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# PSYCHOLOGICAL ADJUSTMENT OF CHINESE PHD STUDENTS: A NARRATIVE STUDY

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## ABSTRACT

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| Aim/Purpose | International PhD students suffer a lot of stress. However, many studies about international students focus on identifying the stressors these students experience rather than the stress-coping strategies, and those that explore international students' coping behaviour often report maladjustments. |
| Background | This study intended to fill the research gap by examining the strategies that Chinese students employed to psychologically adjust to their PhD study. |
| Methodology | Narrative inquiry method was employed to give voice to the research participants. Six Chinese doctoral students in social sciences in Australian universities were purposefully sampled and interviewed three times during their candidature in order to gain an in-depth understanding of their lived experiences of stress-coping. |
| Contribution | This paper provides positive stress-coping strategies used by six Chinese doctoral students, which can be used by international doctoral students or those who work with doctoral students from abroad to improve their psychological well-beings. |
| Findings | These Chinese PhD students adopted positive stress-coping strategies of regulating their emotions and retaining their motivation. They adopted illusory and interpretive forms of secondary control by reframing realities to obtain psychological peace when faced with stress. The ways that Chinese PhD students handled stress suggest that the Chinese moral education and the characteristic motivation for learning attributed them with positive personal characteristics to battle the adverse conditions. |
| Recommendations for Practitioners | Institutions/departments can initiate support groups for PhD students from the same disciplines where students can express their stress, seek assistance from senior doctoral students and exchange their strategies. |

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| | Institutions/departments can also support international doctoral candidates by taking a more flexible approach to policies and procedures concerning doctoral students taking leave both in terms of when it is taken and the duration. |
| Recommendation for Researchers | Researchers can focus on international doctoral students' positive stress-coping experiences as well as negative experiences to present a balanced picture of the doctoral journey. |
| Impact on Society | The findings from this research on doctoral students' stress-coping can equip doctoral students with strategies to handle their psychological challenges, which in turn may enhance their overseas doctoral experiences, reduce the dropout rates, and raise awareness of supervisors and institutions about doctoral students' psychological well-beings. |
| Future Research | Future research can examine the stress-coping experiences of other international doctoral students, focusing not only from the individual psychological angle but from the academic and social perspectives. |
| Keywords | Chinese PhD students, stress coping, secondary control, qualitative interviews, psychological adjustments |

## INTRODUCTION

Past research indicates that PhD students suffer a lot of stress during their entire doctoral journey due to various cognitive, social and emotional challenges (e.g. Bendemra, 2013; Devos et al., 2017; Martinez, Ordu, Sala, & McFarlane, 2013; Waight & Giordano, 2018). A recent study by Leveque et al. (2017) finds that compared with three other samples in their study, i.e., highly educated general population, higher education students, and highly educated employees, doctoral students in Flanders have more prevalent mental health issues. It is also reported that more than 40% of the PhD students in the US and the UK quit during their doctoral candidature due to stress (Bendemra, 2013; Golde, 2005). The feeling of loneliness among doctoral students, for instance, has been frequently reported (Ali & Kohun, 2007; Bendemra, 2013; Zhou, 2014), particularly among social science students given the individual nature of their research (Chiang, 2003; Janta et al., 2014), and among international students who have to overcome language and cultural barriers in addition to socialising into a new academic environment (Winchester-Seeto et al., 2014).

Despite the large body of research on PhD students, the majority is concerned with the doctoral learning experiences (e.g., Harman, 2003; Smith & Khawaja, 2011; Trice & Yoo, 2007), with a focus on identifying the stressors (Bagaka's et al., 2015; Winchester-Seeto et al., 2014; Zhang, 2016). Only very few have examined how they cope with stress. Given that doctoral students in social science have been found to have a lower doctoral completion rate than science students (Golde, 2005), and that international PhD students may face greater challenges than their domestic counterparts, it would be worthwhile to explore in depth the stress-coping experiences of international doctoral students in social sciences. This study therefore examines the stress-coping strategies of Chinese students of social sciences in their PhD study in Australian universities, as Chinese students constitute the largest body of international doctoral students in Australia (Yang et al., 2017) as well as in other countries such as the U.S (National Science Foundation, 2019).

## CONCEPTUAL FRAMEWORK

The following figure is a diagrammatical representation of the conceptual framework informing this study (Figure 1).

