flowchart for Wave 6

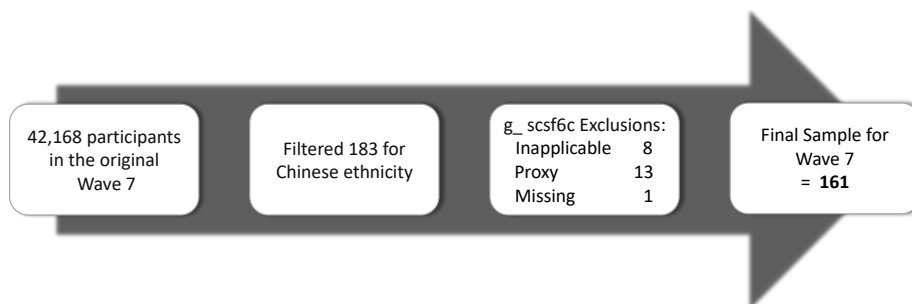


Figure B.7 Data Cleaning Process Flowchart for Wave 7



Figure B.8 Data Cleaning Process Flowchart for Wave 8



Figure B.9 Data Cleaning Process Flowchart for Wave 9



Figure B.10 Data Cleaning Process Flowchart for Wave 10

B.4 Data Analysis Procedure and Results

In this research project, the longitudinal datasets were analysed using Stata 16 software, focusing on the UKHLS (Understanding Society: The UK Household Longitudinal Study) data (GN 33423 6614), sourced from the UK Data Service (2020) and managed by the Institute for Social and Economic Research at the University of Essex (2024). The dataset comprises multiple waves, each representing a distinct time point in the longitudinal study (see [Table B.1](#)). When the data was first accessed in 2020, only Waves 1 through 10 were available. As of September 2024, the dataset has been expanded to include up to Wave 13*. [Table B.1](#) presents an overview of each wave's original sample size, along with the raw frequencies and percentages of the Chinese (Asian or Asian British) ethnicity in the UKHLS dataset.

The Data Cleaning Process Flowchart ([Section B.3](#)) presents detailed information on the original sample size for each wave of the UKHLS data. Initially, the data utilised in this study were extracted from the 'indresp' file for each respective wave. Within this data, samples identified as *Chinese (Asian or Asian British)* were selected using the 'racel_dv' variable. The subsequent analytical focus is on responses to the question about *experiencing feelings of being downhearted and depressed over the past four weeks*. This variable is coded as 'sf6c' in Wave 1, and as 'scsf6c' in Waves 2 to 10. During this phase, responses categorised as proxy, inapplicable, missing, and refusal were excluded to refine the sample for this research.

* Waves 11 to 13 were not included in this sequential study as they were released after the commencement of primary data collection. Specifically, Wave 11 data collection, which occurred from January 2019 to May 2021, overlapped with the period of primary data collection. The research began with an analysis of secondary data to gain an initial understanding of the wellbeing status of the Chinese community, followed by primary data collection to address the identified gaps.

Upon completion of the data cleaning process, the research moved into the analysis stage. The frequency of depressive state was measured on a Likert scale ranging from 1 ('all of the time') to 5 ('none of the time'). [Table 4.2](#) provides a descriptive summary of depressive feeling scores from Wave 1 to Wave 10 of the UKHLS. Complementing the information in [Table 4.2](#), [Table 4.3](#) shows the frequency distribution of depressive symptoms within the UK Chinese community.

Table B.1 Overview of Chinese (Asian or Asian British) Sample Sizes Across Waves 1–10 of the UKHLS

Wave	Data Collection Period	Ethnicity	Absolute frequency	Percentage of Total (%)	Total Sample Size
1	Jan 2009 – Mar 2011	Chinese (Asian or Asian British)	331	0.649%	50,994
2	Jan 2010 – Mar 2012	Chinese (Asian or Asian British)	240	0.440%	54,569
3	Jan 2011 – Jul 2013	Chinese (Asian or Asian British)	183	0.368%	49,692
4	Jan 2012 – Jun 2014	Chinese (Asian or Asian British)	184	0.391%	47,071
5	Jan 2013 – Jun 2015	Chinese (Asian or Asian British)	173	0.386%	44,833
6	Jan 2014 – May 2016	Chinese (Asian or Asian British)	234	0.518%	45,188
7	Jan 2015 – May 2017	Chinese (Asian or Asian British)	183	0.434%	42,168
8	Jan 2016 – May 2018	Chinese (Asian or Asian British)	155	0.394%	39,293
9	Jan 2017 – May 2019	Chinese (Asian or Asian British)	141	0.391%	36,055
10	Jan 2018 – May 2020	Chinese (Asian or Asian British)	129	0.376%	34,318
Total		Chinese (Asian or Asian British)	1953	0.440%	444,181

**Table B.2 Longitudinal Descriptive Summary of Depressive Feeling Scores
Across UKHLS Waves 1–10**

Wave	Observations	Mean	Std. Dev.	Min	Max
1	322	4.248	0.889	1	5
2	174	3.977	0.819	2	5
3	153	4.072	0.844	2	5
4	151	4.159	0.825	1	5
5	137	4.000	0.891	1	5
6	142	4.169	0.753	2	5
7	161	3.950	0.954	1	5
8	143	3.888	1.029	1	5
9	133	3.959	0.929	2	5
10	124	3.927	0.894	1	5

To begin with, there is a remarkable finding regarding the trends in wellbeing, as indicated by the depressed feeling scores across ten different waves. The analysis revealed a slight decrease in the mean scores, from 4.248 in the first wave to 3.927 in the tenth wave, suggesting a minor decline in overall wellbeing over time. These mean scores, which varied from 3.888 to 4.248, indicate that the majority of the participants reported a relatively low degree of depressive feelings. Furthermore, the study observed a relatively small range in standard deviations, from 0.753 to 1.029. This minimal variability suggests that the depression scores of most participants were closely clustered around the mean, with no extreme dispersion, except for the eighth wave. However, the presence of a minimum score of 1 in each wave demonstrates that at least one participant consistently reported persistent depressive feelings (see [Table B.3](#)).

Table B.3 Frequency Distribution of Depressive Feelings Among the UK Chinese Community Based on UKHLS Waves 1–10

Wave	Feeling	All of the time	Most of the time	Some of the time	A little of the time	None of the time	Total
	Depressed						
1	Freq.	4	9	46	107	156	322
	Percent	1.24%	2.80%	14.29%	33.23%	48.45%	100.00%
	Cum.	1.24%	4.04%	18.32%	51.55%	100.00%	
2	Freq.	0	4	48	70	52	174
	Percent	0%	2.30%	27.59%	40.23%	29.89%	100.00%
	Cum.	0%	2.30%	29.89%	70.11%	100.00%	
3	Freq.	0	6	31	62	54	153
	Percent	0%	3.92%	20.26%	40.52%	35.29%	100.00%
	Cum.	0%	3.92%	24.18%	64.71%	100.00%	
4	Freq.	1	3	26	62	59	151
	Percent	0.66%	1.99%	17.22%	41.06%	39.07%	100.00%
	Cum.	0.66%	2.65%	19.87%	60.93%	100.00%	
5	Freq.	1	7	27	58	44	137
	Percent	0.73%	5.11%	19.71%	42.34%	32.12%	100.00%
	Cum.	0.73%	5.84%	25.55%	67.88%	100.00%	
6	Freq.	0	2	24	64	52	142
	Percent	0.00%	1.41%	16.90%	6.43%	36.62%	100.00%
	Cum.	0.00%	1.41%	18.31%	63.38%	100.00%	
7	Freq.	4	7	32	68	50	161
	Percent	2.48%	4.35%	19.88%	42.24%	31.06%	100.00%
	Cum.	2.48%	6.83%	26.71%	68.94%	100.00%	
8	Freq.	5	7	33	52	46	143
	Percent	3.50%	4.90%	23.08%	36.36%	32.17%	100.00%
	Cum.	3.50%	8.39%	31.27%	67.83%	100.00%	

9	Freq.	0	8	36	43	46	133
	Percent	0.00%	6.02%	27.07%	32.33%	34.59%	100.00%
	Cum.	0.00%	6.02%	33.08%	65.41%	100.00%	
10	Freq.	1	5	33	48	37	124
	Percent	0.81%	4.03%	26.61%	38.71%	29.84%	100.00%
	Cum.	0.81%	4.84%	31.45%	70.16%	100.00%	

A predominant trend observed across all waves is the relatively high percentage of participants reporting minimal depressive feelings, with the sum of those selecting ‘None of the time’ and ‘A little of the time’ consistently exceeding 65% across all waves. This pattern reflects a common trend of minimal emotional distress among the participants. Nevertheless, the proportion of individuals reporting depressive feelings ‘Some of the time’ or more frequently signifies a threshold, beyond which such feelings are regarded as indicative of wellbeing concerns.