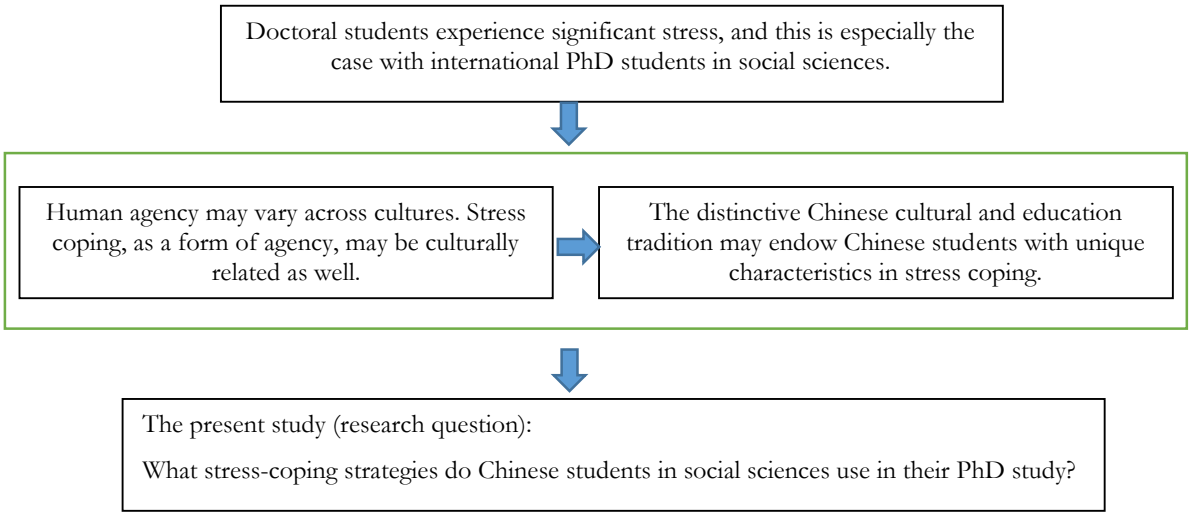


**Figure 1. The conceptual framework of the study**

In examining Chinese doctoral students' stress-coping strategies, it is necessary to understand the stressors that cause their psychological stress. Doctoral students, different from other student cohorts, experience stress that is uniquely pertinent to their own mode and level of study. A review of the literature on stress-causing challenges shared by doctoral students would lay a substantial foundation in understanding the strategies that the participants in this study adopted. In reporting these stressors, we also point out that some of these difficulties may be especially challenging for doctoral students in social sciences and for those from a different linguistic and cultural background. Research indicates that facing challenges, people from different cultural backgrounds may vary in exercising agency (Bandura, 2018). Stress-coping, as part of human beings' attempt to gain control, may be culturally related as well. Growing up in a nation with a long history of education and distinctive cultural tradition, Chinese students may have their own characteristics that make them qualitatively different from students from other cultural backgrounds in stress coping. As such, stress-coping strategies used by international doctoral students, a theory that is developed to explain culturally-related coping strategies, and Chinese students' characteristics that are heavily influenced by the Confucian educational culture would be crucial literature to delineate for the reader to better appreciate the findings from this study. The following literature review, therefore, is divided into three sections: stress factors for PhD students, Weisz and his colleagues' theory about stress coping, and Chinese students' unique characteristics.

## STRESS FACTORS FOR PHD STUDENTS

The problems impacting on doctoral learning can be both institutional and personal (Waight & Giordano, 2018). Based on their review of the past research, Waight and Giordano (2018) offer a list of key challenges, and state, "Any one or a combination of these issues can lead to feelings of stress" (p. 392). Since the focus of this study is on doctoral students' psychological adaptation at the personal level, institutional factors will not be delineated here. Personal stressors highlighted in the literature are usually discussed in three broad categories: 1) supervisory problems; 2) academic issues, such as methodological and discursive problems; and 3) psychological problems, such as social and intellectual isolation.

### *SUPERVISION PROBLEMS*

Supervision is critical to both PhD students' timely degree completion and their intellectual development (Åkerlind & McAlpine, 2017). Given the recognised importance of supervision, studies have

assertively concluded that deficiencies in the supervision received are responsible for the unsatisfactory outcomes of PhD education such as low completion rates (Cuthbert & Molla, 2015)

Central to the concerns of PhD students are the quality and effectiveness of supervision received (Cuthbert & Molla, 2015). Students perceive receiving inadequate supervision as the main cause of their lack of enthusiasm for research, lack of clarity about the central research questions and in writing, and the poor completion rate. Insufficient supervision has frequently resulted from supervisors being too busy to commit adequate time when their students need help rather than supervisors lacking competence or supervisory skills (Soong et al., 2015; Walsh, 2010). The supervisory issues can become more pronounced with international doctoral students due to different cultural expectations and cultural insensitivity (Choy et al., 2015; Kidman et al., 2017; Soong et al., 2015).

### *Academic Issues*

At the initial stage of their research, students may find that the greatest difficulties are to define a research problem and to decide on a research topic. At the subsequent design and execution stages, the most common problems confronting research postgraduates are methodological in nature. The problems are varied, ranging from those associated with insufficient knowledge of or skills in research methods to those related to statistics or computing (Faghihi et al., 1999). These methodological difficulties are considered to be responsible for the slow progress that students may experience in the research process and even for the students' withdrawal from their doctoral study (Rudd, 1985).

In order to successfully complete the degree, it is essential to have the dissertation conform to the disciplinary discourse conventions (Kidman et al., 2017). The learning of disciplinary discourse appears to be especially needed in social sciences because their discourse "exhibits individualistic and ambiguous messages that are open to interpretation" (Parry, 1998, p. 280) as oppose to language in science disciplines that is "standardised and formalised" (Parry, 1998, p. 270). Lack of discourse knowledge has, at least partially, caused the writing problems encountered by an appreciable number of social science and international PhD students (Kidman et al., 2017; Rudd, 1985).

### *Psychological Problems*

Diverse psychological factors have been found to adversely impact the completion of PhD studies, including isolation, frustration and potential loss of enthusiasm, and feeling of inadequacy (Waight & Giordano, 2018), as well as procrastination and perfectionism (Kearns et al., 2008). Of these factors, social and intellectual isolation is considered to be a most serious problem in social science disciplines (McCormack, 2005). Social marginalization is especially common to international students regardless of their disciplines (Walsh, 2010; Winchester et al., 2014).

Intellectual and social isolation experienced by social science and international PhD students can diminish confidence and motivation and ultimately result in failure to complete the research project within the stipulated time frame, or withdrawal from the programs (Walsh, 2010).

The three categories of challenges discussed above constitute the major stressors reported in the literature about doctoral students, particularly international and social science students. As the objective of this study is to explore how Chinese PhD students coped with the stress they experienced in their doctoral studies, we are turning to the stress coping strategies used by international students and doctoral students in the past studies in the next section.

## Stress Coping

Most studies about stress coping in the field of international education target undergraduate students although PhD students suffer no less stress. Strategies that international students, particularly Asian students, adopt to cope with stress are mostly maladaptive ones such as substance use (drugs and al-

cohol), denial, and avoidance (Wei et al., 2007; Khawaja & Dempsey, 2007, 2008), to which researchers usually attribute emotional restriction in the Asian cultures (Kim et al., 2005). While there is the danger of finally leading to depression, suppression of one's emotion seems to be a preferred way for Asian international students to handle stress (Heppner et al, 2006).

The few studies that focused on doctoral students' stress coping find that institutional support is not well utilised. Instead, family and peers, online resources, and doctors are PhD students' preferred sources of support as shown in a UK study (Waight & Giordano, 2018). Doctoral students in Janta et al.'s study (2014) choose to attend the doctoral forum, participate in professional development, and/or escape the academic world temporarily to deal with loneliness. Others decide to develop their own emotional resiliency and enhance their motivation for PhD study by finding meaning beyond the simple completion of the study (Soong et al., 2015).

Weisz and his colleague first put forward the theory of primary and secondary control to explain psychology of control (e.g., Rothbaum et al., 1982; Weisz et al., 1984, 1994). They propose that in a stressful situation, people tend to opt for one of the two broad complementary approaches to gaining control and their choice seems to be closely related to cultures (Rothbaum et al., 1982; Weisz et al., 1984). Primary control is gained when an individual influences existing realities by exercising "personal agency, dominance or even aggression" (Weisz et al. 1984, p. 955). These existing realities or objective conditions can include "environmental events, one's grade in class, other people's behaviour" (Weisz et al., 1994, p. 324). Using primary control, an individual copes with a stressful situation by bringing realities to align with one's wishes and needs. According to Weisz et al. (1984), this way of control seems to be practised more in the Western society. Secondary control, on the other hand, targets one's own psychological impact rather than external realities. Instead of shaping the realities, the individual attempts to accommodate and reframe them. Different from primary control, an individual's "hopes, expectations, attributions, and interpreting of event" are more often than not brought into harmony with the external conditions (Weisz et al., 1994, p. 324). This type of control seems more prominent in the Eastern cultures (Weisz et al., 1984), and the culturally-related control orientation was also supported by other studies (Heppner et al., 2006; Oerter et al., 1996).

There are four forms of secondary control (Weisz et al., 1984): predictive, vicarious, illusory, and interpretive. With the predictive method, an individual attempts to control the psychological impact of future events by making predictions. Vicarious secondary control indicates attempts to identify with other (powerful) individuals and groups "in order to enhance one's sense of strength or power" (Weisz et al., 1984). People experience illusory secondary control when they attempt to accept their fate that is determined by chance and make peace with bad luck. With the interpretive form of secondary control, an individual gains a feeling of control or obtains psychological peace by reframing realities or changing their perspective on the objective conditions. Such a form of mastery over unpleasant realities often allows the individual to go beyond the immediate realities and derive a purpose from them. Despite the dichotomy between primary and secondary control, Rothbaum et al. (1982) stress that "the differences between primary and secondary control should be thought of as differences in emphasis" (p. 8) rather than two mutually exclusive paths to gaining a sense of control.

Heppner et al. (2006) developed a coping style inventory targeting the collectivist culture such as Chinese culture. One of the factors that explains 20% of the variance is Acceptance, Reframing, and Striving (Heppner et al., 2006), which is quite similar to the 'interpretive' form of secondary control proposed by Weisz et al. (1984).

## CHINESE STUDENTS' CHARACTERISTICS

The little extant research on how Chinese PhD students cope with stress in their doctoral studies, their sizable proportion among overseas doctoral students in countries like Australia and the U.S., as well as Weisz and colleagues' theory on cultural influences of stress-coping styles, inspired us to research Chinese international students' stress-coping strategies in their doctoral study. In this section,

Chinese students' characteristics that may help to explain their use of strategies will be discussed from a cultural point of view. However, in describing Chinese students' characteristics, we warn against an immutable essentialist notion of "Chinese" vs "Western." Instead, we wish to highlight some of the influences that the Chinese cultural and education traditions may have on Chinese students over the centuries.

## *The Central Role of Moral Education*

Moral education enjoys the same if not a higher status as academic and physical education in China. This emphasis on morality is one of the most important cultural legacies from the great Chinese thinker Confucius. Confucian philosophy believed that the essential aim of education is moral cultivation (M. Li, 1990). In addition, the development of virtuous thoughts and behaviour is not only the responsibility of educational institutions such as schools, it also takes place in informal education settings such as homes. Therefore, moral development should start from an early age because children are more susceptible to instruction, and it is parents' responsibility to form their children's characters from childhood (Cline, 2017). Moral development does not only come from external sources such as parents and teachers but should also be out of one's own will and action as well. To Confucius, a lifelong pursuit for a human being is moral righteousness and self-perfection (J. Li, 2003). As achieving moral excellence is a lifelong goal and process, it requires dedicated effort from a person, which explains the emphasis of Chinese culture on effort and persistence in learning because it is believed that is the ultimate way to achieve one's goal.

In contemporary China, Confucianism "remains a defining characteristic of the Chinese mentality," despite the historical and political developments in China over the last centuries (Tu, 1990, p. 136). Confucian educational thought has fundamentally influenced educational thought in China. The central goal of Chinese educational thought is concerned with the development of morality (Tweed & Lehman, 2002), which profoundly underlies the curricula and examination systems. This centrality plays an important role in the formation of Chinese students' characteristics, as indicated by student behaviour in the classroom (J. Li, 2003) and their fear of failure in learning (Hodkinson & Poropat, 2014).

Moral education is an essential component of the curricula at all levels of education in China (from kindergarten to university). In addition to a specific moral education subject that combines ideology, politics, and morality, other school subjects such as Chinese and History may also assume the responsibility to cultivate students' morality (M. Li, 1990). To maintain social harmony, moral education in modern China is a blend of traditional Confucian ethics and political orthodoxy, emphasising moral cultivation. It aims at training the students to be good citizens who are polite, honest, active, patriotic, industrious and disciplined, and ideologically correct (M. Li, 1990).

The educational emphasis on morality is also manifested by the competitive examination system in China. Zeng (1999) analysed the exam systems in East Asia which were influenced by Confucianism and originated from the Chinese imperial examination system. He concluded that these exams measure "not only intelligence, but also character, determination, and the will to succeed" (p. iv), and convey the symbolic message that "learning is a long journey of ordeal. Without pain, one can hardly attain it, and there is no short cut" (p. v). In other words, to cope with the exams, students are expected to not only have competence in knowledge acquisition, but also have the moral qualities which are promoted by Chinese educational practices.

This discussion reveals that Confucian morals still underpin many aspects of the educational system in China and are inculcated in students through diverse mechanisms. In consequence, Chinese students are cultivated to remain humble and to exhibit diligence, endurance of hardship, steadfast perseverance, and concentration (J. Li, 2003).

### *MOTIVATION FOR LEARNING*

Motivation to learn in a cultural context is a multi-faceted concept. It varies not only with individuals but also with culture and context. Biggs and Watkins (1996) categorise motivation into intrinsic, extrinsic, and achievement motivation. Intrinsic motivation typically refers to an inherent interest in the learning itself rather than to external factors such as satisfaction or challenge. By contrast, extrinsic motivation is in operation when students learn for external reasons such as "praise, grades, special privileges, and certificates or material rewards" (Alderman, 2004, p. 247).