B.5 Limitations and Discussions

While the dataset reveals a low percentage of wellbeing issues, this finding may be partially attributable to the diminishing sample sizes across successive waves, potentially introducing non-response bias in this longitudinal study. Furthermore, the underrepresentation of the Chinese cohort, constituting merely 0.440% of the total sample (see [Table B.1](#)), may distort these results. Nevertheless, even the small percentages of respondents reporting ‘most of the time’ or ‘all of the time’ could indicate wellbeing problems for a considerable number of individuals on a national scale, underscoring the necessity for additional research to compare these figures with the overall percentage of people in the UK.

To address the limited representation of the Chinese ethnic group in the UKHLS sample, this study employed weighted analysis. The weights in the UKHLS are constructed by

combining design weights, which adjust for unequal selection probabilities, with non-response weights that account for differential non-response and attrition at various levels (Buck & McFall, 2012; Understanding Society, n.d.). The analyses were conducted using Stata's 'svy' commands to account for the complex survey design and weighting. Results are presented in [Table B.4](#).

Table B.4 Weighted Longitudinal Descriptive Summary of Depressive Feeling Scores Across UKHLS Waves 1–10

	Mean	Std.Err.	95% Conf. Interval	
Wave 1	4.149	0.086	3.979464	4.318224
Wave 2	3.945	0.094	3.758835	4.130902
Wave 3	4.156	0.109	3.940408	4.371275
Wave 4	4.193	0.099	3.995592	4.389731
Wave 5	4.204	0.109	3.988405	4.419414
Wave 6	4.093	0.112	3.871859	4.313807
Wave 7	4.101	0.111	3.882487	4.320993
Wave 8	3.524	0.193	3.141679	3.905485
Wave 9	3.796	0.169	3.459982	4.131971
Wave 10	4.113	0.134	3.846526	4.379334

Although the weighted analyses in [Table B.4](#) indicate a generally high level of wellbeing status among the Chinese community in UK, it is essential to recognise the potential biases and limitations that could influence the outcomes. First, the household survey may lead to an overrepresentation of individuals with higher wellbeing scores, as the inherent support structures within households, such as living with family members or partners, can serve as protective factors for mental health and emotional wellbeing (Thoits, 2011). Second, the propensity for individuals with higher levels of wellbeing to participate in surveys may contribute to an upward bias in wellbeing scores.

This self-selection effect likely overrepresents those with fewer depressive symptoms and underrepresents individuals with lower levels of wellbeing, potentially skewing the overall results. Furthermore, people who are extremely depressed may not respond to the questionnaire, due to their inability or unwillingness to participate, which not only complicates the interpretation of the data but also exacerbates the underrepresentation of this subgroup. This absence likely skews the overall results further towards those with higher levels of wellbeing. Third, administering the questionnaire in English may pose a barrier to participation for Chinese community members with limited English proficiency. Last, cultural variations in the understanding and interpretation of mental health terms, such as ‘feeling depressed’, may lead to differences in response patterns, potentially introducing bias and complicating the accurate assessment of wellbeing levels across diverse groups. Such limitations highlight the necessity of conducting primary data collection for a detailed and thorough wellbeing assessment of the Chinese in the UK.

Appendix C. Consent Form

Consent Form

Title of the Project: An Investigation into the Wellbeing of Chinese International Students Studying in the UK

Research Team: Xiaoming Jiang

Please Cross the Box

1. I confirm that I have read and understand the Information Sheet dated 5 Jan 2022 for the above study. I have had an opportunity to consider the information, ask questions and have had these questions answered satisfactorily. ☐

2. **[For Survey Participants]** ☐
 I understand that any data collected up to the point of my withdrawal cannot be withdrawn because it cannot be identified.

[For Interviewees]
 I understand any data collected up to the point of my withdrawal will be destroyed as long as I can provide necessary information to help identify my interview transcripts, or otherwise the data cannot be withdrawn. ☐

3. I understand that the identifiable data provided will be securely stored and accessible only to the researcher herself, Xiaoming Jiang, and that confidentiality will be maintained. ☐

4. I understand that my fully anonymised data will be used for understanding the mental health issues of Chinese international students in the UK, as well as for research publications. ☐

5. I understand that the data collected about me will be used to support other research in the future, and may be shared anonymously with other researchers. ☐

6. I give permission for the data that I provide to be deposited in a research data repository so that they will be available for future research and learning activities by other individuals.

☐

7. I agree to take part in the above study.

☐

Participant Name

Date

Participant Signature

Researcher Name

Date

Researcher Signature

Appendix D. Participant Information Sheet

Participant Information Sheet

Project Title

An Investigation into the Wellbeing of Chinese International Students Studying in the UK

Invitation Paragraph

My name is Xiaoming Jiang. I am a PhD student in the School of Health and Social Care at the University of Essex. I would like to invite you to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. After reading, please make sure you fully understand what your participation will involve, what rights you will have as a research participant, how your identity will be protected and responses reported, etc. Please take time to read the following information carefully.

What is the purpose of the study?

The study is being undertaken as a doctoral research project. The purpose of this study is to explore the wellbeing issues of the Chinese international students studying in the UK. In recent years, pursuing a higher degree in a foreign country has become an increasingly sought-after experience among Chinese students, thus accelerating the process of higher education internationalisation. For the United Kingdom, the country, since the early 1990s, has become one of the most popular destinations for Chinese students who pursue overseas learning experience. For China, the country sends more international students to the U.K. than any other country. However, studying abroad can be a very stressful and challenging experience. Facing acculturation challenges (such as language barriers, academic integration failures, culture shock), international students may experience mental health problems such as anxiety, depression, alienation, etc. Therefore, it is worth investigating which acculturation factors can be stressful for Chinese international students especially amid the COVID-19 pandemic, as well as how Chinese students manage to cope with the influence of acculturative stress. The study has five specific research questions:

1. *What acculturative stressors can affect the wellbeing of Chinese international students in Uk universities?*

2. *To what extent can the identified acculturative stressors predict the wellbeing of Chinese international students?*
3. *How can COVID-19 pandemic affect the wellbeing of Chinese international students in the UK?*
4. *What strategies do Chinese international students usually employ to reduce their acculturative stress and facilitate their intercultural adaptation?*

This project will last for three years (September 2020 to August 2023), starting from study design to the completion of research paper. As of the research methodology, this is a mixed-method approach study that employs both quantitative and qualitative methods to answer the proposed questions. Quantitative data will be collected by means of questionnaires, whilst qualitative data will be collected from semi-structured interviews.

Why have I been invited to participate?

This project aims to explore the wellbeing of Chinese international students in the UK, so the sample of this research will be some international students from mainland China. The international students who are from HongKong, Macau and Taiwan, as well as the students who had received international education before they started the current programme are excluded. You have been invited to participate because you are a member of the target population of this project. Altogether, the project aims to recruit approximately 300 Chinese international students from multiple universities across the U.K. to fill out a self-completion questionnaire. Those who are willing to take part in a following interview can leave you contact details. After the collection of quantitative data, the researcher will randomly invite 30 questionnaire respondents to participate in semi-structured interviews. To achieve statistical generalisation (the generalisability of research findings), the study makes sure the recruited participants are representative of Chinese international students in the UK; thus, the participants in this study come from different universities, and are of different age and gender groups.

Do I have to take part?

Taking part in the research is entirely voluntary. It is up to you to decide whether or not you wish to take part in this research study. If you do decide to take part, you will be asked to provide written consent. You are free to withdraw at any time, without giving a reason. If you decide to withdraw, you can send **Xiaoming Jiang** an email (xj21669@essex.ac.uk) to let the researcher know your decision. For interviewees, the information you have already provided will be deleted. However, for survey participants, you should be aware of the limitations on your right to withdraw. Since

data collection will be conducted anonymously, it would not be possible to identify your questionnaire in order to withdraw your data, unless you give your name and contact details for participating in a follow up interview.

What will happen to me if I take part?