Achievement motivation is related to an individual's need for success (Biggs & Watkins, 1996). It is "a highly individualistic, and ego-enhancing concept" in the Western culture (Watkins, 2000, p. 167). This motivation is congruent with the Western conception of Self which encourages students' self-efficacy, and consequently the attainment of their academic achievement, wellbeing, and self-esteem (Boekaerts, 2003). By focusing on these positive characteristics of self, self-criticism is discouraged. By contrast, Chinese culture values effort investment, self-criticism, and attention to weaknesses and imperfections (Boekaerts, 2003). These practices are believed to contribute to self-perfection and to prepare students for their role in hierarchical social relations.

In Chinese collectivist society, motives to learn are a combination of such factors as personal ambition, family expectations, pragmatic benefits, and expectation of positive social appraisal (J. Li, 2003; Tweed & Lehman, 2002). Considerable evidence shows that, with Chinese students, intrinsic and extrinsic motivation can function concurrently (Salili et al., 2001; Zhou, 2014).

The primary achievement of education in Chinese culture is to attain self-perfection, the realisation of "the moral self and the familial self" (Yu, 1996, p. 246). Other perceived outcomes of education include the possibilities of upward social mobility and economic advancement, which are considered to benefit not only the individual but also the family (J. Li, 2003). In relation to these expectations, the high academic achievement observed in Chinese students should be interpreted within the collectivist framework (Watkins, 2000; Watkins & Biggs, 1996). Contrary to the "individual-oriented" achievement motivation in the West (Yu, 1996, p. 229), striving for academic success in Chinese society is relevant both to the individual and to significant others (e.g., teachers), the family, the group, or the society, with a more dominant social orientation (Yu, 1996).

To sum up, our review of the literature reveals that limited research has examined the stress coping strategies of international PhD students including Chinese PhD students in social sciences. Most studies on international students' stress coping focus on the maladaptive strategies and undergraduate students. However, as our discussion indicates, international doctoral students in the field of social sciences seem to experience additional emotional stress due to the individual-based research nature of social sciences and the linguistic and cultural differences. As such, the strategies that Chinese social science students adopt to make psychological adaptation to their doctoral studies would be critical and merit research. Given that an individual's stress coping strategies may display cultural influences as suggested by past literature by Weisz and his colleague, it would be interesting to discover the impacts of the upbringing in the Chinese educational culture on Chinese students' psychological adjustments in their doctoral study. Therefore, this study intends to fill the gap in the literature on Chinese doctoral students' stress-coping strategies and contributes to this under-researched yet important area of research.

## METHODOLOGY

Qualitative methodology was employed in this study because the purpose of this study was to gain an in-depth and holistic understanding of the phenomenon, which in this case, the stress-coping strategies adopted by Chinese international doctoral students. It did not intend to "search for universal laws and generalizations across time and space" (Patton 1990, p. 486), so purposeful sampling was employed (Patton, 1990). That is, selection criteria were made and followed in recruiting participants (The specific recruitment is discussed later). Based on the in-depth understanding, "context-bound

extrapolations" of these students' stress coping experiences will be generated (Patton 1990, p. 491). In addition, the data collection methods (three types of interviews over a period of one year) employed in this study have the potential to generate a large amount of rich data, which provided thick descriptions of each participant's background, challenges in doctoral studies, and the strategies they adopted. Based on the above reasons, a small sample did not raise concern. However, this paper only reports the part of the data related to the doctoral participants' psychological stress-coping strategies.

The participants selected met these four criteria: originally coming from Mainland China, having obtained at least their undergraduate degrees in China, studying in a social science discipline (for example, humanities, social sciences, education, and business), and undertaking a PhD in an Australian university at the time of the research. These criteria were proposed to ensure that the participants possessed shared perspectives and experiences that were related to the present research topic. Email invitations were sent to all PhD students in social sciences with the assistance of the Students Services, individual Schools, and staff members at three universities where the research was conducted. Six PhD participants meeting the criteria were recruited. The small sample was justified and compensated by the methodology used in the overall study of which this was a part: the narrative inquiry. It was composed of a longitudinal three-stage data collection from each of the participants and generated "a rich, "thick" description" (Merriam, 1998, p. 29) about these Chinese doctoral students' background stories, aspirations, and experiences doing a PhD in Australia, including the stress-coping strategies they adopted in the face of challenges. As a small-sample qualitative study, what this study aimed to gain was an in-depth understanding of these students' stress-coping experiences, and in addition, the findings were not to be generalised to a larger population of all PhD students but rather to illuminate. The participants varied in gender, discipline, age range, qualifications, and work experience (see Table 1).

**Table 1. Participants' profiles**

| PARTICIPANTS | F1 | F2 | F3 | F4 | F5 | M1 |
|---|---|---|---|---|---|---|
| **Gender** | Female | Female | Female | Female | Female | Male |
| **Age range** | 25-30 | 36-40 | 25-30 | Over 40 | 36-40 | 31-35 |
| **Degrees in China** | Bachelor | Bachelor | Bachelor | Bachelor | Bachelor + Masters | Bachelor + Masters |
| **Degrees in Australia or other English-speaking countries** | Masters (Honors) | Masters by coursework | Masters by research | Masters by coursework | Masters by research | - |
| **Work experience** | company | university | industry | university | university | government |
| **Field of study** | Marketing | Education | Management | Linguistics | Communications | Economics |

Narrative inquiry method (Wengraf, 2001) was employed in this study, as one of the popular applications of narrative studies is to investigate people's educational experiences to gain an understanding of the meaning and nature of the processes from the individual's perspective. Narrative inquiry fit the purpose of the present research: gaining insight into the Chinese doctoral students' stress-coping strategies using their own voices in their specific research contexts.

More specifically, Wengraf's (2001) model of Biographic Narrative Interpretive Method (BNIM) structured the data collection procedures of this study, whereas Lieblich et al.'s (1998) model of Life Story Interviews (LSI) guided the interaction between the interviewer and the interviewees. The main data collection process consisted of three stages of interviews and each later session or stage was

built upon the former one. At stage one, storytelling was used to elicit descriptions of the students' PhD learning experiences, allowing the researchers to interpret "the situatedness, the contexts, the complexities" (Lyons & LaBoskey, 2002, p. 3) of the students' experiences in their doctoral learning as well as to build trust with the participants (Connelly & Clandinin, 1990). The questions were asked on the basis of the stories told and aimed at encouraging the interviewees to tell more. For example, in F1's case, she started her story with how she commenced her PhD study, and within five minutes she finished. In order to elicit more information from her, "immanent questions" (Jovchelovitch & Bauer 2000, p. 73) were asked, such as "what was your experience at xx stage?", or "when designing your questionnaire, what happened?" At stage two, stimulated recall interviews were conducted to seek further elaboration, clarification, or reflections on the topics that emerged from storytelling. In previous story-telling, F2 mentioned that the internet had caused her problems with data collection, so at stage two, the following question was asked: "When you were collecting data the internet technology caused you problems. As you said there was nothing you could do to change the situation. So what did you do to cope with this to keep your experiment go ahead?" These first two stages of data collection were intended to develop narratives of each participant's doctoral learning processes, and to prepare for the semi-structured interviews at the third stage. The third stage of semi-structured interviews was performed after detailed analyses of the collected data from the first two stages and exclusively concentrated on answering the focal research question relevant to the stress-coping strategies used by these doctoral students. A sample question was: "What has been your learning experience since last data collection?"

**Table 2. The stages of data collection**

| STAGE | PURPOSE | RESEARCH METHOD (INSTRUMENTS) | CONTENT/FOCUS |
|---|---|---|---|
| 1 | Obtain information on doctoral learning experiences and form the basis of next stage's investigation | Storytelling<br>(Storytelling instructions) | Concrete and general descriptions of students' doctoral study experiences |
| 2 | Have participants elaborate on the topics mentioned in the storytelling and obtain further information about their learning experiences | Stimulated recall interview<br>(Interview guides) | |
| 3 | 1) Fill up gaps identified in the data collected by means of storytelling and stimulated recall<br>2) Verify the researcher's interpretation of data collected in the first two stages | Semi-structured interview<br>(Semi-structured interview guides) | Complementary accounts of students' doctoral learning experiences<br>Further investigation of topics suggested by analyses of the first two stages' data, or informed by the literature |

The three stages of data collection not only generated rich data from lengthy interviews but also provided opportunities for reinterviewing the same participants. Each new stage of data collection was informed by the previous stage of data analysis. For example, after stage 1 data collection, the data transcribed verbatim from audio recording was read to identify the topics raised by the participants. A Memo of Data Reading was developed to organise the topics, relevant contents, and the researchers' remarks on and questions about each topic. These remarks and questions provided further questions to be asked in stimulated recall interviews (stage 2). The three stages of data collection including

the purpose, research method used at each stage, and the content/focus of each stage are presented in Table 2.

The analyses of data collected at the second and third stages were assisted with the NVivo program, and the data analysis, which was mostly inductive but guided by the research question, included open coding, axial coding, and selective coding (Gibbs, 2002). With NVivo, the data were first coded at "free nodes" (Gibbs, 2002, p. 31) to indicate the concept expressed by the participant. These free nodes were further examined for overlaps or repetitions. The nodes which represented identical concepts were then merged into one node. In axial coding, the analysis explored the relationship of nodes constructed in open coding, and on making connections between them. The free nodes which appeared to express a more general concept were organised by a "tree node" (Gibbs, 2002, p. 31), which displayed the nodes in a hierarchy to show their relationship. As the analysis proceeded, the relationships were refined, and the nodes were altered or re-organised as many times as necessary until the categories were consolidated.

# FINDINGS

The data analysis shows that the Chinese doctoral students' psychological strategies in coping with stress were mainly in the areas of managing their negative emotions and retaining their motivation to complete their doctoral studies. Under each of these two major themes, there are specific stress-coping strategies that the participants employed. See Table 3 for a summary of the findings.

**Table 3. Summary of Findings**

| MAJOR THEMES | SUBTHEMES | REPORTED BY |
|---|---|---|
| Emotion managing strategies | Self-adjusting | F3, F5 |
| | Self-talking | F1, F5 |
| | Taking a break | F1, F2, F5 |
| Motivation retaining strategies | Being persistent | F1, F4, and M1 |
| | Thinking positively | F2, F5 |
| | Self-praising | F2 |

## *EMOTION MANAGING STRATEGIES*

Emotion managing strategies are devices implemented to control or diminish the influence of negative emotional factors (e.g., isolation, frustration, anxiety, disappointment, homesickness, or boredom), and thus maintain a constructive mood while studying. The interview data reveal that the participants employed a variety of emotion managing strategies in different situations and that they differed in the choice of specific strategies. Emotion managing strategies emerging from the data include self-adjusting, self-talking, taking a break, being patient, and seeking entertainment. The diversity of these strategies indicates that the choice of emotion managing strategies was closely related to the individuals' personal preferences.

The discussion in the following subsections will selectively focus on the strategies of self-adjusting, self-talking, and taking a break, given that they appeared to be relatively more popular and significant than others. The participants' use of these three strategies will be exemplified by the excerpts drawn from the interview protocols.

### Self-adjusting

The strategy of self-adjusting involves students' self-regulation of their affective state to maintain a constructive mood for studying. The participants' (F3, F5) use of this strategy was demonstrated by

how they dealt with the feelings of isolation and disappointment. The following dialogue between the researcher (R) and F3 illustrates how the latter executed self-adjusting in the face of isolation:

> R: But some of them (PhD students) tended to be in a bad mood or couldn't work productively when feeling isolated.
>
> F3: I don't have such feelings (of isolation). When I first started, I did feel the same. The key is how you regulate your own emotion. I think everybody will feel isolated so it all depends on how you yourself perceive this situation and how you adjust yourself.
>
> R: What's your view?
>
> F3: My view? Maintain a good mood. Anyway, doing a PhD is a kind of commitment so I must finish it and I won't give up halfway.

F3 perceived isolation as an inherent part of the PhD learning process. She emphasised that, to diminish the adverse effects of the isolation, it was important to adjust one's perceptions about difficult situations and negative emotions. In other words, F3 believed that students themselves could exercise agency to control the situation. In this case, she accepted the fact that doctoral study was a package and isolation was an intrinsic part of it. As a result, if she was unable to change the situation, she resorted to changing her perceptions and maintaining a good constructive mood for studying. In addition, to F3 doctoral study was a commitment that she willingly signed up for, so keeping that in mind, she was able to face the hardship of isolation and was determined to complete it. F3 first admitted that this was a reality that every PhD students (would) face. Facing such an unalterable challenge, "how you yourself perceive this situation" seemed to become the only option for some of the Chinese doctoral students. This finding supports Weisz et al.'s (1984, 1994) theory about the interpretive form of the secondary control: F3 and F5 reinterpreted the reality and changed themselves for a better fit for the circumstances.