For survey participants:

Due to COVID-19 containment policies, it would be not be practical to distribute questionnaires face to face. You will be provided with a web link, through which you can access the electronic questionnaire. The questionnaire will be available in two languages (English and Chinese), so you can choose which language you prefer to use. You will be asked to read the instructions carefully. If you decide to take part, you should be aware that it would be not possible to identify your questionnaire in order to withdraw the data you have already contributed, unless you give your name and contact details for participating in a follow up interview. The questionnaire consists of three main parts: I. Demographic information, II. International students' wellbeing and acculturative stressors, and III. Coping strategies. It is estimated filling the questionnaire will take you 15 minutes.

For interviewees:

Each interviewee will be invited to take part in a semi structured one-to-one interview. Because of COVID-19 containment policies, interviewees will take place via the Internet (e.g. WeChat). You can choose the language of interview: Chinese or English, but you are recommended to use Chinese because this will allow you to communicate more effectively with me. If the interview is conducted in Chinese, your responses in the interview will be translated into English. Due to the flexible nature of semi-structured interviews, each interview session will vary in length, but I ensure you that the longest one will not exceed 60 minutes. With your informed consent, all interviews are to be recorded.

What are the possible disadvantages and risks of taking part?

It must be made clear that the experience of participating in the research may be stressful for you. No matter in the questionnaire or the interview, you will be asked to reflect on the stressful days you experienced after your arrival in the U.K. During this process, your recalling of the challenges or problems will make you feel frustrated, anxious, or depressed again. If your stress is associated with acculturative stressors, the researcher will share some useful intercultural adaptation skills with you; otherwise, you will be directed to the professional services. If you still feel that it is stressful or distressing to talk about the challenging days you have experienced, the researcher will stop the interview and ask you to use your right to withdraw.

What are the possible benefits of taking part?

All participants will get paid after you complete filling the questionnaire or finish an interview. For interviewees, you will be paid 10 GBP after finishing per interview session; for questionnaire respondents, you will get a 1 GBP reward for your participation.

What information will be collected?

For survey participants:

You will be asked to fill out a questionnaire that consists of three parts. In the first part (demographic information), you will be asked to disclose some personal information anonymously to the researcher, e.g. age, gender, major, degree, language proficiency, relationship status, and residence. In the second part (acculturative stress), you will be asked to rate your acculturation experience against a scale. In the last part (coping strategies), you will be asked to share your coping strategies with the researcher. The demographic data includes some identifiable personal information, so the data will be made anonymised.

For interviewees:

Since the interview you are asked to take part in is semi-structured by nature, the questions involved in each interview may vary, but there is a question list to guide all interviews. Similar to the questionnaire designed for the study, each interview consists of two main parts. In the first part (acculturative stress), you will be asked to reflect on your past adaptation experience and answer some questions related to some key acculturative stressors such as COVID-19 pandemic, language barriers, academic integration and so forth. In the second part (coping strategies), you will be asked to share your coping strategies with the researcher. The demographic data includes some identifiable personal information, so the data will be made anonymised.

Will my information be kept confidential?

Data confidentiality will be safeguarded during and after the study. The data, either electronic or printed, will be stored and kept securely in a Box folder or transferred to a University of Essex secured shared drive. This approach protects the research data against potential thefts or confiscation. It is promised that all original recordings and transcripts will be password protected, and data files will be encrypted. The hard copies of the collected data will also be backed up carefully. All the materials will not be accessible to third parties. The only person who will have access to the research data is **Xiaoming Jiang**, the researcher herself. All the anonymised data such as interview transcripts and questionnaires will be retained for another ten (10) years after the completion of the project.

It should be further noted that the University's Research Data Management Policy requires that research data are made available for access and re-use where legally, ethically and commercially appropriate, taking note of any relevant safeguards. After the data retention period expires, the research data will be destroyed.

What is the legal basis for using the data and who is the Data Controller?

Your personal data will be processed for the purposes of carrying out research in the public interest. The researcher is endeavour to be transparent about its processing of your personal data. After the removal of some identifiable information from the data you contribute, the processed data will be deposited, and **The University of Essex** is the Data Controller of this project. Further information may be obtained from the University Information Assurance Manager by emailing: dpo@essex.ac.uk.

What should I do if I want to take part?

If you want to take part in the study, you can contact the researcher **Xiaoming Jiang** by emailing xj21669@essex.ac.uk. The deadline for doing so is '12.00pm 1st June 2022'.

What will happen to the results of the research study?

The results of the research study will be stored in the University's archives. Since this project is not funded for commercial purposes, it will not involve any commercial interests. The thesis may be modified to get published as journal articles. Any results will be anonymised, meaning they will not be identifiable. The copy of research findings will be made available to every research participant. You can apply for a copy by emailing **Xiaoming Jiang** (xj21669@essex.ac.uk).

Who is funding the research?

The research is not funded.

Who has reviewed the study?

This project has been reviewed by the University of Essex Ethics Committee.

Concerns and Complaints

If you have any concerns about any aspect of the study or you have a complaint, in the first instance please contact **Xiaoming Jiang**, the principal investigator of the project, using the contact details below (xj21669@essex.ac.uk). If you think your complaint has not been addressed to your satisfaction or you feel that you cannot approach the principal investigator, please contact the departmental Director of Research in the department responsible for this project, [Professor Camille Cronin and

e-mail address: camille.cronin@essex.ac.uk]. If you are still not satisfied, please contact the University's Research Governance and Planning Manager, Sarah Manning-Press (e-mail: sarahm@essex.ac.uk).

Name of the Researcher/Research Team Members

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Department: School of Health and Social Care

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Thank you for your time reading this information sheet. If you are willing to make a contribution to the research, please contact **Xiaoming Jiang** for obtaining the form to give your informed consent.

Appendix F. Questionnaire

An Investigation into the Wellbeing of Chinese International Students Studying in the UK

Dear participants:

Hello! I am Xiaoming Jiang, the researcher of this project. I am currently a PhD student at the School of Health and Social Care, University of Essex. I feel honoured to invite you to participate in this research. Before you start answering the questions, please read the information below carefully:

This research examines the acculturative stressors, such as language barriers and academic challenges, experienced by Chinese international students in the UK and their coping strategies to deal with acculturative stress. It takes approximately fifteen minutes to complete the following questionnaire. Confidentiality is always our priority. You can answer these questions anonymously, and all the original data and transcripts will be password protected and securely stored in a University of Essex secure virtual drive. Since data collection will be conducted anonymously, it would not be possible to identify and withdraw your questionnaire after submission, unless you leave some identifiable information on your questionnaire.

If you think your complaint has not been addressed to your satisfaction or you feel that you cannot approach the principal investigator, please contact the Departmental Director of Research, Professor Camille Cronin (camille.cronin@essex.ac.uk). If you are still not satisfied, please contact the University's Research Governance and Planning Manager, Sarah Manning-Press (sarahm@essex.ac.uk).

What you contribute will surely help us better understand the mental health of Chinese international students like yourself. Thank you for your time and cooperation.

亲爱的参与者：

我是姜晓明，该项目的负责人。目前，我在埃塞克斯大学的卫生和社会保障学院攻读博士学位。很荣幸能邀请您参与我的博士研究项目。在确认参与前，请您仔细阅读以下信息：

该项目主要研究中国学生在英留学时所面临的跨文化适应压力源（例如：语言、学术障碍等）以及该群体使用的压力应对策略。完成以下问卷大约需要十五分钟的时间。我们十分注重保护数据的私密性。您将匿名完成该问卷，所有数据都将妥善存放在涉密文件夹中，并仅对项目相关研究人员开放。另外，因为调研将匿名进行，所以一旦您确认提交问卷，您的问卷可能无法被撤回。

该项目已经获得埃塞克斯大学卫生和社会保障学院伦理委员会批准。如果您对本研究有任何的问题或投诉，请联系学院科研主管 Camille Cronin (camille.cronin@essex.ac.uk) 或者校级主管 Sarah Manning-Press (sarahm@essex.ac.uk)。

您的数据将会帮助我们更好地了解像您这样的国际学生的心理健康问题。感谢您的支持和参与！

Here below is an informed consent form. Please take a few minutes to consider whether you would like to give an informed consent to participate in the project.

您好，以下是知情同意书的内容。请花几分钟时间考虑您是否愿意同意参与该项目。

I understand that any data collected up to the point of my withdrawal cannot be withdrawn because it cannot be identified.

我清楚，若我决定撤回参与，此前已收集的数据因其匿名性而无法撤销。

I understand that the identifiable data provided will be securely stored and accessible only to the researcher herself, Xiaoming Jiang, and that confidentiality will be maintained.