### Self-talking

The strategy of self-talking was reported by student participants whereby they talked to themselves in order to ease feelings such as frustration or anxiety. For example, F1 became very frustrated when she was unable to find participants and sponsorship for her survey for about four months: "I got to the point where I lost all my hope, I thought there was no way that the survey was going to be done" (F1). At this critical moment, in addition to the supervisor's encouragement, F1 applied a set of strategies to deal with this frustration, which included being patient, taking a break, and self-talking. The following excerpt is about how she reasoned with herself to get a peace of mind:

> That was frustrating, and you had to learn how to deal with it. I think I dealt with it by being patient, like what I said before, by going away for holidays. Well, it's not a real holiday. I mean, you just had to keep telling yourself, 'relax', and 'don't stress over it, there is no point. Even if you are stressed and frustrated, what can you do?' There's absolutely nothing I could do, so, … just get over it. (F1)

Self-talking was also employed to smooth out the feelings of anxiety. For example, F5 described her early experience of reviewing the literature:

> At that stage, I had a lot of thoughts but just can't sort them out. … When I can't sort things out, I easily get anxious, why can't I figure it out? But when I thought about it again, I told myself, 'it's normal, it's the stage for you to work things out. Once you sort it out, everything will be fine'. (F5)

Although F1 and F5 encountered different issues at different stages of their PhD study, both employed the strategy of self-talk. Self-talk seemed to have allowed them to see their problems in a more rational rather than an emotional manner. By talking to oneself, the students' rational self was engaged in a dialogue with the emotional self, reasoning with it, and letting it to relax. The use of this

strategy seemed to show the participants' perceptions of negative emotions as interference with rational thinking which could lead to the solution of the problems. For F1 and F5, things seemed to go out of their control, provoking intense emotional responses such as anxiety and frustration. The self-talking strategy did not help the participants reframe the realities, rather it allowed them to see the reality as it was and come to a compromise with it, i.e., "at peace with what fate has given me" (Weisz et al., 1984, p. 966)

### Taking a break

The strategy of taking a break is the action of students willingly interrupting their study by going away for holidays or simply taking a break when they experienced a low level of productivity in studying, which may be caused by negative feelings (e.g., frustration, homesickness, and tiredness). Three participants (F1, F2, F5) explicitly indicated the use of this strategy. The length of the break varied in accordance with the needs of individual students. It could be as short as one day (F2) or as long as months (F5). For example, "I wasn't in high spirits when I talked to you last time. After that, I went home … and stayed there for about three to five months" (F5).

Different from the self-adjusting and self-talking where the students were still acting as agents, with an attempt to keep the adverse situation in control, taking a break from work seems to be more of a passive reaction to the consequences resulting from negative feelings. However, this strategy may be more helpful and beneficial to doctoral students' emotional well-being than pressing in regardless of one's situations. Viewed from the primary and secondary control framework (Weisz et al., 1984, 1994), taking a break was not an attempt to change the realities, which in this case the various negative feelings reported by the participants. Rather, the participants tried to target their own expectations and accept the unpleasant circumstances at least temporarily and reach a psychological harmony with the undesirable realities. By doing so, the participants experienced illusory secondary control (Weisz et al., 1984)

## *Motivation Retaining Strategies*

Motivation retaining strategies refer to mental or behavioural activities that were executed to uphold one's motivation in the face of difficulties or to keep oneself motivated in the years-long process. The participants in this study appeared to be highly self-motivated PhD candidates, as indicated by their strong intention to finish the study as early as possible (F1; F2; F3; F4; F5; M1). The interview data show that just like Chinese doctoral students in science and engineering disciplines (Zhou, 2014), the motivation driving them was multi-dimensional: intrinsic, extrinsic, and achievement motivation.

However, in the process of doing a PhD, the participants sometimes found themselves in a situation where their self-motivation was challenged. To sustain the motivation and fulfil their ultimate goal of completing the doctoral studies, five of the participants (F1, F2, F4, F5, M1) used motivation retaining strategies. Three types of such strategies emerged from the data: being persistent, thinking positively, and self-praising. Their use of these strategies will be illustrated by the quotations selected from the interview protocols in the following sub-sections.

### Being persistent

Being persistent means not giving up in the face of difficulties or challenges. The participants' execution of this strategy suggests that what underlay it was strong willpower, which was associated with the determination to finish the PhD study successfully (F4) and the personal commitment to the study (F1). Amongst the stories of the three students (F1, F4, and M1) who reported the use of this strategy, F4's experiences were most revealing.

F4's experience of part-time study encompassed all sorts of problems that a doctoral student could encounter. She was asked to change her research topic in the middle of her first year of study. In addition to looking after a young family, she had health problems and financial difficulties throughout the years of study. Furthermore, the heavy teaching loads left her with very limited time for her PhD research. At the end of her narration in the storytelling session, F4 said:

> Anyway, what strategies do you think I have? No strategies but just not giving up, I think. Being persistent. … Some students … stopped because being a mother takes up too much time. … The reason that I don't stop is that I had been keen to do it [the PhD]. I told myself: 'At first you were so keen to do it. Now because it's difficult, you want to stop. I don't think it's good'. It also contradicts my original ambition. I said, OK, let me persist in doing it. (F4)

Being persistent is one of the most inculcated moral qualities to Chinese students and therefore one of the most valued in the Chinese culture. Many ancient stories have been passed down through generations about persistence, and how persistence leads to final success. The idioms and sayings that came from these stories have also become part of the Chinese language. One of the most well-known sayings to encourage people especially students to keep trying is "If you work at it hard enough, you can grind an iron bar into a needle." Chinese cultural value emphasising efforts is very well expressed in the saying, which is only one example of the large volume of old teachings that has been inculcated into Chinese students since an early age (Hwang, 2012; J. Li, 2003). Keeping persistence regardless of difficulties indicates a highly preferred primary control (Rothbaum et al., 1982; Weisz et al., 1984) in the Chinese culture and was corroborated by Zhou's (2014) findings about Chinese doctoral students specialising in STEM.