我了解，我所提供的可识别数据将被安全存储，且仅供研究人员本人姜晓明访问，数据的机密性将得到保证。

I understand that my fully anonymised data will be used for understanding the mental health issues of Chinese international students in the UK, as well as for research publications.

我明白，我的完全匿名数据将用于了解在英国的中国留学生的心理健康问题，并可能用于学术出版。

I understand that the data collected about me will be used to support other research in the future, and may be shared anonymously with other researchers.

我理解，我的数据在未来将被用于支持其他研究，并可能与其他研究者进行匿名分享。

I give permission for the data that I provide to be deposited in a research data repository so that they will be available for future research and learning activities by other individuals.

我允许将我提供的数据存储于研究数据存储库中，以供其他研究者或学者在未来的研究和学习中使用。

I agree to take part in the above study.

我同意参加上述研究。

Part I: Demographic Information 第一部分：基本信息

1. Your age: 您的年龄

- a. 18-22 18-22 岁
- b. 23-27 23-27 岁
- c. 28-32 28-32 岁
- d. 32 above 32 岁以上

2. Your gender: 您的性别

- a. Male 男
- b. Female 女
- c. Non-binary/Third Gender 非二元/第三性别

3. Your major: 您的专业

- a. Commerce 商科大类
- b. Science 理工科大类
- c. Arts 人文社科大类
- d. Others (please specify) 其他（请详细说明）

4. Your degree: 您目前就读的学位

- a. Undergraduate Bachelor 本科
- b. Postgraduate Masters 研究生
- c. Postgraduate PhD 博士

5. Language proficiency 语言水平

(NB: This research assesses the language proficiency of participants by evaluating their IELTS band scores.)

（本研究通过对雅思成绩的考察来评估受访者的语言能力。）

- a. Scoring from 5.0 to 5.5 5 分到 5.5 分
- b. Scoring from 6.0 to 6.5 6 分到 6.5 分
- c. Scoring from 7.0 to 7.5 7 分到 7.5 分
- d. Above 8.0 8 分及以上

6. Where do you study? 您学习的地区

- a. England 英格兰
- b. Scotland 苏格兰
- c. Wales 威尔士
- d. Northern Ireland 北爱尔兰

7. How long have you been studying in the UK? 您来英国学习多久了？

(Note: In case that you've been back to China due to the COVID-19 pandemic, you can figure out how much time you'd spent in the UK before you went back home).

（注意：如果因为疫情您已经回到中国，请您回想在此之前您在英国学习了多久，并依此回答下面的问题。）

- a. 1-6 months 1-6 个月
- b. 6-12 months 6-12 个月
- c. 1-2 years 1-2 年
- d. 2-3 years 2-3 年
- e. More than three years 超过 3 年

Part II: Acculturative Stressors

This scale lists some stressors that might happen to you when you study in the UK. Please use the following scale and circle the number that **BEST** describes your experience:

1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = all the time.

第二部分：跨文化适应压力源

该量表列出了您在英国留学时可能会面临一些压力源。请在该量表中圈出最符合您现实情况的数字：

1 = 从不，2 = 很少，3 = 有时，4 = 经常，5 = 一直。

Perceived Cultural Distance: 文化差异感知

1. I don't know what topics I should choose when I chat with the local people.

在和当地人交流的时候我不知道该如何选择话题。

2. I feel it is challenging to get accustomed to the way of life here.

我觉得适应这里的生活方式很有挑战性。

3. I do not always understand what the British people think about.

我并不能很好地理解英国人的想法。

4. I think it is hard for me to adapt to the British people's dietary habits.

我觉得我很难适应英国人的饮食习惯。

Social Integration: 社会融合

5. My social networks shrank after I come to the U.K.

来英国以后，我的社交圈子变窄了。

6. I have limited social life.

我的社交生活很有限。

7. I feel lonely in the UK.

在英国我感到孤独。

8. I feel helpless when I am in trouble.

当我遇到困难的时候，我感到很无助。

9. I don't feel a sense of belonging here.
我在英国没有归属感。

10. I feel bored here.
我觉得在英国生活学习很无聊。

Perceived Discrimination: 歧视感知

11. I feel rejected when people are disrespectful toward my ethnicity and cultural background.
当他人不尊重我的种族和文化背景时，我会感到自己被排斥。

12. I feel some people do not associate with me because of my ethnicity.
我感觉有些人因为我的种族不愿意和我来往。

13. I am treated differently because of my race.
因为种族背景我受到了不同的待遇。

14. I feel that my people are discriminated against.
我觉得我的同胞被歧视。

Academic Integration: 学术融合

15. I hesitate to participate in class discussion and seminar.
上课或者参加研讨会的时候，我不敢用英文发言。

16. I often have to work overtime in order to catch up.
为了赶上进度，我不得不熬夜学习。

17. I lack confidence when I have to do presentations in English.
我没有信心做英文演讲。

18. The intensive study makes me sick.
高强度的学习让我感到彷徨无措。

19. Academic pressure has lowered the quality of my life.
学业压力降低了我的生活质量。

20. It is hard for me to understand lectures and follow conversations in class.
上课时我很难听懂老师和同学的对话。

Language Barriers: 语言障碍

21. I feel frustrated that I cannot understand English native speakers in daily communication.

因为不能理解当地人日常聊天的内容，我会感到沮丧。

22. I am afraid of communicating my ideas with my teachers and classmates.
我害怕和老师，同学们交流自己的想法。

23. My vocabulary is so small that I always feel short of words.
我的词汇量太小了，我总觉得词穷。

24. It is a big pressure for me to write essays in English.
对我来说用英语写文章很有压力。

25. I shy away from social situations due to my limited English proficiency.
由于我的英语水平有限，我尽量回避一些社交场合。

26. I cannot express myself very well in English.
我不能用英语很好地表达我的想法。

Homesickness: 思乡之情

27. I often imagine how things would be if I flew back to China.
我经常幻想自己回到中国的各种情形。

28. I feel sad when I cannot contact my friends in China because of the time lag.
如果因为时差我无法联系上国内的朋友，我会感到很沮丧。

29. I feel guilty to leave my family and friends behind.
我为离开了家人和朋友而感到内疚。

30. I miss my parents a lot.
我非常思念我的父母。

COVID-19 Pandemic: 新冠疫情

31. I am worried I will infect myself with COVID-19.
我担心自己感染上新冠病毒。

32. I feel anxious to know the people close to me are infected with COVID-19.
当我知道身边的人感染新冠的时候，我很焦虑。

33. I suffered from impossibility of attending classes offline.
不能去学校上课让我很痛苦。

34. I feel upset when I have to cancel private meetings and trips during lockdowns.
疫情封锁期间我不得不取消私人碰面和外出的时候，我感到很烦躁。

35. COVID-19 makes my life in the UK boring.

新冠疫情让我的留学生活变得无趣。

Part III: Coping Strategies 第三部分：应对策略

Please rate each of the following statement from 0 to 100. The higher the score is, the more effective you think the strategy will be.

请您对下列关于压力应对策略的陈述进行评分（0 至 100 分）。分数越高，您认为该策略越有效。

1. Communicating more with old friends makes me happier.

和老朋友聊天让我心情更好。

2. Having direct contact with nature (e.g. green space) helps me feel less stressed.

直接接触大自然（例如：绿色空间）可以让我减轻压力。

3. Making new friends with the local people helps me a lot in terms of intercultural adaptation.

与当地人交朋友可以帮我实现跨文化适应。

4. Increasing my understanding of the British culture can make me better adapted to host culture.

提升对英国文化的了解可以帮我更好地适应当地文化。

5. Improving my language proficiency can help me achieve intercultural adaptation.

提高语言能力可以帮我实现跨文化适应。

The questionnaire ends here, and thank you for your contribution.

问卷到此结束，感谢您的参与。

If you'd like to take an interview, please leave here your contact details (e.g. email address, WeChat, QQ):

Appendix G. Interview Question List

Interview Question List

PART I. Demographic Information (ice-breaking and warm-up)

1. How important is the overseas learning experience to you or your family? What does it mean?
2. When did you come to the UK? Could you please tell me how long you have been living in the UK?
3. Do you enjoy your life here?
4. What is your major/degree? Is it something that you truly love?
5. How much did you score in your last IELTS exam? Is learning English a challenging job for you?
6. How are you getting on with your studies recently? Do you still stay at home and attend classes online?
7. Do you have any plans to go back home?

PART II. Wellbeing and Acculturative Stressors

✧ COVID-19 Pandemic

1. How has the COVID-19 pandemic influenced your life as an international student here?
2. How has the pandemic changed your lifestyle?
3. What did you do to adapt to the COVID-19 pandemic?
4. How do you feel about lockdowns? (What's your experience like during the lockdown?)

✧ Language Barriers

1. How would you like to evaluate your English level?
2. How do you find communicating with native speakers?

3. How do you think about language accent?
4. How do you feel communicating in class?

✧ **Perceived Cultural Difference**

1. Since you've been in the UK for a while, what are the sociocultural differences between China and UK in your own opinions?
2. It is widely said China has a collectivistic culture whilst individualism prevails in the UK. What do you think? Do you agree or disagree?
3. Do you think there is an 'English way of thinking'?
4. Could you tell me what you did to make yourself adjusted to these sociocultural differences when you arrived in the UK?

✧ **Academic Integration**

1. How do you think about the British education system?
2. What are the differences between studying in China and studying in the UK?
3. What does 'learning in English' mean to you?
4. How do you feel about your academic performance so far?

✧ **Social Integration**

1. How do you feel socialising with the local people?
2. May I ask if you have gotten used to living in your city? For example, do you know where to shop and how to use public transportation?
3. Have you made many new friends here?
4. How do you feel about your living environment?

✧ **Homesickness**

1. How important is 'home' to you?
2. How do you feel about living in the UK?
3. Do you feel indebted to your family?
4. What do you usually do when you really miss home?

✧ **Perceived Discrimination**

1. What do you think about discrimination and bias?
2. Do you feel that you are treated with respect here?
3. Have you been treated unfairly since you came here?
4. How do you feel about such stereotypes associated with China or Chinese students?

PART III. Stress Coping

1. Could you please tell me what you've done to keep yourself in a good mood when you were suffering from acculturative stress?
2. What are some secret anti-stress strategies you have used to reduce stress?
3. Have you told other people your stories here?
4. Do you think we Chinese people have our own stress-coping style?

Wrap-up

1. How do you feel about this interview? What is important to discuss when talking about studying abroad? What has the interview experience been like?
2. Is there any important information I missed?
3. Is there anything you would like to clarify or add, particularly regarding any stressors or challenges we haven't discussed yet?

Appendix H. Ordered Logit Model Results

In this study, the ordered logit model is employed to explore how factors such as acculturative stressors, the COVID-19 pandemic, and coping strategies impact the wellbeing problem of Chinese international students in the UK. More specifically, the model focuses on analysing how these independent variables affect the log-odds associated with the progression through the ordered categories of wellbeing problem, namely transitioning sequentially from ‘never’, to ‘rarely’, ‘sometimes’, ‘often’, and finally ‘all the time’. This chapter is structured into three sections, each addressing an individual research question.

H.1 Research Question 2 (acculturative stressors predicting Chinese international students’ wellbeing problem)

Table H.1 presents the results of the ordered logit model analysis, investigating the impact of six acculturative stressors on the wellbeing problems of Chinese international students. These stressors, specifically, perceived cultural distance, social integration, perceived discrimination, academic integration, language barriers, and homesickness, are individually studied in six distinct models. Simultaneously, a variety of covariates - age, gender, major, degree, language proficiency, location, and length of stay - are controlled, given their potential influence on wellbeing issues.

Each predictor variable, both explanatory and control, is assigned an odds ratio accompanied by a corresponding 95% confidence interval. An odds ratio surpassing unity indicates that as the associated variable intensifies, the prevalence of the wellbeing problems may increase. Conversely, an odds ratio falling below unity implies that an increase in the given variable may alleviate these problems. Taking Model 1 as an example, the construct of perceived cultural distance is operationalised into five ordinal levels: ‘never’, ‘rarely’, ‘sometimes’, ‘often’, and ‘all the time’. Each level

serves as an indicator of the frequency or intensity of perceived cultural distance experienced by Chinese international students, ranging from low to high. Theoretically, it is assumed that every unit increase in perceived cultural distance (i.e., a single-level shift in the perceived cultural distance) is expected to influence Chinese international students' wellbeing problem. A statistically significant positive relationship is observed between perceived cultural distance and wellbeing problems, demonstrated by an odds ratio (OR) of 1.396 (95% CI: 1.300 to 1.500, $p < 0.001$). This indicates that, when controlling for all other variables, a unit increase in perceived cultural distance corresponds with a 39.6% increase in the odds of experiencing wellbeing problems.

In Model 2, the odds ratio (OR) for social integration is 1.650 with a 95% confidence interval (CI) ranging from 1.533 to 1.775, at a 0.1% level of significance ($p < 0.001$). This suggests that each unit rise in social integration is associated with a 65.0% increase in the odds of wellbeing problems. Model 3 investigates perceived discrimination, presenting an OR of 1.193 with a 95% CI of 1.124 to 1.265, at a 0.1% level of significance ($p < 0.001$). This demonstrates that each unit increase in perceived discrimination is expected to heighten the odds of wellbeing problem by roughly 19.3%. For academic integration, examined in Model 4, the odds ratio (OR) is 1.221 (95% CI: 1.167, 1.277, $p < 0.001$). This shows a 22.1% increase in the odds of wellbeing problem per unit increase at a 0.1% level of significance. Language barriers in Model 5 analysed an OR of 1.170 (95% CI: 1.122, 1.221, $p < 0.001$), revealing a 17.0% increase in the odds of wellbeing problem per unit increase at a 0.1% level of significance. Lastly, homesickness, assessed in Model 6, has an OR of 1.310 (95% CI: 1.239, 1.384, $p < 0.001$), signifying that for every unit increase in homesickness, the odds of experiencing wellbeing issues increase by approximately 31.0%. In comparing the impacts of these six acculturative stressors, social integration has the strongest influence on Chinese international students' wellbeing problems. It is closely followed by perceived cultural distance and homesickness. Academic integration and perceived discrimination have a lesser impact, while language barriers contribute the least to the students' wellbeing problems in this research.

Table H.1 Odds Ratio (95% Confidence Intervals) on Wellbeing from Ordered Logit Model (base model)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	1.396*** (1.300 - 1.500)					
Social integration		1.650*** (1.533 - 1.775)				
Perceived discrimination			1.193*** (1.124 - 1.265)			
Academic integration				1.221*** (1.167 - 1.277)		
Language barriers					1.170*** (1.122 - 1.221)	
Homesickness						1.310*** (1.239 - 1.384)
Age (ref:18–22)						
23–27	1.54 (0.900 - 2.636)	1.317 (0.765 - 2.267)	1.397 (0.811 - 2.406)	1.467 (0.855 - 2.518)	1.48 (0.869 - 2.523)	1.941* (1.133 - 3.326)
28–32	1.806 (0.804 - 4.054)	1.62 (0.706 - 3.718)	1.52 (0.675 - 3.421)	1.343 (0.605 - 2.979)	1.567 (0.706 - 3.476)	2.065# (0.931 - 4.577)
32+	1.056 (0.344 - 3.244)	1.707 (0.551 - 5.285)	0.945 (0.304 - 2.937)	0.793 (0.258 - 2.438)	0.927 (0.311 - 2.768)	1.876 (0.595 - 5.914)
Gender (ref: Male)						
Female	0.738#	0.693*	0.977	0.746	0.687*	1.004