### Thinking positively

Thinking positively is the mental activity where students fixed their attention on the bright side of the situation rather than the negative side. Two of the participants' accounts suggested the use of this strategy (F2, F5), which was well represented by F5's story.

To understand F5's application of this strategy, it will be helpful to briefly review the background story first. F5's supervisors did not approve of her first topic which she was very interested in and which was connected to her master's study. This happened after she had worked on it for about one year. This incident had such a strong impact on F5 that she almost withdrew. However, after a period of mental struggle and self-adjustment, F5 decided to carry on, a decision her husband also supported:

> I very much wanted to go home. However, after thinking over and over again about whether to stay or to leave, I thought if I went back without finishing the PhD, I might regret it later on. Especially, my husband also said, 'you definitely will be regretful, you'd better continue'. (F5)

Eventually, F5 started afresh. When the third interview was conducted, F5 was in the process of deciding on a new topic, which was related to her teaching experience. Talking about starting again, F5 sounded much more cheerful, "I restarted from the beginning. This orientation will be generally related to my future work interests. So I think it might be a good thing. Once you think this way, you feel better" (F5). This is a good example of positive thinking.

The strategy of thinking positively sometimes could be introduced by others such as supervisors, as in the case of F2:

> My supervisors are very encouraging. Sometimes I was very depressed. … One of my supervisors told me, every morning, you say 'I love my research'. I said it's hard to do so. He said if you do it every morning, you'll be fine, you'll feel better. (F2)

F5 and F2's stress-coping strategy of positive thinking is a perfect example of interpretive form of secondary control (Weisz et al., 1984): in a stressful situation, they strived to construe the undesirable reality, transcended it and constructed a new meaning for it (Rothbaum et al., 1982; Weisz et al., 1984).

### Self-praising

The strategy of self-praising involves the students' positive comments on their own work. The use of this strategy was identified in the interview protocol of F2. According to F2, self-praising helped her to stay motivated and build up her confidence. F2 had her plan to write 500 words each day when she had the time. However, to fulfil this task was not easy.

> Of course, it's the best if you can write up 500 words. But if you couldn't, it's fine. However, when I write more than that, I feel much rewarded. I would tell myself, 'you've done very well today, having written 600 words'. I think you need to boost your own morale. (F2)

Compared with being persistent, positive thinking and self-praise seem to be more of a value in the Western society than in the Eastern society like China (Boekaerts, 2003). Since the 1980s, more and more Western values have been accepted in Chinese educational setting. The fact that both F2 and F5 had been university teachers may have accounted for the use of these strategies: encouraging students and passing positive comments on them may have been part of their professional life. Like positive thinking, self-praise attempted to enable the participants to focus on the positive things and reward oneself with achievements however small, but self-praising was also different in that the participants were still making an effort to influence the reality. In this case F2 self-praised when she met the self-set daily writing goal, so it seems that she was exercising primary control (Rothbaum et al., 1982; Weisz et al., 1984).

## DISCUSSION

The above findings show that Chinese PhD students were under significant psychological stress in their PhD study. Supporting the past literature, the stressors that caused stress among the Chinese doctorial students in our study were supervisory, academic, and psychological, ranging from conflicts of opinion with supervisors, inability to find survey participants and sponsorship, to frustration, loss of motivation, and homesickness. Many a time, they felt helpless, anxious, disappointed, and lonely. In this sense, they were no different from international PhD students in other studies and from other fields (Soong et al., 2015; Walsh, 2010; Winchester-Seeto et al., 2014; Zhou, 2014). However, this study found evidence that was against the maladaptive coping strategies reportedly used by Chinese students studying overseas (Khawaja & Dempsey, 2007, 2008). Instead of resorting to substance use, avoidance, and denial, the Chinese PhD students in this study adopted positive strategies of regulating their emotions and retaining their motivation. Using Weisz and his colleagues' framework in psychology of control (e.g., Rothbaum et al., 1982; Weisz et al., 1984, 1994), our findings show that, while Chinese doctoral students adopted primary control by being persistent and self-praising, they seemed to adopt more illusory and interpretive forms of secondary control to gain a feeling of control just like other Asian doctoral students in the past studies (Soong et al., 2015; McClure, 2005; Zhou, 2014). The data suggest that when faced with stress that influence their emotions, these doctoral students accommodated the stressful situation, accepted the bad luck in their research journey, and attempted to reframe realities to obtain psychological peace. As such, this study not only supports Weisz et al.'s (1984) contention about the cultural tendency in people's approach to control and Heppner et al.'s (2006) general findings about Chinese students' stress coping, but also provides details and nuances of the illusory and interpretive forms of secondary control using qualitative data from the students' perspectives. The following discussion about the Chinese PhD students' stress-coping strategies will be conducted within the frame of the Chinese moral education and the characteristic motivation for learning as outlined in the literature review to explain the above overall conclusion.

Stress causes negative emotions that could be felt throughout the doctoral journey. Emotional resilience is crucial to the successful completion of the doctoral degree (Soong et al., 2015). By self-talking, self-adjusting, and break-taking, the Chinese doctoral students seemed to have successfully managed their adverse emotions. The use of these stress-coping strategies could be explained by their characteristic motivation for learning. As other international students, Chinese students are motivated to study abroad by several factors—interest in pursuing knowledge, the opportunity to experience a different culture (Yang et al., 2017), a better employment prospect, and family expectations (Guerin et al., 2015; Zhou, 2014). However, what distinguishes these Chinese students seems to be the fact that the significance of academic success or failure can go far beyond the personal level (Zhou, 2014), and meeting family expectations can figure as a major motivation for Chinese students to pursue and complete their degree (Soong et al., 2015; Zhou, 2014). In order to fulfil one's own ambition, satisfy one's own inner drive, and possibly more importantly meet the expectations of the significant others, these Chinese doctoral students managed their emotions by adjusting themselves to accommodate the isolation, self-talking to reason with themselves to come to harmony with their frustration, and taking a break to leave the unchangeable realities as they were temporarily but to get refreshed emotionally. This study suggests that Chinese students' characteristic motivation for learning seemed to have driven them to seek secondary control to overcome the strong negative emotions that were usually resulted from desperate situations, supporting Weisz et al.'s (1984) contention that secondary control in stress-coping may be practiced more in the Eastern collective culture. Compared with Morrison-Saunders et al. (2005) that focuses on seeking external social support as strategies for PhD students to manage their emotions, this study highlighted emotion-managing strategies that were built upon individual agency and the socio-cultural orientation of this agency.