	(0.518 - 1.050)	(0.485 - 0.992)	(0.690 - 1.382)	(0.525 - 1.060)	(0.481 - 0.982)	(0.708 - 1.422)
Non-binary / third gender	0.868	0.186	0.462	0.347	0.417	0.601
	(0.0746 - 10.09)	(0.0185 - 1.877)	(0.0409 - 5.220)	(0.0377 - 3.194)	(0.0459 - 3.783)	(0.0632 - 5.717)
Major (ref: Commerce)						
Science	0.954	0.98	0.859	0.895	0.844	0.794
	(0.613 - 1.485)	(0.629 - 1.529)	(0.555 - 1.329)	(0.578 - 1.387)	(0.545 - 1.307)	(0.511 - 1.232)
Arts	1.192	1.099	1.101	1.16	1.161	0.993
	(0.782 - 1.818)	(0.725 - 1.667)	(0.725 - 1.671)	(0.763 - 1.764)	(0.765 - 1.763)	(0.654 - 1.509)
Degree (ref: Undergraduate bachelor)						
Postgraduate Masters	0.466**	0.609#	0.543*	0.503*	0.537*	0.541*
	(0.262 - 0.831)	(0.339 - 1.091)	(0.303 - 0.972)	(0.283 - 0.897)	(0.303 - 0.952)	(0.305 - 0.960)
Postgraduate PhD	0.436*	0.360*	0.704	0.721	0.568	0.542
	(0.201 - 0.946)	(0.162 - 0.804)	(0.322 - 1.535)	(0.335 - 1.551)	(0.264 - 1.224)	(0.250 - 1.178)
Language Proficiency (ref: Ielts 5–5.5)						
Ielts 6–6.5	0.843	0.891	0.791	1.084	0.991	0.903
	(0.456 - 1.559)	(0.473 - 1.675)	(0.427 - 1.466)	(0.584 - 2.010)	(0.531 - 1.850)	(0.487 - 1.676)
Ielts 7–7.5	0.906	0.747	0.695	1.431	1.216	0.941
	(0.467 - 1.757)	(0.377 - 1.481)	(0.357 - 1.356)	(0.722 - 2.835)	(0.613 - 2.413)	(0.479 - 1.848)
Ielts 8.0+	0.766	0.631	0.493	1.79	1.412	0.605
	(0.267 - 2.195)	(0.216 - 1.842)	(0.164 - 1.482)	(0.592 - 5.411)	(0.467 - 4.273)	(0.210 - 1.750)
Location (ref: England)						
Scotland	0.978	0.932	0.988	1.136	1.23	1.558#
	(0.579 - 1.651)	(0.543 - 1.599)	(0.591 - 1.649)	(0.677 - 1.907)	(0.729 - 2.073)	(0.936 - 2.594)
Wales	1.096	1.1	1.141	1.124	1.001	1.091

	(0.582 - 2.064)	(0.566 - 2.139)	(0.598 - 2.177)	(0.586 - 2.157)	(0.525 - 1.908)	(0.561 - 2.122)
Northern Ireland	1.189	0.814	1.382	1.117	1.102	1.071
	(0.572 - 2.471)	(0.391 - 1.697)	(0.650 - 2.938)	(0.533 - 2.342)	(0.524 - 2.319)	(0.505 - 2.270)
Length (ref: 1–6 months)						
6–12 months	1.209	1.196	1.247	1.334	1.372	1.239
	(0.746 - 1.960)	(0.731 - 1.955)	(0.764 - 2.035)	(0.816 - 2.180)	(0.838 - 2.245)	(0.767 - 2.003)
1–2 years	0.997	0.947	0.822	1.207	1.191	0.947
	(0.579 - 1.718)	(0.541 - 1.657)	(0.476 - 1.420)	(0.697 - 2.090)	(0.684 - 2.072)	(0.552 - 1.622)
2–3 years	1.512	1.198	1.13	1.457	1.503	1.322
	(0.766 - 2.985)	(0.608 - 2.359)	(0.583 - 2.190)	(0.750 - 2.830)	(0.766 - 2.952)	(0.677 - 2.582)
More than 3 years	2.160*	1.807#	1.041	1.517	1.993*	1.145
	(1.123 - 4.153)	(0.954 - 3.421)	(0.550 - 1.970)	(0.796 - 2.891)	(1.032 - 3.849)	(0.607 - 2.160)
Observations	452	452	452	452	452	452

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

Upon evaluation of the control variables, age is considered first. 18–22 age group serves as the reference group ($OR = 1$). For other age groups, an OR greater than 1, with a 95% confidence interval excluding 1, suggests an increased odds of experiencing wellbeing problems compared to the reference. Conversely, an OR less than 1, with a 95% confidence interval that does not include 1, indicates a decreased probability of wellbeing problems relative to the reference group. In Models 1 to 5, the OR for this age group varied from 1.317 to 1.480, indicating an increased odds of experiencing wellbeing problems compared to the reference group. However, these findings were not statistically significant, as evidenced by the 95% confidence intervals, which ranged from 0.765 to 2.523 across these models. Notably, in Model 6, the 23–27 age group showed a significantly higher odds of experiencing wellbeing problems, with an OR of 1.941 (95% CI: 1.133, 3.326) at a 1% level of significance, indicating 94.1% higher odds compared to the reference group. For the age group of 32 and above, no statistically significant odds ratios were observed across all models, suggesting no significant differential odds of experiencing wellbeing problems compared to the reference group.

Moving onto gender, females, when compared to the reference group of males, exhibited a marginally significant decrease in the odds of experiencing wellbeing issues Model 1, as indicated by an OR of 0.738 (95% CI: 0.518, 1.050, $p < 0.1$). This trend of decreased odds reached statistical significance in Models 2 and 5, with OR s of 0.693 (95% CI: 0.485, 0.992, $p < 0.05$) and 0.687 (95% CI: 0.481, 0.982, $p < 0.05$) respectively. On the other hand, for non-binary or third gender international students, the OR s were not statistically significant across all models, suggesting no significant difference in the odds of experiencing wellbeing problems compared to male students.

In the analysis of degree level, undergraduate bachelor students serve as the reference category. Starting with postgraduate masters' students, their odds ratios (OR s) in Models 1, 3, 4, 5, and 6 were less than 1, which indicates a statistically significant decreased odds of experiencing wellbeing problems compared to the reference group.

In Model 1, the decreased odds were significant at $p < 0.01$ level with $OR = 0.466$ (95% CI: 0.262, 0.831). Similarly, the decreased odds were statistically significant in Models 3, 4, 5, and 6 with ORs of 0.543 ($p < 0.05$), 0.503 ($p < 0.05$), 0.537 ($p < 0.05$), and 0.541 ($p < 0.05$), respectively. On the other hand, in Model 2, the odds ratio of 0.609 suggested a marginally significant decrease in the odds of wellbeing problems ($p < 0.1$). Regarding Postgraduate PhD students, their odds of experiencing wellbeing issues were significantly lower than the reference group in Models 1 and 2 with ORs of 0.436 ($p < 0.05$) and 0.360 ($p < 0.05$), respectively. However, for Models 3 to 6, the ORs were not statistically significant. It becomes evident that students pursuing postgraduate studies, whether at the masters' or PhD level, consistently exhibit fewer wellbeing challenges in comparison to their undergraduate counterparts.

In terms of the location, a marginally significant divergence emerged in Model 6, where Chinese international students studying in Scotland presented a slightly higher odds ratio ($OR = 1.558$, 95% CI: 0.936 to 2.594, $p < 0.1$) indicating a potential increased odds of wellbeing problems in comparison to those studying in England. However, these differences were not statistically significant for students in Wales or Northern Ireland across all six models. Lastly, major and language proficiency, although included as control variables, did not establish any statistically significant associations with the probability of encountering wellbeing problems among Chinese international students.

H.2 Research Question 3 (impact of COVID-19 and acculturative stressors on the wellbeing of Chinese international students in the UK)

Table H.2 presents an examination of how the inclusion of the COVID-19 pandemic factor influences the wellbeing problem of Chinese international students in the UK. In contrast to the models found in Table H.1, the integration of the COVID-19 variable results in a marked decrease in the odds ratios of other acculturative stressors impacting

wellbeing problems. Specifically, an odds ratio representing the effect of perceived cultural distance on wellbeing problems falls from 1.396 to 1.352 (95% CI: 1.257, 1.454) at a 0.1% level of significance. Likewise, the odds ratio associated with homesickness exhibits a reduction from 1.310 to 1.270, resides within a 95% confidence interval of 1.196 to 1.348, at a 1% level of significance.

A detailed study of the COVID-19 coefficients reveals slight variations in odds ratios across the models, with values ranging from 1.063 (95% CI: 1.013, 1.116) at a 5% level of significance to 1.124 (95% CI: 1.075, 1.176) at a 0.1% level of significance. These variations suggest that the impact of COVID-19 on the wellbeing problems of Chinese international students in the UK changes depending on the specific acculturative stressors. For instance, in Model 5, where the odds ratio for COVID-19 is 1.124, the presence of COVID-19 increases the odds of wellbeing problems by 12.4%, all other factors being equal. Conversely, in Model 6, with an odds ratio for COVID-19 of 1.063, the odds of wellbeing problems increase by 6.3%. These models demonstrate that the impact of COVID-19 on wellbeing problems is not consistent but varies with different acculturative stressors. The COVID-19 impact has attained statistical significance across all models, underscoring the significant effect of the pandemic on the wellbeing of Chinese students in the UK.

In examining the control variables, the age group of 23–27 in model 6, revealed a statistically significant increase in the odds of experiencing wellbeing problems compared to the reference group of 18–22 years old. The log odds ratio was 1.931 (95% CI: 1.129, 3.303), significant at the $p < 0.10$ level. However, no significant effect was observed in the age group of 28 and above. In relation to gender, females in Model 2, Model 5, and Model 6 demonstrated a significant rise in the odds of experiencing wellbeing problems compared to males. The log odds ratios were 0.674, 0.701, and 0.656 respectively, all of which were significant at the $p < 0.05$ level. Conversely, no significant differences were detected among participants identifying as non-binary or other genders. When considering the degree, master's students displayed

a consistent significant decrease in the odds of experiencing wellbeing problems across all models (Models 1–6) compared to the undergraduate reference group. In terms of percentage change, the odds of master's students experiencing wellbeing problems decreased by approximately 57.3% to 49.4%, as the odds ratios ranged from 0.427 to 0.506 respectively. All these findings were significant at the $p < 0.05$ level. On the other hand, Doctoral students exhibited a significant decrease in Models 1 and 2, with log odds ratios of 0.470 and 0.381 respectively. However, this was not consistently significant across all models (Models 3–6), suggesting that the relationship between being a doctoral student and the odds of wellbeing problems might be more complex and influenced by other factors. Concerning the length of stay in UK, more than 3 years was associated with a significant increase in the odds of the wellbeing problems compared to the reference group of 1–6 months. In the first model, the observed log odds ratio was 2.044 (95% CI: 1.068, 3.912, $p < 0.05$). A statistically significant association was also observed in the fifth model with a log odds ratio of 1.921 (95% CI: 1.003, 3.679, $p < 0.05$). Additional covariates including major, language proficiency, and location were incorporated into the model. However, none of these variables demonstrated significant effects on the odds of wellbeing problems.

Table H.2 Odds Ratio (95% Confidence Intervals) on Wellbeing from Ordered Logit Model (base model + COVID-19)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	1.352*** (1.257 - 1.454)					
Social integration		1.620*** (1.504 - 1.745)				
Perceived discrimination			1.148*** (1.080 - 1.220)			
Academic integration				1.200*** (1.146 - 1.256)		
Language barriers					1.150*** (1.103 - 1.200)	
Homesickness						1.270*** (1.196 - 1.348)
COVID-19	1.105*** (1.057 - 1.155)	1.094*** (1.047 - 1.144)	1.121*** (1.071 - 1.173)	1.115*** (1.066 - 1.166)	1.124*** (1.075 - 1.176)	1.063* (1.013 - 1.116)
Age (ref: 18–22)						
23–27	1.579# (0.921 - 2.707)	1.335 (0.778 - 2.292)	1.453 (0.846 - 2.493)	1.55 (0.907 - 2.649)	1.543 (0.907 - 2.627)	1.931* (1.129 - 3.303)
28–32	1.764 (0.787 - 3.957)	1.576 (0.691 - 3.592)	1.469 (0.655 - 3.291)	1.342 (0.609 - 2.960)	1.493 (0.676 - 3.298)	1.974# (0.892 - 4.369)
32+	1.36 (0.437 - 4.237)	2.076 (0.668 - 6.457)	1.283 (0.408 - 4.036)	1.062 (0.347 - 3.251)	1.267 (0.422 - 3.800)	2.044 (0.647 - 6.458)

Gender (ref: Male)

Female	0.704# (0.493 - 1.004)	0.674* (0.471 - 0.964)	0.902 (0.636 - 1.281)	0.701* (0.491 - 0.999)	0.656* (0.458 - 0.939)	0.959 (0.675 - 1.362)
Non-binary / third gender	1.075 (0.114 - 10.15)	0.26 (0.0290 - 2.337)	0.641 (0.0707 - 5.810)	0.492 (0.0583 - 4.151)	0.61 (0.0729 - 5.113)	0.686 (0.0773 - 6.088)

Major (ref: Commerce)

Science	0.992 (0.636 - 1.546)	1.033 (0.661 - 1.615)	0.879 (0.566 - 1.365)	0.925 (0.595 - 1.438)	0.871 (0.561 - 1.354)	0.812 (0.522 - 1.263)
Arts	1.144 (0.751 - 1.745)	1.063 (0.700 - 1.613)	1.043 (0.686 - 1.584)	1.101 (0.724 - 1.676)	1.077 (0.708 - 1.637)	0.983 (0.647 - 1.493)

Degree (ref: Undergraduate bachelor)

Postgraduate Masters	0.427** (0.239 - 0.762)	0.570# (0.319 - 1.019)	0.483* (0.271 - 0.861)	0.450** (0.253 - 0.797)	0.479* (0.270 - 0.848)	0.506* (0.285 - 0.897)
Postgraduate PhD	0.470# (0.217 - 1.019)	0.381* (0.171 - 0.849)	0.721 (0.331 - 1.567)	0.721 (0.337 - 1.543)	0.606 (0.282 - 1.302)	0.558 (0.258 - 1.208)

Language Proficiency (ref: Ielts 5–5.5)

Ielts 6–6.5	0.918 (0.495 - 1.701)	0.944 (0.502 - 1.777)	0.881 (0.475 - 1.635)	1.187 (0.636 - 2.217)	1.087 (0.582 - 2.032)	0.937 (0.505 - 1.739)
Ielts 7–7.5	0.974 (0.501 - 1.893)	0.805 (0.405 - 1.599)	0.786 (0.403 - 1.532)	1.554 (0.779 - 3.098)	1.309 (0.659 - 2.599)	0.971 (0.495 - 1.906)
Ielts 8.0+	0.779 (0.274 - 2.212)	0.654 (0.227 - 1.888)	0.519 (0.178 - 1.518)	1.708 (0.572 - 5.095)	1.359 (0.460 - 4.019)	0.609 (0.213 - 1.741)

Location (ref: England)

Scotland	0.98	0.925	0.992	1.153	1.228	1.486
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	(0.580 - 1.655)	(0.540 - 1.584)	(0.591 - 1.665)	(0.685 - 1.940)	(0.728 - 2.071)	(0.890 - 2.481)
Wales	0.968	1.011	1.026	1.021	0.916	1.017
	(0.515 - 1.822)	(0.519 - 1.972)	(0.537 - 1.961)	(0.531 - 1.967)	(0.482 - 1.740)	(0.523 - 1.977)
Northern Ireland	1.329	0.899	1.487	1.327	1.247	1.131
	(0.626 - 2.822)	(0.428 - 1.889)	(0.684 - 3.231)	(0.621 - 2.836)	(0.575 - 2.705)	(0.532 - 2.404)
Length (ref: 1–6 months)						
6–12 months	1.229	1.201	1.262	1.333	1.399	1.251
	(0.757 - 1.994)	(0.733 - 1.967)	(0.775 - 2.054)	(0.817 - 2.174)	(0.856 - 2.288)	(0.773 - 2.025)
1–2 years	0.888	0.853	0.744	1.046	1.027	0.899
	(0.513 - 1.536)	(0.485 - 1.501)	(0.429 - 1.291)	(0.602 - 1.818)	(0.587 - 1.795)	(0.522 - 1.546)
2–3 years	1.245	1.086	0.985	1.206	1.267	1.223
	(0.625 - 2.480)	(0.544 - 2.167)	(0.502 - 1.932)	(0.614 - 2.367)	(0.639 - 2.512)	(0.622 - 2.406)
More than 3 years	2.044*	1.768#	1.073	1.514	1.921*	1.172
	(1.068 - 3.912)	(0.935 - 3.342)	(0.572 - 2.011)	(0.803 - 2.854)	(1.003 - 3.679)	(0.623 - 2.204)
Observations	452	452	452	452	452	452

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

H.3 Research Question 4 (examining coping strategies in Chinese international students' intercultural adaptation)

With the introduction of coping strategies as an additional variable in [Table H.3](#), building upon the framework established in [Table H.2](#), a statistical variation in the odds ratios for all explanatory variables relating to wellbeing problems is observed. This observable change in the odds ratios, associated with explanatory variables that encompass six acculturative stressors, COVID-19 pandemic, coping strategies and control variables, implies a potential moderating role of coping strategies on the impact of these factors on wellbeing problems. With the specific consideration of coping strategies in Model 1, the odds ratio for perceived cultural distance leads a decrease from 1.352 to 1.336 (95% CI: 1.242, 1.437), indicating a possible mitigation of its negative impact on wellbeing problems. Similarly, Model 2 shows a decline in the odds ratio for social integration from 1.620 to 1.609 (95% CI: 1.493, 1.734) when coping strategies are incorporated, suggesting a slight reduction in its beneficial influence on wellbeing problems. Extending this analysis to Models 3 through 6, which factor in elements like perceived discrimination, academic integration, language barriers, and homesickness. The inclusion of coping strategies in these models further underscores their moderating role.