PhD study is characterized with originality and can be intellectually stimulating, but most of the time what a doctoral student experiences is stress caused by drudgery, intellectual and social isolation, and various other daunting obstacles. The situation can be worse for international students who experience significant life changes by having to adjust to an unfamiliar academic culture (Soong et al., 2015; Ward et al., 2001). Such challenges, compounded by the various other non-academic stressors (financial, family, and health) could sometimes be demotivating no matter how strongly an individual may be motivated. Our study reveals that Chinese PhD students maintained their motivation through primary control of persistence and self-praising, and secondary control of positive thinking. Compared with their use of secondary control in coping with negative emotions resulted from stress, the strategies they adopted in retaining their motivation involved more primary control. All these participants had completed their bachelor's degree in Mainland China. As the top students in their previous competitive education in China, the moral education they had received emphasizing efforts, persistence, diligence, and optimism (J. Li, 2003; Zhou, 2014) seemed to have prepared them for subsequent doctoral challenges or at least prepared them in this respect. These inculcated values can serve as powerful psychological resources for the participants to draw on when their motivation was not as strong (Zhou, 2014). In addition, the past professional experience of some of the participants also seemed to have contributed to maintaining their motivation. Indeed, these characteristics allowed the Chinese doctoral students to rely on their own willpower to pull through period of low motivation (Zhou, 2014). Instead of attributing temporary failure to innate inability and focusing on the negative at the time of challenges, the Chinese doctoral students believed in efforts, tenacity, and optimism (J. Li, 2003). Such a growth mindset is an important cultural resource for these doctoral students to draw on in the face of adversity and it also benefited their emotional and psychology well-being (Posselt, 2018).

The Chinese PhD students' strategies of regulating emotions and retaining motivation suggest the tendency of using secondary control in stress coping by people from the collectivist culture (Heppner et al., 2006). Of all the six strategies used by the Chinese PhD students, only two were primary control. It appeared that the Chinese doctoral students in this study were more likely to accept the realities when faced with various stressors. Both F5 and F4 unwillingly changed their research topics due to their supervisors' disapproval even though they were one year into their doctoral study. Rather

than attempting to change their supervisors' decisions, they accepted this outcome. They stress-coped by adjusting their own psychological state, aligning their behavior with their supervisors' decision, reframing the negative situation, and deriving meaning from the adverse stressful situations (Weisz et al., 1984). Realities did not change; and indeed, they were sometimes out of their control. Instead of finding a way to change what seemed to be unchangeable, the Chinese PhD students resorted to reducing the psychological impact by adjusting oneself to suit the non-adjustable realities, thinking positively to keep up their morale, talking to oneself to get relief, and taking a break to stay emotionally stable. By adopting the illusory and interpretive forms of secondary control (Weisz et al., 1984), they seemed to pull through hardships, cope with the stress, and to 'derive feelings of self-esteem and pride from their accomplishments", and "attain transcendental awareness' (Weisz et al., 1984, p. 957).

## LIMITATIONS

This study has its limitations. Firstly, only six participants were recruited. Secondly, the participants were homogeneous. Thirdly, only qualitative interviews were adopted in data collection. However, despite the small number and homogeneity of the participants, this study was an in-depth study of the six participants using three rounds of interviews. It intended to provide a thick description of each doctoral student — their backgrounds, their struggles, and their stress-coping strategies, as well as their experiences as a whole. The findings from this study are more illustrative than definitive and, therefore, not intended for generalization. Future research can examine the stress-coping experiences of a large cohort of international students from other cultural traditions and from disciplines other than just social sciences with a more gender-balanced sample. It can examine the issue of stress-coping not only from the individual psychological angle but from institutional, academic, and social perspectives. Researchers can also focus on international doctoral students' negative stress-coping experiences as well as positive experiences to present a balanced picture of the doctoral journey. We have attempted to explore the stress-coping strategies from a cultural lens in this study. However, it may be true that some of these strategies are also practiced by students from other cultures including the Western cultures, but research evidence is lacking in that area. It would be interesting, then, to conduct a cross-cultural study to examine the similarities and differences in the use of stress-coping strategies and find out whether the reported stress-coping strategies are culturally-related in the educational contexts as well or pertinent to the doctoral student cohort.

## RECOMMENDATIONS

Western universities can gain important insights from these findings. More proactive support needs to be provided to international doctoral students, especially to those in the social science fields and without any overseas cross-cultural study experience. For example, institutions can initiate support groups for PhD students from the same disciplines where students can express their stress, seek assistance from senior doctoral students, and exchange their strategies. Institutions can also support international doctoral candidates by taking a more flexible approach to policies and procedures concerning doctoral students taking leave both in terms of when it is taken and the duration. Western institutions can provide trainings to supervisors and doctoral student support personnel to increase their cultural awareness. For example, supervisors may need to understand that the Chinese culture of treating teachers with reverence may have prevented some doctoral students from direct confrontation with them and standing up for themselves when there is conflict of opinions. International doctoral students need to be taught and encouraged to act more assertively and proactively to sort out the cognitive mismatch resulting from different cultural traditions. This study also provides implications for international doctoral students: they need to step out of their cultural comfort zone and exercise more primary control in their PhD studies.

## CONCLUSION

This qualitative study examined the psychological stress-coping strategies adopted by six Chinese PhD students in social sciences. The findings indicate that these doctoral students' stress-management was positive and effective and reflected their cultural and educational upbringing as well as their strong motivation to complete the PhD study. The study also supported the secondary control theory describing the strategies that people of Asian background usually resort to in time of stress. The findings from this research on doctoral students' stress-coping have four-fold significance: they can equip international doctoral students with strategies to handle their psychological challenges which in turn may enhance their overseas doctoral experiences; they can encourage international doctoral students to be more assertive and use more primary control in the face of stress; they can help doctoral supervisors and institutions/departments to reduce the dropout rates; and they can raise awareness of supervisors and institutions/departments to pay attention to doctoral students' psychological well-beings.

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