The odds ratios for coping strategies are less than 1 and statistically significant in all models. This suggests that the use of coping strategies has a positive impact on the improvement of wellbeing problems. Specifically, for each unit increase in coping strategies, the odds of improving wellbeing problems increases correspondingly. Within all models, the odds ratios associated with coping strategies are less than 1, a finding that reaches statistical significance. This is indicative of a positive role played by coping strategies in fostering psychological wellbeing problems. More precisely, each unit increase in the use of coping strategies is correspondingly associated with an increased odds of improvement in psychological wellbeing problems. Importantly, it's necessary

to highlight the differential odds ratios for coping strategies among various models. In Model 1, the odds ratio for coping strategies is 0.997 (95% CI: 0.995, 1.000) at a 5% level of significance. This suggests that an increase of one unit in coping strategies employed corresponds to a reduction of approximately 0.3% in the expected odds of wellbeing problems improvement. In contrast, in Model 6, the odds ratio for coping strategies drops slightly to 0.995 (95% CI: 0.993, 0.998) at a 0.1% level of significance, signifying a decrease of approximately 0.5% in the expected improvement odds for every unit increase in coping strategies. This difference might suggest that the effects of coping strategies on wellbeing problems vary depending on the distinctive stressor context, such as perceived cultural distance and homesickness. Specifically, the effect of coping strategies may be more pronounced in situations involving homesickness, as indicated by Model 6. However, in Model 2, despite the consideration of factors like social integration, the effect of coping strategies on wellbeing problems improvement does not reach statistical significance, suggesting the potential for overpowering influence from social integration factors.

Regarding the control variables, their effects appear to be consistent with the results presented in the previous two tables, and thus will not be further elaborated here due to the similar findings.

Table H.3 Odds Ratio (95% Confidence Intervals) on Wellbeing from Ordered Logit Model (base model + COVID-19 + coping strategy)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Perceived cultural distance	1.336*** (1.242 - 1.437)					
Social integration		1.609*** (1.493 - 1.734)				
Perceived discrimination			1.144*** (1.077 - 1.216)			
Academic integration				1.199*** (1.146 - 1.256)		
Language barriers					1.144*** (1.097 - 1.194)	
Homesickness						1.282*** (1.207 - 1.361)
COVID-19	1.112*** (1.064 - 1.163)	1.099*** (1.051 - 1.150)	1.129*** (1.078 - 1.182)	1.123*** (1.073 - 1.175)	1.132*** (1.083 - 1.185)	1.070** (1.020 - 1.123)
Coping Strategies	0.997* (0.995 - 1.000)	0.999 (0.996 - 1.001)	0.996** (0.994 - 0.999)	0.996** (0.994 - 0.999)	0.997** (0.995 - 0.999)	0.995*** (0.993 - 0.998)
Age (ref: 18–22)						
23–27	1.592# (0.928 - 2.732)	1.345 (0.784 - 2.309)	1.472 (0.858 - 2.522)	1.581# (0.926 - 2.699)	1.559 (0.916 - 2.653)	2.027** (1.192 - 3.445)
28–32	1.786 (0.794 - 4.014)	1.589 (0.698 - 3.616)	1.522 (0.676 - 3.427)	1.417 (0.640 - 3.137)	1.542 (0.696 - 3.416)	2.108# (0.952 - 4.670)

32+	1.476 (0.468 - 4.654)	2.143 (0.686 - 6.693)	1.414 (0.442 - 4.523)	1.174 (0.379 - 3.633)	1.391 (0.459 - 4.218)	2.369 (0.739 - 7.588)
Gender (ref: Male)						
Female	0.680* (0.476 - 0.972)	0.660* (0.460 - 0.945)	0.86 (0.605 - 1.222)	0.676* (0.474 - 0.964)	0.639* (0.446 - 0.915)	0.923 (0.649 - 1.311)
Non-binary / third gender	0.988 (0.105 - 9.298)	0.253 (0.0282 - 2.274)	0.578 (0.0640 - 5.220)	0.459 (0.0543 - 3.875)	0.568 (0.0677 - 4.770)	0.639 (0.0719 - 5.676)
Major (ref: Commerce)						
Science	0.952 (0.610 - 1.485)	0.994 (0.634 - 1.559)	0.841 (0.540 - 1.308)	0.88 (0.565 - 1.371)	0.837 (0.538 - 1.303)	0.782 (0.503 - 1.217)
Arts	1.117 (0.732 - 1.703)	1.041 (0.685 - 1.582)	1.008 (0.663 - 1.532)	1.057 (0.695 - 1.609)	1.04 (0.684 - 1.581)	0.937 (0.616 - 1.424)
Degree (ref: Undergraduate bachelor)						
Postgraduate Masters	0.446** (0.249 - 0.797)	0.582# (0.325 - 1.041)	0.512* (0.287 - 0.913)	0.479* (0.270 - 0.851)	0.503* (0.284 - 0.893)	0.538* (0.305 - 0.950)
Postgraduate PhD	0.513# (0.236 - 1.114)	0.403* (0.181 - 0.901)	0.802 (0.370 - 1.738)	0.794 (0.372 - 1.697)	0.664 (0.309 - 1.427)	0.624 (0.291 - 1.341)
Language Proficiency (ref: Ielts 5–5.5)						
Ielts 6–6.5	0.926 (0.499 - 1.721)	0.952 (0.505 - 1.796)	0.881 (0.474 - 1.638)	1.162 (0.620 - 2.176)	1.073 (0.572 - 2.013)	0.956 (0.514 - 1.776)
Ielts 7–7.5	0.954 (0.489 - 1.860)	0.801 (0.403 - 1.594)	0.77 (0.394 - 1.506)	1.487 (0.744 - 2.973)	1.249 (0.627 - 2.490)	0.963 (0.491 - 1.891)
Ielts 8.0+	0.817 (0.287 - 2.327)	0.673 (0.232 - 1.951)	0.547 (0.187 - 1.594)	1.799 (0.604 - 5.355)	1.401 (0.473 - 4.146)	0.662 (0.234 - 1.869)

Location (ref: England)

Scotland	1.006 (0.594 - 1.703)	0.929 (0.543 - 1.591)	1.011 (0.602 - 1.700)	1.171 (0.692 - 1.979)	1.248 (0.738 - 2.108)	1.522 (0.911 - 2.544)
Wales	0.972 (0.515 - 1.834)	1.004 (0.515 - 1.959)	1.019 (0.532 - 1.952)	1.024 (0.530 - 1.980)	0.916 (0.481 - 1.745)	1.013 (0.521 - 1.969)
Northern Ireland	1.363 (0.649 - 2.864)	0.918 (0.437 - 1.926)	1.503 (0.699 - 3.234)	1.333 (0.630 - 2.820)	1.278 (0.595 - 2.744)	1.167 (0.559 - 2.436)

Length (ref: 1–6 months)

6–12 months	1.232 (0.758 - 2.002)	1.204 (0.735 - 1.973)	1.247 (0.765 - 2.035)	1.311 (0.802 - 2.144)	1.375 (0.840 - 2.253)	1.242 (0.766 - 2.015)
1–2 years	0.874 (0.505 - 1.514)	0.851 (0.484 - 1.497)	0.733 (0.423 - 1.273)	1.016 (0.584 - 1.768)	0.998 (0.570 - 1.746)	0.867 (0.505 - 1.492)
2–3 years	1.221 (0.613 - 2.432)	1.078 (0.540 - 2.152)	0.935 (0.476 - 1.836)	1.165 (0.592 - 2.293)	1.216 (0.612 - 2.414)	1.149 (0.582 - 2.267)
More than 3 years	1.961* (1.023 - 3.761)	1.758# (0.930 - 3.323)	1.037 (0.553 - 1.946)	1.479 (0.784 - 2.792)	1.834# (0.957 - 3.516)	1.134 (0.605 - 2.126)
Observations	452	452	452	452	452	452

Confidence interval in parentheses

*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1

